



18

**TOWARDS EFFECTIVE
PROTECTED AREA SYSTEMS**
An Action Guide to Implement the Convention
on Biological Diversity *Programme of Work
on Protected Areas*



TOWARDS EFFECTIVE PROTECTED AREA SYSTEMS
An Action Guide to Implement the Convention on Biological
Diversity *Programme of Work on Protected Areas*

*Nigel Dudley, Kalemani Jo Mulongoy, Sheldon Cohen, Sue Stolton,
Charles Victor Barber and Sarat Babu Gidda*

Published by the Secretariat of the Convention on Biological Diversity. ISBN: 92-9225-031-0

Copyright © 2005, Secretariat of the Convention on Biological Diversity

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Convention on Biological Diversity concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views reported in this publication do not necessarily represent those of the Convention on Biological Diversity nor those of the reviewers.

This publication may be reproduced for educational or non-profit purposes without special permission from the copyright holders, provided acknowledgement of the source is made. The Secretariat of the Convention would appreciate receiving a copy of any publications that uses this document as a source.

Citation

Nigel Dudley, Kalemani Jo Mulongoy, Sheldon Cohen, Sue Stolton, Charles Victor Barber and Sarat Babu Gidda (2005). *Towards Effective Protected Area Systems. An Action Guide to Implement the Convention on Biological Diversity Programme of Work on Protected Areas*. Secretariat of the Convention on Biological Diversity, Montreal, Technical Series no. 18, 108 pages.

For further information, please contact
Secretariat of the Convention on Biological Diversity
World Trade Centre
413 St. Jacques Street, Suite 800
Montreal, Quebec, Canada H2Y 1N9
Phone: 1(514) 288 2220
Fax: 1 (514) 288 6588
E-mail: secretariat@biodiv.org
Website: <http://www.biodiv.org>

The Secretariat gratefully acknowledges the financial assistance of the Government of the Netherlands for the publication of this volume.

Typesetting: Black Eye Design

cover photos: Nigel Dudley — *Madagascar*; Sue Stolton — *Serengeti National Park, Tanzania*; Sonpanich/UNEP/Alphapresse; Christina Eghenter — *Women collect and make sustainable use of wild plants in Kayan Mentarang National Park*.

CONTENTS

Foreword	iii
Acknowledgements	v
QUICK REFERENCE TOOL 1: General Phases of the Programme of Work	1
QUICK REFERENCE TOOL 2: Targets under the Programme of Work	2
QUICK REFERENCE TOOL 3: Time-bound activities under the Programme of Work	4
QUICK REFERENCE TOOL 4: Comprehensive set of Activities under the Programme of Work	7
SECTION 1: INTRODUCTION	
1. Background and purpose of the guide	13
<i>How to use the guide</i>	13
<i>What are protected areas and why are they important?</i>	14
<i>Protected areas and the Convention on Biological Diversity</i>	16
<i>Meeting the Requirements of the Programme of Work</i>	17
SECTION 2: GUIDE TO THE PROGRAMME OF WORK	
2. Getting Started	
<i>Introduction to this section and the nine themes</i>	21
3. Theme 1: Building Protected Area Systems and the Ecosystem Approach	
<i>Guide to Goals 1.1, 1.2 and 1.3</i>	24
<i>Special Feature: Marine Protected Areas</i>	31
4. Theme 2: Site-based Protected Area Planning and Management	
<i>Guide to Goal 1.4</i>	33
<i>Special Feature: How to Plan for Climate Change</i>	38
5. Theme 3: Addressing Threats to Protected Areas	
<i>Guide to Goal 1.5</i>	39
6. Theme 4: Improving the Social Benefits of Protected Areas	
<i>Guide to Goals 2.1, 2.2 and part of 1.1</i>	44
7. Theme 5: Creating an Enabling Policy Environment	
<i>Guide to Goal 3.1</i>	51
8. Theme 6: Capacity Building	
<i>Guide to Goals 3.2, 3.3 and 3.5</i>	57
9. Theme 7: Ensuring Financial Sustainability	
<i>Guide to Goal 3.4</i>	62
10. Theme 8: Standards, Management Effectiveness and Monitoring	
<i>Guide to Goals 4.1, 4.2 and 4.3</i>	67
11. Theme 9: Using Science	
<i>Guide to Goal 4.4</i>	72
SECTION 3: APPENDICES	
Appendix 1: <i>Programme of Work on Protected Areas</i>	77
Appendix 2: <i>Abbreviations and Acronyms</i>	95

FOREWORD

For more than a century, countries throughout the world have been setting aside areas for special protection because of their natural beauty and their repository status for important biodiversity. Protected areas have long been recognized as a key tool to counter the loss of the world's biodiversity. Over the last 40 years there has been a paradigm shift in the role of protected areas from 'national parks and reserves' to a broader conceptual and practical approach including sustainable use areas. Today it is recognized that protected areas contribute, in addition to their conservation function, to human welfare, poverty alleviation and sustainable development. Among other things, they help protect species and genetic diversity, maintain ecosystem services, support livelihoods for local people, and provide tourism and recreational opportunities.

Globally, the number of protected areas has been increasing significantly over the last decade and there are now more than 100,000 protected sites worldwide covering about 12% of the Earth's land surface, making them one of the earth's most significant land uses. However, while the number and size of protected areas have been increasing, biological diversity loss continued unabated. The existing global system of protected areas is inadequate in several ways: (i) they are incomplete and do not cover all biomes and critical species; (ii) they are not fulfilling their biodiversity conservation objectives; (iii) participation of local communities in establishment and management of protected areas is inadequate; and (iv) protected areas in developing countries are poorly funded.

The seventh meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) taking impetus provided by the Millennium Development Goals, the Plan of Implementation of the World Summit on Sustainable Development and the Durban Accord and Plan of Action from the Vth World's Parks Congress, adopted a *Programme of Work* on protected areas. Of historic significance, the Programme of Work represents the most comprehensive and specific protected area commitments ever made by the international community. The overall objective of the *Programme of Work* is to establish and maintain, "comprehensive, effectively managed and ecologically representative systems of protected areas" that collectively, will significantly reduce the rate of loss of global biodiversity. This ultimate objective is to be achieved on land by 2010 and in marine areas by 2012. In the *Programme of Work* the COP set out detailed goals, targets and activities for meeting this ultimate objective. The COP made clear that fully implementing the *Programme of Work* would require unprecedented international cooperation, including the provision of increased financial and technical resources to developing countries.

An effective global protected area system is the best hope for conserving viable and representative areas of natural ecosystems, habitats and species and helps to achieve the 2010 biodiversity target. In adopting the *Programme of Work*, the world community has agreed to work together at the national, regional and international level, to meet clearly defined goals and time-bound targets for the world's protected areas.

This Action Guide to the *Programme of Work on Protected Areas* describes the targets and timetables and provides an overview of potential steps, case studies, tools and resources for implementation. The guide is divided into two sections. The first section briefly outlines the role and importance of protected areas, and outlines the requirements under the CBD *Programme of Work*. The second section provides guidance for the implementation of activities identified in the *Programme of Work*. The full text of the *Programme of Work* is attached as an appendix. Many organizations, institutions and individual experts contributed to the development of this guide that was peer-reviewed by biodiversity community including national protected area agencies.

The guide is intended to assist protected area managers and policy makers in governments, NGOs, communities and everyone else committed to ensuring that protected areas fulfil their potential as cor-

nerstones for biodiversity conservation and as pillars for achieving sustainable development, to focus and prioritise efforts to achieve targets in the *Programme of Work*.

Hamdallah Zedan
Executive Secretary
Convention on Biological Diversity

Nikita Lopoukhine
Chair
IUCN-World Commission on Protected Areas

ACKNOWLEDGEMENTS

Many people helped to develop this guide, often working to a very short deadline. Very valuable feedback came from representatives of a number of governmental protected area agencies: Rauno Väisänen director of Natural Heritage Services, Metsähallitus in Finland; Edgar Buhanga of the Uganda Wildlife Authority; Sarah Pizzey and Peter Cochrane of Parks Australia; and also from Nik Lopoukhine, former CEO of Parks Canada and current chair of the World Commission on Protected Areas (WCPA). WCPA has been closely involved in the complete process and we are grateful to David Sheppard and Pedro Rosabal for their support, and to Andrea Athanus of IUCN who commented from the perspective of IUCN's economics unit. Grazia Borrini-Feyerabend gave a very detailed and useful critique on behalf of IUCN's CEESP and TILCEPA. Marc Hockings of Queensland University and WCPA commented in detail on the section on management effectiveness. Manrique Rojas and Jeff Parrish of The Nature Conservancy provided overall guidance for the work. Marjo Vierros at the Secretariat of the Convention on Biological Diversity, provided inputs on marine protected areas. Rebecca Livermore, Elizabeth O'Neill, Luis Pabon, Shannon Quesada and Grace Wong from Conservation International provided comments and additions to various parts of the text, as did Leonardo Lacerda of WWF International.

The Nature Conservancy and WWF provided financial support for the research and writing of the document. The Secretariat of the Convention on Biological Diversity is grateful to the Government of Netherlands for financial support for printing the document.

QUICK REFERENCE TOOL 1: GENERAL PHASES OF THE PROGRAMME OF WORK

At the seventh meeting of the Conference of the Parties to the Convention on Biological Diversity in 2004, 188 Parties agreed to a *Programme of Work on Protected Areas*, one of the most ambitious environmental strategies in history. The Programme aims, by 2010 (terrestrial) and 2012 (marine), to establish “comprehensive, effectively managed and ecologically-representative national and regional systems of protected areas”.

The *Programme of Work* (which is reproduced in full at the end of this Guide) could be divided into three general phases as shown below:

PHASES OF THE PROGRAMME OF WORK	
PHASES	POTENTIAL MAIN OUTCOMES OF EACH PHASE
PHASE I (2004 – 2006)	<ul style="list-style-type: none"> • “Master plan” for protected areas. Completing, in effect, a “master plan” for the system of protected areas (key elements include, for example: plans for filling ecological gaps; securing financial resources; building capacity; promoting governance arrangements; and addressing policy, legislative and institutional barriers). • Studies and assessments, for input into “master plans”, covering, for example, socio-economic contributions of protected areas, ecological gaps in protected area systems, and types of governance arrangements. • New protected areas. Establishment of new protected areas where urgent action is required.
PHASE II (2007 – 2008)	<ul style="list-style-type: none"> • Threats. Mechanisms in place to address key threats. • Financial resources. Sufficient financial resources secured. • Indigenous and local communities. Policies and mechanisms to support indigenous and local community participation and equitable sharing of costs and benefits. • Standards. Standards adopted for all major aspects of protected areas.
PHASE III (2009 – 2015)	<ul style="list-style-type: none"> • Effective systems of protected areas. Comprehensive, ecologically representative, and effectively managed systems of protected areas. • Integration of protected areas into wider land and seascapes.

The matrix above is not intended as an exhaustive or definitive list of the major outcomes under the Programme of Work, nor is it intended as a definitive breakdown of how phases of activity should be carried out. Rather, it is provided as a tool for Parties in thinking through how best to sequence their activities, and how to think about the sequential outcomes to be achieved under the Programme of Work. Exact timelines for phases and specific outcomes under each phase will need to be tailored to specific country circumstances.

QUICK REFERENCE TOOL 2: TARGETS UNDER THE PROGRAMME OF WORK

At the heart of the Programme of Work are 16 “Goals”, accompanied by “Targets”, which in almost all cases set a specific date by which it is to be accomplished. These targets are outlined below in chronological order:

TARGETS TO BE COMPLETED BY 2008		
GOAL	TARGET	PAGE
1.5	Effective mechanisms for identifying and preventing, and/or mitigating the negative impacts of key threats to protected areas are in place	39
2.1	Establish mechanisms for the equitable sharing of both costs and benefits arising from the establishment and management of protected areas.	44
2.2	Full and effective participation of indigenous and local communities , in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas	44
3.1	Review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems.	51
3.4	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.	62
3.5	Public awareness, understanding and appreciation of the importance and benefits of protected areas is significantly increased.	57
4.1	Standards, criteria, and best practices for planning, selecting, establishing, managing and governance of national and regional systems of protected areas are developed and adopted.	67
TARGETS TO BE COMPLETED BY 2010		
GOAL	TARGET	PAGE
1.1	Terrestrially, a global network of comprehensive, representative and effectively managed national and regional protected area system is established.”	24
1.3	Establish and strengthen transboundary protected areas , other forms of collaboration between neighbouring protected areas across national boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation.	24
3.2	Comprehensive capacity building programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels, and raise professional standards.	57

GOAL	TARGET	PAGE
3.3	The development, validation, and transfer of appropriate technologies and innovative approaches for the effective management of protected areas is substantially improved, taking into account decisions of the Conference of the Parties on technology transfer and cooperation.	57
4.2	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.	67
4.3	National and regional systems are established to enable effective monitoring of protected area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets.	67

TARGETS TO BE COMPLETED BY 2012

GOAL	TARGET	PAGE
1.1	In the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area system is established.	24
1.4	All protected areas to have effective management in existence, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a long-term management plan with active stakeholder involvement.	33

TARGETS TO BE COMPLETED BY 2015

GOAL	TARGET	PAGE
1.2	All protected areas and protected area systems are integrated into the wider land- and seascape , and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks.	33

QUICK REFERENCE TOOL 3: TIME-BOUND ACTIVITIES UNDER THE PROGRAMME OF WORK

Under each of the 16 targets in the Programme of Work are a list of “Suggested Activities of the Parties,” which represent the consensus of what specific actions are needed to achieve the targets and the higher-level goals.

ACTIVITIES TO BE COMPLETED BY 2006		
NO.	ACTIVITY	PAGE
1.1.1	Establish national protected area targets and indicators	25
1.1.2	Establish and expand protected areas in high priority areas including large, un-fragmented, intact, irreplaceable or highly threatened areas	26
1.1.3	Address the under-representation of inland water ecosystems in protected area systems	26
1.1.4	Review existing and potential forms of conservation, including all governance types	26
1.1.5	Conduct national and regional gap analyses	25
1.2.1	Identify lessons learned in integrating protected areas into broader landscape-scale strategies	26
3.1.1	Identify legislative and institutional gaps and barriers that impede effective establishment and management of protected areas and provide an effective policy framework	51
3.2.1	Conduct a national capacity-building needs assessment & establish capacity building programmes	58
3.4.9	Review and disseminate studies on the value of protected area ecosystem services	63
4.2.1	Develop and adopt management effectiveness evaluation methods and standards	68

ACTIVITIES TO BE COMPLETED BY 2008		
NO.	ACTIVITY	PAGE
1.1.3	Address the under-representation of marine ecosystems in protected area systems	25
1.2.2	Identify and implement practical steps to integrate protected areas into broader land/seascapes	26
2.1.1	Adjust policies to assess costs and benefits to indigenous and local communities, promote positive benefits and avoid negative impacts	45
3.1.2	Provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems	52
3.4.2	Establish and begin to implement sustainable financing plans for protected area systems	63
4.1.2	Develop and adopt monitoring systems to evaluate protected area achievements	68

ACTIVITIES TO BE COMPLETED BY 2009		
NO.	ACTIVITY	PAGE
1.1.6	Designate the new protected areas identified through gap analysis (including precise maps)	25
3.1.1	Address legislative and institutional gaps and barriers that impede protected areas	51
ACTIVITIES TO BE COMPLETED BY 2010		
NO.	ACTIVITY	PAGE
1.1.6	Complete establishment of national and regional systems of terrestrial protected areas	25
1.3.2	Collaborate to establish and manage protected areas in the high seas	26
1.3.3	Establish where appropriate new transboundary protected areas	26
1.4.3	Develop or update management plans for protected areas	33
1.5.2	Develop national approaches to liability and redress measures, incorporating polluter pays	40
3.2.2– 3.2.3	Comprehensive capacity building programmes to develop knowledge and skills at individual, community and institutional levels, and raise professional standards	58
3.3.1– 3.3.5	Development, validation, and transfer of appropriate technologies and innovative approaches for the effective management of protected areas	58
4.2.2– 4.2.4	Implement management effectiveness evaluations of at least 30 percent of protected areas, include in national reports to CBD and implement results	68
4.3.1– 4.3.5	Establish national and regional effective monitoring systems for protected-area coverage, status and trends at national, regional and global scales	68
ACTIVITIES TO BE COMPLETED BY 2012		
NO.	ACTIVITY	PAGE
1.1.6	Complete establishment of national and regional systems of marine protected areas	25
1.4.1– 1.4.6	All protected areas to have effective management in existence by 2012	34
ACTIVITIES TO BE COMPLETED BY 2015		
NO.	ACTIVITY	PAGE
1.2.3	Integrate systems of protected areas into broader land/seascape	26

**QUICK REFERENCE TOOL 4:
COMPREHENSIVE SET OF ACTIVITIES UNDER THE PROGRAMME OF WORK**

Not all of the 92 activities listed in the *Programme of Work* have clearly identified timelines. For this reason, the following Table is offered as a tool to assist Parties in a more thorough analysis of the relationship and sequencing of activities. The table lists all 92 activities. Where timelines were *not* included in the Programme of Work, the activities are highlighted in italics, and indicative timelines have been added for indicative purposes only, based on the dates of the overall *targets* that the activities refer to. (As with all activities, timelines will need to be tailored to specific country circumstances.) For example, activity 2.1.2 (recognizing community conservation areas) did not have a timeline in the *Programme of Work*. But the target for this activity is to establish, by 2008, mechanisms for equitable sharing of costs and benefits from protected areas. Therefore, 2008 might be a logical timeline for completing activity 2.1.2

COMPREHENSIVE SET OF ACTIVITIES UNDER THE PROGRAMME OF WORK		
TIMELINE	GOALS 1.1 TO 1.4 BUILD PROTECTED AREA SYSTEMS	GOALS 1.5 MITIGATE THREATS
2006	<ul style="list-style-type: none"> National / regional measurable targets (1.1.1 and 1.4.2) Ecological gap analysis (1.1.5) Urgent action to establish or expand PAs in large intact or highly threatened habitat (1.1.2) Urgent action to protected freshwater ecosystems (1.1.3) Review governance options (1.1.4) Review experience in integrated approaches (1.2.1) <i>Include climate change adaptation in plans (1.4.5)</i> 	<ul style="list-style-type: none"> <i>Assess key threats (1.5.5)</i>
2007		
2008	<ul style="list-style-type: none"> Action to protect marine ecosystems (1.1.3) Practical steps for improving integration (1.2.2) 	<ul style="list-style-type: none"> <i>Apply EIA to projects that have effects on PAs (1.5.1)</i> <i>Develop policies on illegal exploitation (1.5.6)</i>
2009	<ul style="list-style-type: none"> Designate identified PAs (1.1.6) Create participatory processes for site planning (1.4.1) <i>Investigate how PAs can help sustainable use (1.2.3 and 1.4.3)</i> 	<ul style="list-style-type: none"> <i>Investigate restoration (1.5.3)</i> <i>Address invasive species (1.5.4)</i>
2010	<ul style="list-style-type: none"> Complete terrestrial PAs, (1.1.6 and 1.1.7) including <i>benefits to local and indigenous communities</i> <i>Transboundary PAs (1.3.1 to 1.3.4)</i> Develop/update management plans (1.4.4) 	<ul style="list-style-type: none"> Develop liability and redress measures incorporating “polluter pays” principle(1.5.2)
2011		
2012	<ul style="list-style-type: none"> Complete marine PAs (1.1.6) <i>High sea PAs (1.3.2)</i> <i>Capacity building for site-based management(1.4.6)</i> 	
2015	<ul style="list-style-type: none"> <i>Integrate through development of corridors (1.2.3 and 1.2.4)</i> <i>Use restoration in PAs (1.2.5)</i> 	<ul style="list-style-type: none"> Promote use of EIA for developments around PAs (1.5.1)

GOALS 2.1 TO 2.2 PROMOTE EQUITY AND RIGHTS	GOALS 3.1 TO 3.5 BUILD CAPACITY TO MANAGE	GOALS 4.1 TO 4.4 MONITOR AND MAKE EFFECTIVE
<ul style="list-style-type: none"> • <i>Develop participatory planning mechanisms (2.2.2)</i> • <i>Promote different governance types (2.1.2)</i> • <i>Support participatory assessment exercises (2.2.3)</i> • <i>Undertake participatory national reviews (2.2.1)</i> 	<ul style="list-style-type: none"> • <i>Identify legislative / institutional gaps (3.1.1)</i> • <i>Assess capacity needs (3.2.1)</i> • <i>Document tools and assess needs for development (3.2.2, 3.5.1 & 3.5.2)</i> 	<ul style="list-style-type: none"> • <i>Adopt methods to evaluate PA effectiveness (4.2.1)</i> • <i>Set up a database of national/ regional protected areas (4.3.3)</i>
	<ul style="list-style-type: none"> • <i>Assess PA contributions</i> 	
<ul style="list-style-type: none"> • <i>Recognise community conservation areas (2.1.2)</i> • <i>National policies for access to genetic resources (2.1.6)</i> • <i>Incorporate PAs into PRSPs</i> • <i>Socio-economic cost-benefit analyses (2.1.1 & 2.1.4)</i> • <i>Create an enabling legislative environment (2.2.4, 2.1.3 & 2.1.6)</i> • <i>Plans for indigenous people (2.1.3, 2.2.2 & 2.2.5)</i> 	<ul style="list-style-type: none"> • <i>Remove perverse incentives and establish positive incentives (3.1.5-3.1.6)</i> • <i>Legal frameworks (3.1.7)</i> • <i>Harmonise laws including governance (3.1.3)</i> • <i>Establish / implement finance plans (3.4.2)</i> • <i>International funding (3.4.3)</i> • <i>Cross-country financing strategies (3.4.6)</i> • <i>Education/public awareness programs (3.5.1 to 3.5.6)</i> 	<ul style="list-style-type: none"> • <i>Develop voluntary PA standards (4.1.1).</i> • <i>Develop and implement monitoring of PA outcomes (4.1.2)</i> • <i>Thematic report on status of PoW implementation at COP-9 (4.3.2)</i>
	<ul style="list-style-type: none"> • <i>Address legislative gaps (3.1.1)</i> 	<ul style="list-style-type: none"> • <i>Introduce adaptive management processes (4.1.3)</i>
	<ul style="list-style-type: none"> • <i>Develop tools (3.5.4)</i> • <i>Transfer tools and capacity to national PA authorities (3.3.5)</i> 	<ul style="list-style-type: none"> • <i>Implement PA effectiveness assessment in at least 30% of national PAs (4.2.2)</i> • <i>Improve data collection, WDPA and UN List (4.3.4)</i>
		<ul style="list-style-type: none"> • <i>“Improve research including collaboration, dissemination, publications (4.4.1 to 4.4.7)”</i>

SECTION 1:

INTRODUCTION

1. BACKGROUND AND PURPOSE OF THE GUIDE

The overall purpose of the *Programme of Work on protected areas* is to support the establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas that collectively, *inter alia* through a global network contribute to achieving the three objectives of the Convention and the 2010 target to significantly reduce the current rate of biodiversity loss at the global, regional, national and sub-national levels and contribute to poverty reduction and the pursuit of sustainable development, thereby supporting the objectives of the Strategic Plan of the Convention, the World Summit on Sustainable Development Plan of Implementation and the Millennium Development Goals. The *Programme of Work* identifies four programme elements, 16 goals (each with a more specific target) and 92 activities for the Parties, many of which have specific timetables. The *Programme of Work on Protected Areas* is one of the most ambitious global conservation programmes ever agreed. It may appear daunting to many governments. Many activities are linked and some overlap. While some actions need to be taken by every government, others can be addressed only once and the results shared. Countries will usually not start from zero: there is already a huge amount of relevant progress, along with experience, tools and data to draw from.

The main purpose of the guide is to help governments and other stakeholders to organize their implementation efforts and focus and prioritise their actions to fulfil the vision of a comprehensive global network of well-managed and equitable protected areas. It is not a simple “how to” document that prescribes what to do in every situation, but instead it aims to be a guide to some of the actions that are needed and the opportunities that exist.

HOW TO USE THE GUIDE

Some of the people charged with implementing the *Programme of Work* may have little experience of either the CBD or biodiversity conservation in the field, so no prior knowledge is assumed. Others responsible for implementing the *Programme of Work* may have deep experience well beyond the scope of this guide; those readers might find this guide useful as a summary of tools and resources.

Section I of the guide provides introductory information including sections on the **role and importance of protected areas**, the **history and aims of the CBD**, and an **overview of the *Programme of Work*, followed by a succinct checklist and a timetable of actions** that will help in planning activities.

Section II, which is the main part of the guide and covers chapters 2–11, divides the actions by governments into nine main **themes** as outlined in Box 1. Organizing the *Programme of Work* in this way is expected to help to translate the extraordinarily comprehensive set of goals and activities into a manageable framework for action. For instance, when issues are repeated several times in the *Programme of Work*, they have generally been combined into a single theme in this guide.

Each theme-based chapter contains seven sub-sections, including a summary of what needs to be done and details about what is already available to help:

- i. **Snapshot:** a 1–2 sentence summary of actions required and key issues
- ii. **Goals and targets:** an explanation of what is required, organized around the overarching goals in the *Programme of Work* and the targets for achieving these goals. In some cases this will refer to more than one of the goals, when they are similar

BOX 1: Nine main themes of the CBD Programme of Work

Programme element 1: Direct actions for planning, selecting, establishing, strengthening, and manging, protected area systems and sites

- Building protected area networks and the ecosystem approach
- Site-based protected area planning and management
- addressing threats to protected areas

Programme element 2: Governance, participation, equity and benefit sharing

- Improving the social benefits of protected areas

Programme element 3: Enabling activities

- Creating an enabling policy environment
- Capacity building
- Ensuring financial sustainability

Programme element 4: Standards, assessment, and monitoring

- Management standards and effective management
- Using science

- iii. **Context:** a brief overview of the issue and why it is important
- iv. **Key activities for the goal(s):** some of the most important activities needed to achieve the targets
- v. **Potential steps for implementation of identified activities:** a series of possible steps, with some details of what this might mean in practice
- vi. **Case studies:** examples of how the targets have been addressed in specific countries, usually by reference to relevant web sites
- vii. **Tools and resources:** a selection of tools (methodologies, data sources, codes of practice, etc) that are already available for achieving the particular targets — this list is not exhaustive and will be extended over time — see, for example, <http://www.earthtoolbox.net>

Following up: this guide only touches on a tiny proportion of the information available to help implement the *Programme of Work*, but it does help you to find out more. Relevant web site addresses and key tools are included on an **accompanying CD**.

WHAT ARE PROTECTED AREAS AND WHY ARE THEY IMPORTANT?

What are protected areas? IUCN — The World Conservation Union defines a protected area as *an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means*. The Convention on Biological Diversity (1992) describes a protected area as *a geographically defined area, which is designated or regulated and managed to achieve specific conservation objective*. Protected areas — national parks,

wildlife reserves, wilderness areas, etc. — are the cornerstones of national and international conservation strategies. They act as refuges for species and help maintain critical ecological processes and ecosystem services that intensely managed landscapes and seascapes cannot provide. These places provide space for natural evolution and future ecological restoration. In recent years there has been growing recognition of the benefits that protected areas provide for people: genetic resources for pharmaceuticals and agriculture, traditional medicines; recreational opportunities and ecotourism revenues; sustainable sources of goods such as non-timber forest products; and refuge for traditional and vulnerable human societies. Perhaps most importantly, as emphasized in the Millennium Ecosystem Assessment (<http://www.millenniumassessment.org>), protected areas help provide critical ecosystem services that support human prosperity and survival: clean and abundant water; flood and storm control; nursery grounds and replenishment zones for fish stocks; pollination services; and carbon sequestration. In addition, most people believe we also have an ethical obligation to prevent species loss due to our own actions. Flagship protected areas are as important to a nation's heritage as, for instance, Notre Dame Cathedral or the Taj Mahal.

Are protected areas all the same? A wide range of management objectives, approaches and types of governance are used within protected areas in different countries. In terms of management objectives, these range from strict protection and exclusion of humans to broad-scale approaches that include cultural landscapes such as farms and managed forests. IUCN — The World Conservation Union subdivides protected areas into six categories based on management objectives: Ia: strict nature reserve/wilderness protection area; Ib: wilderness area; II: national park; III: natural monument; IV: habitat/species management area; V: protected landscape/seascape; and VI: managed resource protected area. In terms of governance types, protected areas may be managed directly by a government, co-managed with other actors such as non-governmental organizations, or even declared and managed collectively by indigenous peoples and local communities or by the relevant individual or corporate landowner. The *Programme of Work* addresses both public and privately managed protected areas.

How many protected areas are there? Today, there are more than 100,000 designated protected areas in the World Database on Protected Areas covering around 11.4 per cent of Earth's land surface, along with more than 1,300 marine protected areas covering less than 0.5 per cent of the oceans. They exist in virtually every country. The vast majority of protected areas were identified and gazetted (i.e., formally created) during the 20th century, in what is one of the largest conscious land use changes in history.

If there are so many already, why do we need any more? The bare statistics give a false impression of the strength of the world's protected area network. Many protected areas are ice caps, deserts, mountains and other places that were relatively easy to set aside but often not in the optimum places to protect biodiversity or to benefit indigenous and local communities. There are also notable gaps in ecological representation; for example protection is provided for just 0.1 per cent of original forest in the Southern Pacific Islands, 1 per cent of the immensely diverse moist forests of the Cameroon Highlands of Central Africa and Gulf of Guinea mangroves, and 2 per cent of lake systems worldwide. Marine and freshwater ecosystems remain woefully under-protected and often highly threatened, and were explicitly highlighted in the *Programme of Work* as requiring special attention. There are also significant gaps in the global network of protected areas' representation of species, including many species threatened with extinction. An analysis presented at the Vth World Parks Congress found that 1,423 species of mammals, birds, amphibians and turtles are not represented in the current global protected areas network, with over 20 per cent of these species threatened.

Are existing protected areas secure? Growth in extent of protected areas has not always been matched by effective management: Many protected areas have not been legally established and have little or no management capacity. Even many legally gazetted protected areas remain at risk. Threats range from immediate problems — poaching, illegal logging, mining, settlement and uncontrolled fires — to longer-term problems such as toxic contamination and climate change; these pressures are in turn driven by underlying causes such as poor governance, poverty, policies, inadequate financial resources, greed and lack of alternative livelihoods. In particular, lack of funding hampers effective management and human population pressure increases stresses. Strong arguments in favour of protection need to be effectively gathered and communicated if protected areas are to attract local and political support and the resources required to preserve their values in the long term.

What about people? In the past, protected areas have often been set up in ways that disadvantaged people, often by dispossessing them of land and resources. Indigenous and local communities living in and around protected areas in particular have been directly impacted. In the long-term, protected areas are only viable if they are supported by indigenous and local communities living within or depending on them, and by most other stakeholders (at local, national and global levels). Furthermore, some people are dependent on protected areas for their livelihoods and traditional cultures. At best, protected areas can be precious assets to recognise rights, alleviate poverty and find solutions to human-wildlife conflict. These are critical steps to ensure durable protection

PROTECTED AREAS AND THE CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity (CBD) was negotiated under the auspices of the United Nations Environment Programme (UNEP) between March 1991 and May 1992, was opened for signature at the “Earth Summit” in Rio de Janeiro in June 1992, and entered into force on 29 December 1993. To date, 187 countries and the European Community have ratified and thus become Parties to the CBD. By ratifying the Convention, Parties commit themselves to undertaking national and international measures aimed at achieving three objectives: the *conservation* of biological diversity; the *sustainable use* of its components; and the *equitable sharing of benefits* arising out of the utilization of genetic resources.

Since 1992, Governments have further defined these commitments through decisions of the Conference of the Parties (COP) — the Convention’s governing body — and translated general provisions contained in the Convention into practical actions. Decision VII/28 on protected areas and the *Programme of Work* annexed to the decision were agreed at the seventh meeting of the COP- in February 2004. This is the first global inter-governmental agreement that set, measurable targets and timetables for protected areas, elaborated a variety of actions for meeting those targets, and called for expanded international protected areas funding. The COP established an Open-Ended Working Group on Protected Areas to support and review implementation of the *Programme of Work* on protected areas. The *Programme of Work* draws closely on decisions taken at IUCN’s Vth World Parks Congress in Durban South Africa in September 2003 and thus comes with implicit support from many stakeholders in the protected areas community.

THE PROGRAMME OF WORK CONTAINS FOUR PROGRAMME ELEMENTS:

1. Direct actions for planning, selecting, establishing, strengthening, and managing protected area systems and sites.
2. Governance, Participation, Equity and Benefit Sharing.
3. Enabling Activities.
4. Standards, Assessment and Monitoring.

In essence, Element 1 primarily deals with *what* protected area systems need to conserve and where; Elements 2 and 3 cover *how* to implement protected area systems effectively, including issues such as the policy environment, governance, participation, finance, and capacity building; and Element 4 covers the steps needed for *assessing and monitoring* the effectiveness of actions taken under Elements 1-3. Each Programme Element has one or more **Goals**, which are outcome-oriented statements of the ultimate purpose intended. Each Goal is accompanied by a more specific *Target*, which in most cases sets a specific date by which the desired outcome is to be accomplished. Each Target is accompanied by a set of **suggested Activities of the Parties**, which represent the consensus recommendations of COP-7 for the “best practice” actions that countries need to take in order to meet the Goals and Targets they have committed to. The Decision notes, however, that the Activities may be treated flexibly, since not every country will have the need or capacity to implement every one.

The Decision text in VII/28 explicitly refers to the CBD’s Marine and Coastal Biodiversity Programme of Work as an inherent part of the *Programme of Work on Protected Areas*. The full text of the Marine and Coastal Biodiversity Programme of Work can be found in the CBD’s web site at <http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7742&lg=0> In addition, the Decision text in VII/28 establishes an Open-Ended Working Group on Protected Areas — to meet at least once — to help advance progress on implementation, covering such issues as financial resources, tools, and high seas protected areas.

MEETING THE REQUIREMENTS OF THE PROGRAMME OF WORK

The essence of the *Programme of Work* is a commitment that countries develop participatory, ecologically representative and effectively managed national and regional systems of protected areas, stretching where necessary across national boundaries, integrated into other land uses and contributing to human wellbeing. Fourteen of the 16 targets contain deadlines of either 2008 or 2010 (for terrestrial areas) and 2012 (for marine areas), with broader integration into wider landscapes and seascapes by 2015. Reaching these targets will require implementing a range of supporting activities, including for example the establishment of an enabling policy environment, provision of financial and technical resources, capacity building, monitoring and evaluation, and ensuring that protected areas are established and managed in an equitable and participatory manner.

Overall objective of Programme of Work. This ultimate objective of the *Programme of Work* is reflected in the commitment Parties made to implement a set of actions that would result in the:

... establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas that collective-

ly, *inter alia* through a global network contribute to achieving the three objectives of the Convention and the 2010 target to significantly reduce the current rate of biodiversity loss.

Programme of Work and Human Wellbeing. These protected area commitments are framed in the *Programme of Work*, wherever possible, to positively benefit human wellbeing. Indeed, the *Programme of Work* commits governments to promote the equitable sharing of the costs and benefits of protected areas – particularly for indigenous and local communities, and to enhance and secure the full and effective participation of indigenous and local communities and relevant stakeholders.

Transboundary Protected Areas. Because species and ecosystems often straddle national borders, reaching this goal will sometimes require cooperative transboundary action among states, and to that end, Parties have committed, by 2010 (in terrestrial areas) and 2012 (in marine areas) to:

...establish and strengthen transboundary protected areas, other forms of collaboration between neighbouring protected areas across national boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation.

Effective management. Protected areas systems also need to be well-managed to serve their purposes, Parties agreed that by 2012, all protected areas should be effectively managed,

...using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a long-term management plan with active stakeholder involvement.

Integration of Protected Areas. The Parties further recognized that even expanded and relatively comprehensive protected area systems cannot, by themselves, sufficiently slow the rate of biodiversity loss. They have therefore committed, by 2015, to “integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function” in such a manner that:

...all protected areas and protected area systems are integrated into the wider land- and seascape, and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks.

Financial Resources. In addition, Parties placed special emphasis on financial resources and financial sustainability, committing to securing sufficient financial resources by 2008, to implement and manage national systems of protected areas effectively. The Conference of Parties also signalled the urgency of funding in a number of areas by agreeing to 2006 and 2008 timelines for implementing some crucial activities. The most urgent actions are summarised in the Quick Reference Tools at the beginning of the Guide, and the Appendix gives a more detailed breakdown.

SECTION 2:

GUIDE TO THE PROGRAMME OF WORK

2. GETTING STARTED

If governments try to address each of the 92 activities outlined in the *Programme of Work* separately, they will potentially be overwhelmed. Nor will they be following the spirit of the *Programme of Work*, which is aimed at stimulating an integrated approach to building representative systems of protected areas rather than mechanically ticking actions off a list. Some activities will be unnecessary, because they will already have been completed. Some can be combined or can draw on progress made in other parts of the world. The *Programme of Work* is a framework for action and will often need to be modified for particular national conditions and linked to ongoing processes.

National implementation support partnerships. Parties will need to create national implementation plans tailored to their country and specific needs. To get started, a number of Parties have already created national implementation support partnerships, composed of key national government agencies, non-governmental organizations and other stakeholders (e.g., indigenous peoples' organizations). Sometimes referred to by the acronym "NISP", these multi-stakeholder partnerships have typically included formal collaboration agreements that outline key actions, timetables and responsibilities as elements of a national implementation plan for the *Programme of Work*. An example is the case of Brazil, where over 30 organizations and government agencies have signed a formal agreement to collaborate to implement the *Programme of Work*. Here, six government-led working groups on priority themes have also been established along with a national forum on protected areas. A national implementation plan can provide a framework for organizing action over the coming decade. In itself it will require a series of actions, such as the indicative list outlined in Figure 1:

Linking to existing processes. In many countries, national implementation of the *Programme of Work* is being linked directly to existing processes already underway or just beginning, such as efforts to update National Biodiversity Strategies and Action Plans (NBSAP's), design phases of Global Environment Facility (GEF) and bilateral donor projects, and strategic planning exercises of protected area agencies.

Assessments and compilation of information. In a first phase of implementation, a wide range of information needs to be compiled and various assessments need to be conducted as outlined in the *Programme of Work*. A summary list is provided in Box 2

**FIGURE 1
INDICATIVE COMPONENTS OF NATIONAL
IMPLEMENTATION PLAN**



The survey below, which could be circulated to protected areas staff and stakeholders, is indicative of the kind of information required to fill in gaps in existing knowledge, which together help address many of the assessments identified in the *Programme of Work*:

SAMPLE QUESTIONNAIRE TO MANAGERS OF PROTECTED AREAS

What are the key management aims? _____

Does the protected area have a management plan? Yes up to date Yes but old No

What are the key threats to the protected area? _____

Are there related social conflicts? _____

What are the most important biodiversity values of the protected area, and conservation targets requiring protection? _____

What are the options/needs for restoration? _____

Do indigenous or traditional peoples occupy or rely on the resources of the PA? _____

How are they involved in relevant processes? _____

How are local communities involved? _____

Does the protected area provide direct economic benefits? Do the benefits come to the people who bear most of the costs? Environmental services? (erosion, water quality etc)

Tourism?

Sustainable resources?

Is the PA part of a transboundary PA system? Yes No

Is a monitoring system in place? No Yes but limited Comprehensive

What are the key needs for capacity to ensure effective management? _____

What are the current and projected annual funding needs and how to they compare with current available financial resources? _____

What are the key tools needed to ensure effective management? _____

What are the key needs for research to ensure effective management? _____

BOX 2: Information needs identified in the CBD *Programme of Work on Protected Areas*

- Gap analysis for completing an ecologically representative protected areas system.
- Status of up-to-date management plans.
- Major threats to protected areas.
- Options for restoration.
- Economic and socio-cultural impacts on indigenous and local communities.
- Policies concerning governance and new governance models.
- National and legislative policy frameworks.
- Hidden and non-hidden economic and social benefits of protected areas.
- Capacity needs.
- Review of existing knowledge and experience.
- National-level financial analysis of needs and gaps.
- Needs for specific tools for protected area planning and management.
- Scientific and technical cooperation needs.
- Protected area standards (e.g. planning, management, etc.) currently in use.

In the CD accompanying this guide a “library” of key documents will be included to help governments to carry out the assessment stage of the *Programme of Work*.

Drawing on other countries’ experiences: It is expected that many countries will soon begin reporting on their implementation efforts and posting such information in publicly available places, including PALNet (<http://palnet.whirl-i-gig.com/new/>) and the CBD Clearing House Mechanism (<http://www.biodiv.org/chm/default.aspx>). By drawing on the experience of other countries, some Parties may be able to create more effective national implementation processes.


However, implementation of the Programme of Work is unlikely to be successful unless enough actors get involved, reach consensus about what needs to be done and create the energy and collaborative partnerships to put this very ambitious *Programme of Work* into operation. Creating a broad understanding of the benefits of a protected areas system to a country, and creating the right spirit and passion for protected areas and for the international vision of a comprehensive and effectively managed network of protected areas is ultimately more important than the mechanics of how it is to be achieved.

3. THEME 1: BUILDING PROTECTED AREA SYSTEMS AND THE ECOSYSTEM APPROACH



I. SNAPSHOT

The primary aim of the Programme of Work is to encourage, in each country, the establishment of functional, effective and ecologically coherent systems of protected areas, crossing national boundaries where necessary and being integrated effectively into the wider management of land, freshwater and marine areas in line with the “ecosystem approach” (adopted under the CBD). Those national systems should contribute to a global protected areas network encompassing sufficiently large areas to represent all known species and all ecosystems, to provide long-term security for all the world’s biodiversity.

 II. GOALS AND TARGETS	
GOAL 1.1	To establish and strengthen national and regional systems of protected areas integrated into a global network as a contribution to globally agreed goals.
TARGET	By 2010, terrestrially and 2012 in the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area systems are established as a contribution to (i) the goal of the Strategic Plan of the Convention and the World Summit on Sustainable Development of achieving a significant reduction in the rate of biodiversity loss by 2010; (ii) the Millennium Development Goals — particularly Goal 7 on ensuring environmental sustainability; and (iii) the Global Strategy for Plant Conservation
GOAL 1.2	To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function
TARGET	By 2015, all protected areas and protected area systems are integrated into the wider land- and seascape, and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks
GOAL 1.3	To establish and strengthen regional networks, transboundary protected areas (TBPAs) and collaboration between neighbouring protected areas across national boundaries
TARGET	Establish and strengthen by 2010/2012 transboundary protected areas, other forms of collaboration between neighbouring protected areas across national boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation



III. CONTEXT

The whole aim of the *Programme of Work* is to encourage countries to develop their protected areas system to the extent that it will protect viable populations of all species and representative samples of all ecosystems. Goal 1.1 and its target are therefore an overarching objective; the other goals can be considered as steps to ensure that the system of protected areas is established fairly and managed effectively.

The *Programme of Work* stresses that protected areas should be “**comprehensive, effectively managed, and ecologically representative.**” Effective management is addressed in chapter 10. “Comprehensive and

“ecologically representative,” which are important to understand at the planning stage, suggest that the protected area network will contain examples of all ecosystems and all species, in spatial scale and population size large enough to be viable and for natural ecology to continue functioning over time. The concept of ecological representation lies at the heart of efforts to develop protected areas from a scattering of *sites* mainly aimed at protecting a few well known species (often called charismatic megafauna) to a *system* that provides an “ark” for all biodiversity.

In practice, many countries will not be able to set aside large enough areas to conserve all species within the boundaries of protected areas; maintaining viable populations of large, wide-ranging animals, for example, can require a vast expanse. Here the concept of protected area **networks** becomes important. Protected areas that remain as isolated units, marooned by radically altered habitat, almost always face serious viability problems over the long term. The *Programme of Work* emphasises the importance of protected areas existing in a mosaic of land and water that includes habitat which, if not in a fully natural form, at least provides suitable enough conditions to provide, for example, passage for species and maintenance of ecological processes. Specific activities in the *Programme of Work* refer to “linking habitats” between protected areas, such as through buffer zones around protected areas (where use is restricted to activities that do not undermine the integrity of the protected area), biological corridors, and “ecological stepping stones” (habitat that provides stopping off places for migrating species).

Because the logical boundaries of protected areas do not always coincide with national boundaries, the *Programme of Work* encourages the development of transboundary protected areas when necessary. There are already almost 200 transboundary protected areas around the world, using models ranging from simple cooperation between managers in different countries to fully integrated joint management. Development is sometimes hampered by political problems and even warfare although protected area agencies often continue to cooperate even in times of conflict as is currently the case in Uganda, Rwanda and the Democratic Republic of Congo, even when official collaboration has not been ratified by the states.

Identifying the best locations from an ecological perspective is only the first part of a lengthy process in reaching agreement on the final portfolio of protected areas in a country or region. Local-level consultation is critical, as the *Programme of Work* specifically calls for prior informed consent by local populations when relocating these peoples as a result of newly designated protected areas. Such negotiations need to be transparent and inclusive. Decisions need to be taken not only about the location of protected areas but also about how and by whom they are managed — these issues, which are addressed in greater detail in chapter 6, are a key part of determining what the final system could look like.



IV. KEY ACTIVITIES FOR THE GOALS

The *Programme of Work* identifies 16 different activities; these cover a series of broad areas:

- ✓ Establish time-bound and measurable (e.g. numerical) national / regional protected area targets and indicators by 2006 (Activity 1.1.1).
- ✓ Carry out national and regional gap analyses to identify new protected areas needed to complete an ecologically-representative protected areas system by 2006 (Activity 1.1.5).
- ✓ Take action to protect the most urgent sites; including large intact or irreplaceable natural

	areas, areas under high threat, centres for endangered species and marine and freshwater ecosystems by 2006 (Activities 1.1.2 and 1.1.3).
✓	Designate protected areas identified in the gap analysis by 2009, and complete establishment of terrestrial protected areas by 2010 and marine protected areas by 2012 (Activity 1.1.6).
✓	Evaluate options for new governance systems and integration of protected areas into broader land/seascapes and into poverty reduction strategies by 2006 and implement practical steps to increase integration such as ecological corridors, buffer zones and restoration by 2008 (Activities 1.1.4 and 1.2.1 to 1.2.5).
✓	Collaborate with other countries in the establishment of transboundary protected areas including protected areas in oceans beyond the limit of national jurisdiction (Activities 1.3.1 to 1.3.4).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

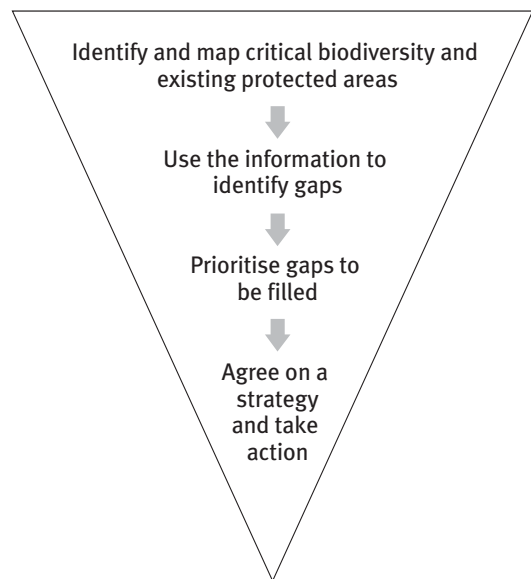
National consultation: using a participatory approach, carry out a national-level consultation to identify and review conservation initiatives that exist on the territory, including community conserved areas and private protected areas; agree on time bound and measurable targets in terms of extent of areas to be protected and components of biodiversity, and indicators of success.

Ecological gap analysis: complete a gap analysis to identify protection needs and potential new protected areas, along with a supporting framework (ecological corridors, buffer zones etc). Once broad targets have been agreed on (e.g., prioritized efforts to conserve all threatened species, percentage of all major habitat types protected, etc.), a gap analysis is suggested as a way of identifying the precise needs for protected areas from an ecological perspective and of determining the best new sites. Although there are many different methodologies of gap analysis, ranging from simple to complex, all are based on a three-stage process of (i) identifying and mapping key areas for biodiversity; (ii) mapping existing protected areas; and (iii) identifying gaps by comparing these two information sets (see Figure 2). A gap analysis can be used to help develop plans for expanding protected area systems so that they conserve representative segments of all biodiversity found within a country. Wherever possible, gap analyses should draw upon regional planning exercises — such as ecoregional plans — or analyses of specific biological attributes, such as endemic and globally rare and threatened species. A species may be rare in one country because it is at the edge of its natural range or for some other historical reason, while remaining common elsewhere; this species, as a result, would generally be less of a priority for conservation than globally rare or endemic species. Wider studies would also pinpoint areas where **transboundary protected areas** and other forms of regional cooperation may be needed.

Transboundary considerations: as migratory animals define marine, terrestrial and aerial “highways” natural networks of interconnected ecosystems beyond geopolitical regions, work with neighbouring countries, probably first through a joint workshop, to identify potential transboundary and high seas protected areas.

Stakeholder consultation: undertake local-level consultation with indigenous and local communities around existing and potential protected areas and agree a mutually acceptable portfolio of proposed protected areas. The process of local stakeholder engagement needs to be tailored to individual conditions, but generally addresses issues related to whether people support the idea of a protected area, how it might be managed and how it might be governed. Assembling a broad representation of relevant stakeholders and agreeing on initial targets for protection is often a critical first stage. Some nations have taken bold steps to declare very broad protected areas goals, demonstrating their recognition of the importance of taking its biological riches seriously (see for example Madagascar's 2003 commitment to triple its protected area coverage, next page); however the details of how to achieve and implement such commitments at the site level must be worked out, including through stakeholder consultation.

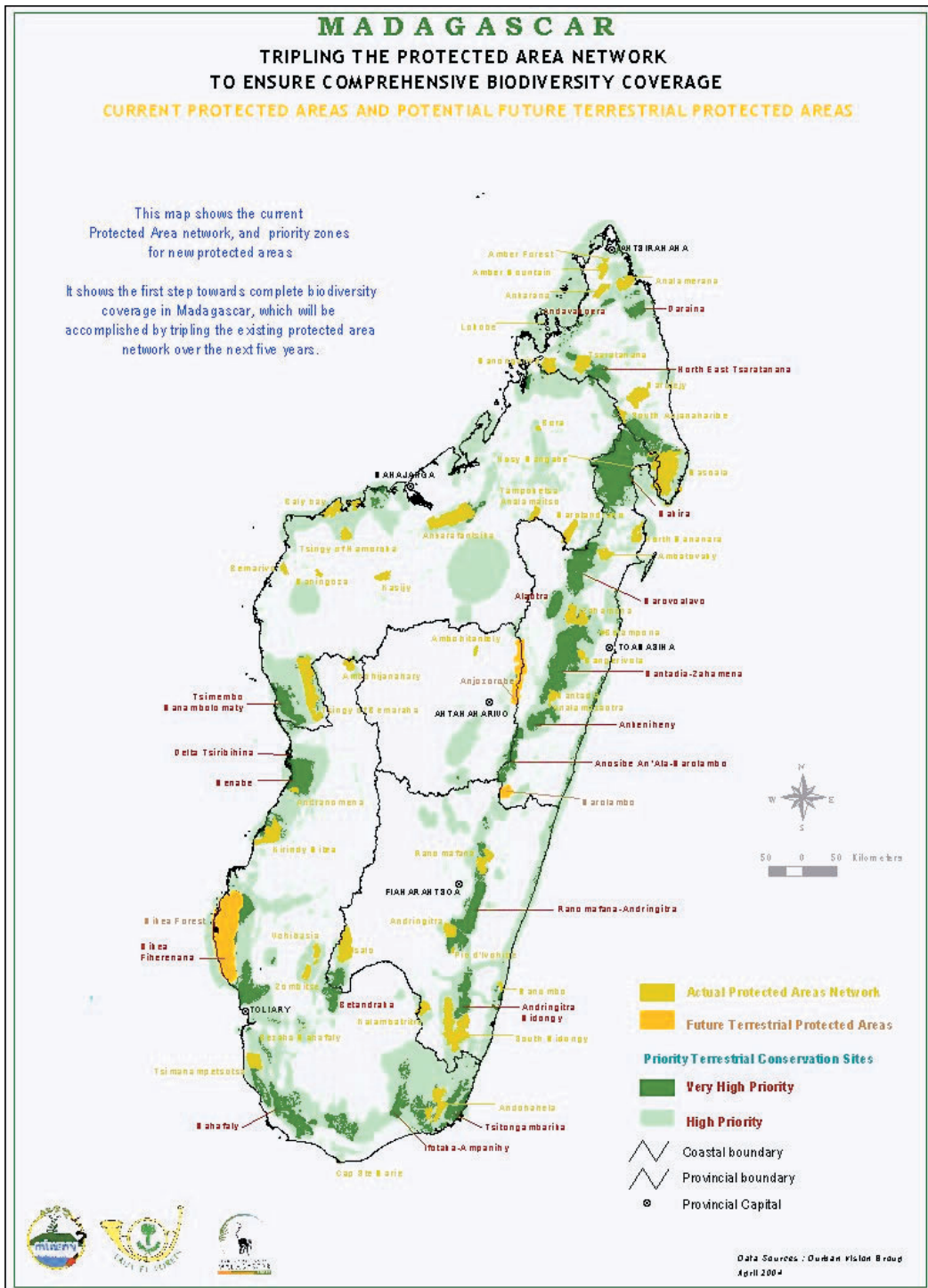
**FIGURE 2
MAIN STEPS IN AN ECOLOGICAL
GAP ANALYSIS**




Review of governance models: review different governance models and management objectives, considering both experiences in other countries (see tools) and within the country. Although many protected areas will doubtless remain state-managed areas with limited access, other models to consider include private protected areas, community conserved areas and various forms of co-management. Management objectives to consider range from strict protection to significant but sustainable levels of resource extraction and use, some of which can retain traditional management systems within them. Choosing the most effective management and governance systems can involve a trade-off between the needs of biodiversity and human livelihoods. While strict protection can sometimes appear to be the “best” for biodiversity, balancing conservation needs with those of users, in particular local communities, often results in different models, and a less strictly protected but well-managed area is often more effectively conserved than a protected area that is in theory strictly controlled but in practice open to widespread illegal use. Experience with different approaches is growing and countries have access to a range of case studies, guidelines and models. Some useful sources are listed in this chapter’s tools section.

Ecosystem approach: Integrating protected areas into broad-scale approaches to conservation through an ecosystem approach is a longer-term but critical stage in developing a protected area system that functions effectively. This step can entail developing mechanisms for improving the integration of protected areas into the wider landscape, for example requiring regional planning processes and environmental impact assessment procedures for large scale projects to address protected area issues.

FIGURE 3



 VI. CASE STUDY	
	There are still relatively few examples of full-scale national protected area gap analyses, although the number of analyses is growing quickly. Some case studies are available in the guide to gap analyses being prepared by the CBD Secretariat as part of its Technical Guide Series in support of the <i>Programme of Work</i> . Following is an example.
MADAGASCAR	Madagascar has undertaken a programme to triple protected area coverage over five years
TARGET	During the World Park Congress in Durban in 2003, President Marc Ravalomanana announced: “...our resolve to bring the protected areas from 1.7 million hectares to 6 million hectares over the next five years to come in relation to IUCN protected areas categories...through strengthening of the present national network and implementation of new mechanism for establishment of new conservation areas.”
GAP ANALYSIS	a “Durban Vision” group was formed of government, NGO and donor representatives and a gap analysis carried out to identify potential new protected areas (see Figure 3 opposite)
GOVERNANCE MODELS	a mission from IUCN provided advice on new governance models and a range of management objectives.
CONSULTATION	a participatory approach is being taken with local communities aiming to work collectively to agree the location and management approaches within the new protected areas

 VII. TOOLS AND RESOURCES	
	TARGETS AND GAP ANALYSIS
	<p>In collaboration with many partners, the CBD Secretariat is producing a Technical Guide to conducting national ecological gap assessments in protected area systems. This document will be available through the Secretariat’s web site at http://www.biodiv.org.</p> <p>Many organizations have developed methods to identify sites of global biodiversity conservation significance, including Alliance for Zero Extinction areas of high extinction risk (http://www.zeroextinction.org/); Endemic Bird Areas (http://www.birdlife.net/action/science/endemic_bird_areas/), Frontier Forests (http://www.globalforestwatch.org/english/index.htm), Important Bird Areas (http://www.birdlife.net/action/science/sites/); Important Plant Areas in Europe (http://www.plantlife.org.uk/downloads/ipa/Identifying_IPAs_in_Europe_Site_Selection_Manual.pdf); Key Biodiversity Areas (which ties several systems together) http://portals.conservation.org/downloads/storedfile/Document/ox30e5b57e63ac3243b13d74733f37762.pdf), Wetlands of International Importance (http://ramsar.org/sitelist.pdf).</p> <p>In addition, various global conservation prioritization systems, although at scales too broad to be useful for most national gap analyses, may provide useful context, such as Biodiversity Hotspots (http://www.biodiversityhotspots.org/xp/Hotspots), Centres of Plant Diversity (http://www.nmnh.si.edu/botany/projects/cpd/) [only South American is online], Global 200 ecoregions (http://www.panda.org/resources/programmes/global200/pages/list.htm),</p>

<p>Global gap analysis of protected areas (http://portals.conservation.org/downloads/storedfile/Document/ox7foa45b122b828489b23bb76013344c6.pdf), and High Biodiversity Wilderness Areas (http://www.conservation.org/xp/CIWEB/regions/priorityareas/wilderness/).</p> <p>IUCN has detailed guidelines for marine protected areas including site selection (http://www.iucn.org/themes/wcpa/pubs/pdfs/mpa_guidelines.pdf).</p> <p>IUCN also has best practice guidelines for National System Planning for Protected Areas (http://www.iucn.org/themes/wcpa/pubs/pdfs/Nat_Sys_Planning.pdf).</p> <p>New South Wales National Parks and CSIRO have developed a nine-stage data driven <i>systematic conservation planning</i> method that has already been used in reserve design in Australia, South Africa and China (http://www.nature.com/cgi-taf/DynaPage.taf?file=/nature/journal/v405/n6783/full/405243ao_fs.html).</p> <p>The Nature Conservancy has a detailed system for selecting and agreeing on conservation targets and sites within ecoregions called <i>Designing a Geography of Hope</i> (available in English, Spanish and Portuguese) (http://conserveonline.org/2000/11/b/GOH2-v1.pdf).</p> <p>The Wildlife Conservation Society has a <i>landscape species</i> strategy using species that need large, ecologically diverse areas and have significant impacts on the structure and function of natural ecosystems to identify ecologically meaningful conservation areas (http://wclivinglandscapes.com/media/file/Sanderson_et_al_20021.pdf).</p> <p>WWF Canada has a methodology for assessment of the protection status of biodiversity in a specified region that looks for gaps in the representation of species or ecosystems in protected areas (not yet available on open web).</p>
<p>TRANSBOUNDARY PROTECTED AREAS</p>
<p>IUCN has detailed guidelines for development and management of <i>Transboundary Protected Areas</i> (http://www.iucn.org/themes/wcpa/pubs/pdfs/Transboundary_guide.pdf).</p> <p>The Europarc Federation has similar guidelines with a particular emphasis on Europe, <i>Basic Standards for Transfrontier Cooperation between European Protected Areas</i> (not available on the web).</p>
<p>GOVERNANCE MODELS</p>
<p>The IUCN Commission on Environment, Economic and Social Policy and the International Institute for Environment and Development have detailed case studies on different governance models for protected areas and other natural resource management in <i>Policy Matters</i> no.10, 12, and 13. (http://www.iucn.org/themes/ceesp/Publications/Publications.htm).</p> <p>Examples of community conserved areas and co-managed protected areas and lessons learned thereby are collected in <i>Indigenous and Local Communities and Protected Areas: towards Equity and Enhanced Conservation</i> (http://www.iucn.org/themes/wcpa/pubs/guidelines.htm).</p> <p>A thorough process by which protected areas managers can evaluate and improve their governance setting is described in: <i>Evaluating Governance—a Handbook to accompany a partici-</i></p>

	<p><i>patory process for a protected area</i> (http://www.iucn.org/themes/ceesp/Wkg_grp/CMWG/EVALUATING%20GOVERNANCE%20HANDBOOK.doc).</p> <p>See also tools in chapter 6.0</p>
	<p>ECOSYSTEM APPROACHES</p>
	<p>The CBD has developed principles for the ecosystem approach that lays out a framework for broadscale conservation (http://www.biodiv.org/programmes/cross-cutting/ecosystem/default.asp).</p> <p>IUCN's Commission on Ecosystem Management is working to implement the ecosystem approach (http://www.iucn.org/themes/cem/ea/index.htm).</p> <p>Conservation International has a guide to planning and implementing <i>Conservation Corridors</i> and a related guide to <i>Designing Sustainable Landscapes</i> (http://portals.conservation.org/downloads/storedfile/Document/oxc4a7d211dcceca40972c8470ed319705.pdf).</p> <p>Parks Canada has developed methodologies related to systems planning (terrestrial http://www.pc.gc.ca/docs/v-g/nation/pdf/SysPlan_e.pdf and marine).</p> <p>The Ramsar Convention has guidelines for integrating wetland conservation and wise use into river basin management (http://www.ramsar.org/key_guide_basin_e.htm).</p> <p>WWF and IUCN have produced a landscape approach to <i>Integrating forest protection, management and restoration at a landscape scale</i> (http://www.panda.org/downloads/forests/wwfpmrlandscapeapproach.pdf).</p>

SPECIAL FEATURE: MARINE PROTECTED AREAS

Marine habitats and ecosystems are severely under-represented in the global network of protected areas. Concern about this under representation is reflected in decision VII/5 and accompanying *Programme of Work on Marine and Coastal Biological Diversity*, under programme element 3 (marine and coastal protected areas) and operational objectives 3.1 to 3.5. These operational objectives include:

- 3.1: To establish and strengthen national and regional systems of marine and coastal protected areas integrated into a global network and as a contribution to globally agreed goals.
- 3.2: To enhance the conservation and sustainable use of biological diversity in marine areas beyond the limits of national jurisdiction
- 3.3: To achieve effective management of existing marine and coastal protected areas
- 3.4: To provide support for and facilitate monitoring of national and regional systems of marine and coastal protected areas

- 3.5: To facilitate research and monitoring activities that reflect identified global knowledge gaps and priority information needs of management of marine and coastal protected areas.

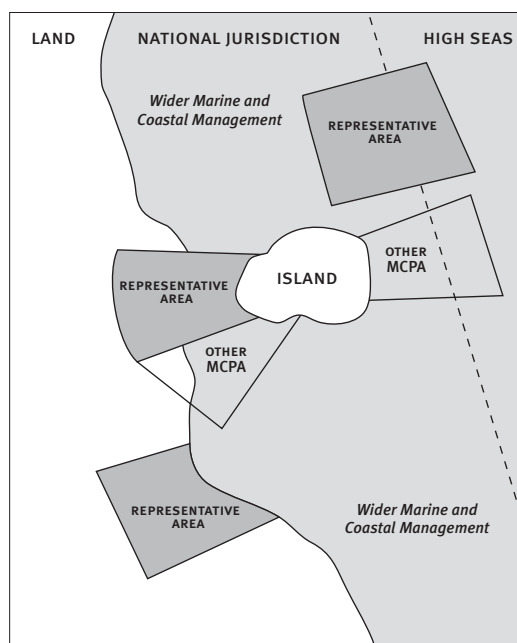
Marine protected areas vary in management objectives in the same way as their terrestrial counterparts. Decision VII/5 puts forward a marine and coastal biodiversity management framework consisting of two types of marine and coastal protected areas:

Multiple use protected areas, which may permit extractive uses but contain areas that are more strictly controlled for biodiversity protection. Such controls may also have other (e.g., economic or social) objectives. Examples include controls on fishing (e.g., restricting bottom trawling), on the removal of certain species (e.g., habitat forming species), rotational closures, and controls on pollution and sedimentation. Such areas can protect particular species or life cycle stages (such as spawning), help to maintain connectivity and buffer more strictly protected areas.

No-take zones (representative marine and coastal protected areas where extractive uses are excluded), which permit no extraction and are managed to maintain their ecology or to allow natural restoration. Such strictly protected areas form the backbone of the marine biodiversity conservation measures and need to be selected for coverage and representation in the same way as land and freshwater sites. There is ample evidence that such no-take zones can have short and long-term benefits to human communities through, for example, helping to maintain and replenish fish stocks (Report of the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas: UNEP/CBD/SBSTTA/8/INF/7).

Decision VII/5 also acknowledges that marine and coastal protected areas on their own are not enough for conservation and sustainable use of biodiversity, and that they need to be incorporated into a framework of sustainable management practices over the wider marine environment.

**FIGURE 4:
ELEMENTS OF THE MARINE AND COASTAL
BIODIVERSITY MANAGEMENT FRAMEWORK**



Elements of a marine and coastal management framework as adopted by SBSTTA in recommendation VIII/3

4. THEME 2: SITE-BASED PROTECTED AREA PLANNING AND MANAGEMENT



I. SNAPSHOT

Many protected areas exist in name only, or struggle along with minimal planning and management. The Programme of Work aims to turn this around by promoting a systematic approach to site-based planning and management: identifying the key conservation targets and threats at each site, developing comprehensive management plans and threat abatement strategies, and systematically monitoring measurable targets to measure effectiveness of conservation efforts and adapt as needed.



II. GOALS AND TARGETS

GOAL

Goal 1.4: To substantially improve site-based protected area planning and management

TARGET

All protected areas to have effective management in existence by 2012, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a long-term management plan with active stakeholder involvement.



III. CONTEXT

The planning and management of an individual protected area is a more finely focused and detailed process than for systems of protected areas. In a systems plan, the sites of highest conservation value are identified across a country or region. Once protected areas have been selected from this list and their legal status established or clarified, management plans are normally required for individual protected areas. Processes to encourage stakeholder participation (see chapter 6) are important here, since the management of a protected area can have significant impacts on access to resources and hence the livelihoods of local people. Use of alternate governance arrangements, such as community conserved areas and co-management, require much higher levels of stakeholder participation in developing management plans. Care is also needed to ensure that planning and management can cope effectively with social, economic and environmental change. Although protected areas face many threats (see chapter 5), climate change is worth singling out because it may have such a profound effect on the ability to conserve biodiversity. Thus, the *Programme of Work* stresses the need to consider the likely impacts of climate change when planning and managing protected areas.



IV. KEY ACTIVITIES FOR THE GOALS

- ✓ Develop a highly **participatory process**, involving indigenous and local communities as well as other stakeholders in planning, and include identification of opportunities for the protected area to contribute to sustainable development (Activities 1.4.1 and 1.4.3).
- ✓ Identify measurable **biodiversity conservation targets** for individual protected areas (e.g., specific species, major ecosystems and habitat types) (Activity 1.4.2)

-
- ✓ Analyze **threats** and means of addressing them (activity 1.4.3)
 - ✓ Develop or update **management plans** for protected areas by 2010 (Activity 1.4.4)
 - ✓ Include **climate change adaptation measures** in plans and management (Activity 1.4.5)
 - ✓ Implement the plans
-



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Biodiversity conservation targets: The *Programme of Work* suggests that an important step towards effective site-based management is the identification of **biodiversity conservation targets** that guide the management required to maintain site values. For this purpose, site-based workshop(s) should be run involving protected area agency staff, managers, local stakeholders and researchers to identify and agree on conservation targets. Enough targets — at viable populations sizes and scales — are needed to represent many of the values of the site, whilst avoiding having so many as to be unwieldy: Five to ten targets are often suitable. Using the same targets for planning and monitoring makes it easy to track management successes and failures and react accordingly, which is the essence of adaptive management. Conservation targets can draw on the criteria for identification and monitoring of biodiversity in Annex I of the CBD (<http://www.biodiv.org/convention/articles.asp?lg=o&a=cbd-a1>) and should take into account the target framework adopted by the Conference of the Parties in its decision VII/30, which includes agreed targets and indicators of progress to ensure coherence in achieving the 2010 biodiversity target of the CBD.

Threats: The same site-based workshop(s) can identify major threats to selected conservation targets, and develop threat abatement strategies that address direct stresses (e.g., habitat loss) and underlying sources (e.g., illegal logging).

Review and as appropriate update management plans: undertake a national review of management plans to identify current status — including in particular protected areas without plans or with plans that are now out of date. Following this review, complete, revise or update management plans as necessary, including steps to involve stakeholders and a framework for addressing climate change


Incorporating information from the above mentioned steps, and from an analysis of threats as outlined in greater depth in chapter 5, a **management plan** provides a long-term framework that guides and controls level of use, development of necessary facilities, research priorities and interventions in response to threats to a protected area and its conservation targets. The most effective management plans are embedded in wider strategic plans that integrate conservation needs into other policies at a broader scale. The management plan is the key mechanism through which the results of site planning are translated into action on the ground, typically organized around specific annual work plans and budgets against which progress can be measured. Management plans need to be flexible enough to adapt to changing circumstances, but at the same time provide enough legal and managerial security to guide long-term investment, personnel and management decisions. The best plans are also generally as clear and simple as possible, to minimise costs and to ensure that they are widely understood. It is particular-


ly important that protected area staff gain a sense of ownership over the plan, by being closely involved in the site-planning process and in drafting the plan. Broad stakeholder participation is also essential — particularly by those whose livelihoods are affected by the protected area. Management plans should be integrated into broader land and seascape planning processes, as part of the ecosystem approach.

One key element in the plan is the **management objectives**. There is an urgent and frequently overlooked need for detailed and measurable management objectives specific to each protected area. Some objectives can, for instance, be linked to the biodiversity conservation targets identified through earlier steps. For example, a management objective can be protection of particular species, such as the concept of favourable conservation status of species and habitats linked to Europe's Natura 2000 programme and the European Birds Directive. IUCN (1994) has identified six categories of protected areas, determined by overarching management objective. The definition of a protected area determines whether or not an area of land or sea qualifies as a protected area; the categories are used for classification once a protected area has been identified. The IUCN categories are also a way of *defining* and providing data for *recording* existing protected areas and providing some advice about management options: they are not an imposed system. Guidance on use of the categories is currently being revised by IUCN. The categories are outlined in table 1.

TABLE 1: IUCN CATEGORIES OF PROTECTED AREAS	
CATEGORY IA	Protected area managed mainly for science or wilderness protection
CATEGORY IB	Protected area managed mainly for wilderness protection
CATEGORY II	Protected area managed mainly for ecosystem protection and recreation
CATEGORY III	Protected area managed mainly for conservation of specific natural features
CATEGORY IV	Protected area managed mainly for conservation through management intervention
CATEGORY V	Protected area managed mainly for landscape/seascape conservation or recreation
CATEGORY VI	Protected area managed mainly for the sustainable use of natural resources

Adaptive management is increasingly recognised as a critical element in protected area management, in which managers continuously monitor progress to adjust management, and in some cases take an active hand in restoring ecological processes that are breaking down. Adaptive management is needed to respond to a variety of immediate and long-term pressures and also to changes in uses and management objectives of protected areas. Climate change creates new pressures for adaptive management.

	VI. CASE STUDIES
	<p>An increasing number of protected areas identify conservation targets in their planning. Many can be accessed at ConserveOnline (http://sites-conserveonline.org/dcs/resources/#8). Examples are given from the Bering Sea and the Serengeti National Park in Tanzania.</p>
	<p>TARGETS AND INDICATORS FOR THE BERING SEA</p>
<p>SEABIRDS:</p> <p>WATERFOWL:</p> <p>NORTHERN FUR SEAL:</p> <p>STELLER SEA LIONS:</p> <p>GROUND FISH:</p> <p>POLLOCK:</p>	<p>Continue existing annual monitoring of productivity and relative population counts at six reference sites in Bering/Chukchi Sea; by Alaska Maritime National Wildlife Refuge.</p> <p>Continue existing annual breeding surveys on Yukon-Kuskowim Delta. Data collection and analysis by the US Fish and Wildlife Service. Develop partnerships for comparable surveys on Anadyr Delta.</p> <p>Continue existing pup counts and overall population estimates on Pribilof Islands.</p> <p>Continue existing population surveys at Aleutian and Pribilof rookeries and haulouts every 2 years.</p> <p>Continue existing annual trawl survey in eastern Bering Sea. Data collection and analysis by the National Marine Fisheries Service (NMFS). Need comparable surveys in Russian waters.</p> <p>Continue existing mid-water trawl survey in eastern Bering Sea every 2 years. Data collection and analysis by NMFS. Need surveys in Russian waters.</p>
	<p>TARGETS AND INDICATORS FOR SERENGETI NATIONAL PARK</p>
<p>THE MIGRATION:</p> <p>THE MARA RIVER:</p> <p>RIVERINE FOREST: (including hilltop forests)</p> <p>ACACIA WOODLAND:</p> <p>TERMINALIA FORESTS:</p> <p>KOPJE HABITAT: (rock outcrops):</p> <p>BLACK RHINO: (<i>Diceros bicornis</i>) (restoration target)</p> <p>WILD DOG: (<i>Lycaon pictus</i>) (restoration target)</p>	<p>measured by intactness of migratory routes, population size of key species etc</p> <p>flow rate, pollution levels</p> <p>forest area and cover, populations of individual species</p> <p>density of tree species, populations of herbivores</p> <p>density of tree species, populations of herbivores</p> <p>main kopje plant and animal species</p> <p>population and productivity</p> <p>population and productivity</p>

	VII. TOOLS AND RESOURCES
	Many tools exist to assist implementation in this area:
	CONSERVATION TARGETS AND THREATS
	The Nature Conservancy (TNC) has developed a comprehensive methodology for identifying site-based targets, indicators, threats, and threat abatement strategies, called <i>The Five-S Framework for Site Conservation</i> (http://conserveonline.org/csd;internal&action=buildframes.action (Go to search function and search for CAP toolkit)) that has been widely used in the United States, Canada, and some developing countries.
	MANAGEMENT PLANS
	The IUCN Guidelines for Management Planning of Protected Areas (http://www.iucn.org/themes/wcpa/pubs/pdfs/guidelinemanagementplanning.pdf) provide a general framework that can be adapted for use in diverse contexts and covers the requirements, a 13-step process and detailed guidance on involving stakeholders.
	IUCN's Guidelines for Marine Protected Areas includes details on developing management plans for marine protected areas (http://www.iucn.org/themes/wcpa/pubs/pdfs/mpa_guidelines.pdf).
	The Tasmania Parks and Wildlife Service Best Practice in Protected Area Management Planning (http://www.deh.gov.au/parks/best-practice/reports/management-planning/pubs/protected-area-management.pdf) is a review of management planning processes and practices in the park management agencies of Australia, New Zealand and North American that identifies current "good practices" used by agencies in management planning.
	Parques Nacionales y Conservación Ambiental with IUCN and GTZ has produced <i>Management Plans, Concepts and Proposals</i> particularly for Latin America (in Spanish and English). The document is not available on the web, but can be obtained from UICN Oficina Regional para Mesoamérica, Moravia, Apartado postal 0146-2150, San José Costa Rica, correo@orma.iucn.org .
	The Wildlife Institute of India produces a Manual for Planning Wildlife Management in Protected Areas and Managed Forests, available from http://www.wii.gov.in/ .
	Eurosite produces a detailed toolkit aimed at developing management plans in European protected areas, available in English, French, Spanish and Catalan (http://www.eurosite-nature.org/IMG/pdf/toolkitmp_en.pdf).
	The Ramsar Bureau has many guidelines on managing important wetland sites including <i>Handbook 8: Managing Wetlands</i> (http://www.ramsar.org/lib_handbooks_eo8pre.doc), which includes detailed information about planning a management process.
	IUCN's Guidelines for Planning and Managing Mountain Protected Areas (http://www.iucn.org/themes/wcpa/pubs/pdfs/mountainPAguide-screen.pdf) does not address management plans specifically, but includes many guidelines likely to be useful in drawing up management plans for mountain protected areas.

	CLIMATE CHANGE	
	WWF has produced a comprehensive guide to building resistance and resilience to climate change into natural ecosystems covering specifically grasslands, forest, alpine/montane systems, the arctic, temperate and tropical marine systems, and freshwaters (http://worldwildlife.org/forests/pubs/buyingtime_unfe.pdf). It stresses three principles: (a) protect adequate and appropriate space; (b) limit all non-climate stresses; and (c) use active and adaptive management and strategy testing.	

SPECIAL FEATURE: HOW TO PLAN FOR CLIMATE CHANGE

When “getting started” in system and site planning, planners should incorporate techniques to determine and map likely changes in habitats and species ranges over time, under different climate change scenarios. These scenarios then need to be reflected in the choice of biodiversity conservation targets. Species targets, for example, can be adjusted for range and population changes predicted to take place due to climate change. The guiding principles of representation and persistence do not change, but rather take on added importance. Increased redundancy may be necessary to achieve representation when climate change impacts are taken into account, and requirements for persistence are likely to change when expected range shifts and migration needs are taken into account. Resilience to climate change, and the ability to adapt to it, need to be adopted as explicit goals.

Climate change also adds a crucial element to the review of existing protected areas, since the biodiversity features conserved in a particular area may move beyond its boundaries in a few decades. Thus, the analysis needs to ask not only which biodiversity features a protected area currently encompasses, but also which of those features will no longer lie within its boundaries in the future and which new features may move into it.

The same issues apply to the selection of potential new areas. Planning needs to incorporate the potential for species range shifts, precipitation and fire-regime shifts, etc., into decision-making processes for selection of new sites.

Climate change factors will also affect the setting of priorities for action on the ground. Consideration of likely shifts in species in habitat ranges, for example, may alter the balance of priority given to expanding the size of existing sites versus establishing new sites. Alternatively, climate change may decrease the future integrity and utility of some existing sites, and increase the priority that should be given to new sites. In virtually all cases, the importance of connectivity to allow movement of species and habitats is likely to grow.

Climate change-related considerations need to be factored into the design of Marine Protected Areas (MPAs) established to conserve coral reef ecosystems. Climate change-induced rises in sea surface temperatures have increased the frequency and severity of coral bleaching episodes. The question of how best to design coral reef MPAs in ways that enhance their resistance and resilience to coral bleaching has only recently begun to be addressed. One study has identified local environmental factors that are predictors of greatest resistance and resilience to coral bleaching, in order to help MPA managers “identify, design, and manage networks of MPAs in order to maximize overall survival of the world’s coral reefs in the face of global climate change”. There are two main reasons for identifying such sites and affording them a high priority for protection. First, protection of these sites will maximize biodiversity conservation by securing the most bleaching-resistant sites. Second, such sites can serve as sources of larvae to support recovery of down-current areas that are more susceptible to bleaching.

5. THEME 3: ADDRESSING THREATS TO PROTECTED AREAS



I. SNAPSHOT

Conservation of biological diversity in protected areas is based on the assumption that the protected areas will remain intact in perpetuity. Unfortunately, many protected areas remain vulnerable to a range of threats, some emanating locally and others from long-distances, such as runoff of agricultural chemicals or climate change. A section of the Programme of Work is therefore devoted to actions to address the threats faced by protected areas.



II. GOALS AND TARGETS

GOAL	Goal 1.5: To prevent and mitigate the negative impacts of key threats to protected areas
TARGET	By 2008, effective mechanisms for identifying and preventing, and/or mitigating the negative impacts of key threats to protected areas are in place.



III. CONTEXT

Threats to protected areas can be divided into *direct threats* to the biodiversity of a protected area, *indirect threats* that drive the direct threats, and *underlying causes* that are often broad socio-economic forces far from the site. Encroachment by small farmers, for example, may pose a direct threat. This encroachment may be driven, however, by an indirect threat such as the rapid privatization and concentration of agricultural land adjacent to a protected area leading to landless people clearing forest in search for somewhere to grow food. The underlying cause, in turn, may be subsidies or other changes in government policy aimed at increasing agricultural exports that favour large producers and end up concentrating land into fewer hands.



IV. KEY ACTIVITIES FOR THE GOALS

A range of actions are suggested, all centred on the need to **identify** and then **respond** to threats, including through **restoration** activities, if necessary:

IDENTIFICATION:

- ✓ **Identify threats** to protected areas and develop and implement strategies to prevent and/or mitigate these threats (Activity 1.5.5), including:
- ✓ Undertake **environmental impact assessments** (EIAs) of any plan or project potentially affecting protected areas and include biodiversity in EIA legislation and/or processes (Activity 1.5.1).
- ✓ **Analyze threats** at site level and the means to address them (Activity 1.4.3).

	RESPONSES: some of the most important global threats are given prominence:
✓	Develop policies, improve governance, and ensure enforcement of urgent measures that can halt illegal exploitation of resources from protected areas; and strengthen international cooperation to eliminate illegal trade in such resources (Activity 1.5.6).
✓	Control risks associated with invasive alien species (IAS) (Activity 1.5.4).
✓	Develop national approaches to liability and redress measures in relation to damage to protected areas (Activity 1.5.2).
	RESTORATION:
✓	Develop approaches to rehabilitation and restoration of protected areas (Activity 1.5.3).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Threat assessment, prevention, and mitigation: carry out a system-wide assessment of threats and prioritise threat prevention and mitigation activities. It is important to list and prioritise threats at an early stage of planning, so that monitoring programmes can be developed to help work out appropriate management responses. Several threat analysis methodologies exist (see tools), for both individual protected areas and protected area networks: it is important to distinguish threats that managers can tackle directly from those needing a wider response at a regional, national or international scale. The most effective assessments prioritise threats in terms of both importance and urgency. Many threats could be avoided if proposed development projects near protected areas had an **environmental impact assessment** (EIA). The *Programme of Work* also stresses the need to incorporate biodiversity into EIA legislation, which reinforces Article 14 of the Convention (<http://www.biodiv.org/convention/articles.asp?lg=o&a=cbd-14>). Following threat assessments, a systematic process will need to be undertaken to establish mechanisms to prevent and mitigate threats, possibly including: new laws, economic incentives, law enforcement procedures, alternative livelihood programmes, etc.


Environmental impact assessments: ensure that environmental impact assessments take place for significant development projects liable to impact on protected areas. Normally responsibility for such assessments should lie with those proposing the developments. Assessments should include if necessary alternative project designs to reduce impacts on protected areas.

Responses and redress: develop national approaches to liability for adverse impacts on protected areas and redress measures. Policies usually have to be tailored to individual situations and to start with an assessment of capacity. Two serious threats are specifically mentioned. **Illegal exploitation of resources**, such as poaching and illegal logging, often needs action inside and outside a protected area, for example by strengthening enforcement at the site while improving governance, developing appropriate national policies, carrying out public education and undertaking regional and global cooperation, as cross border trade may be involved. **Invasive alien species** can also be a significant threat as some introduced species thrive in the absence of natural predators or diseases and outcompete native species,

which in turn have no natural defences against the aliens. This threat is also addressed in Article 8(h) of the Convention (<http://www.biodiv.org/convention/articles.asp?lg=o&a=cbd-o8>) which calls on Parties to prevent, control or eradicate alien species that threaten ecosystems, habitats or species. Parties are encouraged to develop approaches to **liability and redress measures** in relation to damage suffered by protected areas, incorporating mechanisms such as the “polluter pays principle”, whereby those who damage the environment should bear the cost of such damage. In this context, the principle applies to any activity that contributes to deterioration of the environment, rather than being strictly limited to polluting activities.

Restoration: develop policies and strategies for restoration of protected areas where necessary. When protected areas are already degraded, measures need to be put into place for **rehabilitation and restoration** of the site. Restoration is generally only useful in places where the causes of damage have been removed or controlled; otherwise efforts will quickly be reversed.

	VI. CASE STUDIES
LUSAKA AGREEMENT	The Lusaka Agreement is an African regional collaborative effort that focuses on combating and totally eliminating illegal wildlife trade/crime across borders (http://www.lusakaagreement.org).
GLOBAL INTERNATIONAL WATERS ASSESSMENT	The Global International Waters Assessment is currently conducting a strategic assessment of the status of environmental problems and their impacts on nature and human society at a strategic and global level. (http://www.giwa.net/publications/articles/aslo/aslo_bulletin.pdf)
WWF	WWF is assessing the health of the mangrove ecosystem in Pakistan, including the socio-economic causes of its degradation, taking into account national and international factors (http://wwfpak.org/forest_lossinmangrove.php)

	VII. TOOLS AND RESOURCES
	<p data-bbox="444 1493 597 1520">IDENTIFICATION</p> <p data-bbox="444 1549 1360 1640">The Biodiversity Support Program has a methodology for threat analysis and reduction: <i>Is our project succeeding: A Guide to Threat Reduction Assessment for Conservation</i> (www.fosonline.org/images/Documents/tra.pdf).</p> <p data-bbox="444 1669 1393 1793">WWF has a <i>Rapid Assessment and Prioritisation of Protected Area Management Methodology</i> (RAPPAM) (http://www.panda.org/downloads/forests/rappam.pdf) for identifying and prioritizing threats to protected areas across a whole protected area network. The method can also be used for assessing threats to individual protected areas.</p> <p data-bbox="444 1822 1382 1913">The Ramsar Bureau has a <i>Wetland Risk Assessment Framework</i> available in English, Spanish and French (http://www.ramsar.org/key_guide_risk_e.htm) to assist in predicting and assessing changes in ecological character of wetland sites.</p>

	<p>The International Institute for Environment and Development has compilation of environmental impact assessment guidelines, A Directory of Impact Assessment Guidelines (not available on the web, order from IIED http://www.iied.org).</p> <p><i>The United Nations Environment Programme EIA Training Resource Manual – EIA: Issues, Trends and Practice</i> (http://www.cenn.org/Books/bisset/) aims to enhance the capacity of countries to devise suitable country specific EIA guidelines.</p> <p>The CBD has noted the importance of applying timely environmental impact analyses to plans or projects that may have potential effects on protected areas. The CBD Decision VI/7 (http://www.biodiv.org/decisions/default.aspx?m=COP-06&id=7181&lg=0) has guidelines for incorporating biodiversity concerns, including screening (whether an EIA is called for or not); scoping (defining scope and terms of reference); impact analysis and assessment; consideration of mitigation measures; reporting (the Environmental Impact Statement); review of the EIS; decision-making; and subsequent monitoring and environmental auditing.</p>
	<p>RESPONSES</p>
	<p>The Bushmeat Crisis Task Force (http://www.bushmeat.org/index.htm) has a large collection of materials online, including a GIS system for Congo Basin Bushmeat developed with Global Forest Watch and a searchable on-line library</p> <p>The Global Invasive Species Programme has a global strategy for addressing invasive species (http://www.gisp.org/downloadpubs/globalstrategy.pdf), an IUCN guide to designing legal and institutional frameworks (order from: http://www.iucn.org/bookstore/) a detailed toolkit of prevention and management (http://www.gisp.org/downloadpubs/Toolkiteng.pdf) and an analysis of human dimensions (abstract: http://www.iucn.org/biodiversityday/reshuffling.htm, order: http://www.iucn.org/bookstore/).</p> <p>The Invasive Species Specialist Group of IUCN's Species Survival Commission website contains much material (http://www.issg.org/index.html#ISSG) on preventing biodiversity loss both to assist governments and to give effect to Article 8 (h) of the CBD.</p> <p>The Global Invasive Species Database (http://www.issg.org/database/welcome/) focuses on invasive species that threaten biodiversity, covers all taxonomic groups and includes many examples of invasions and control initiatives in protected areas.</p> <p>The Environmental Law Alliance Worldwide has a website that collects legal and scientific resources for the polluter pays principle and is available in both English and Spanish (http://www.elaw.org/resources/topical.asp?topic=Polluter%20Pays%20Principle).</p>
	<p>RESTORATION</p>
	<p>The Society for Ecological Restoration International has published an <i>Ecological restoration primer and Guidelines for developing and managing ecological restoration projects</i> (http://www.ser.org/content/guidelines_ecological_restoration.asp), which although generic, can provide a useful source of advice and information for protected areas managers developing restoration projects. It has collaborated with the Commission on Ecosystem Management in a rationale for restoration (http://www.ser.org/content/Globalrationale.asp)</p>

The **Ramsar Convention** has developed specific *Principles and guidelines for wetland restoration* (http://www.ramsar.org/key_guide_restoration_e.htm) in English, French and Spanish) and has a web site on wetland restoration (http://ramsar.org/strp_rest_index.htm).

IUCN Species Survival Commission *Guidelines for Re-Introductions* (<http://www.iucn.org/themes/ssc/pubs/policy/reinte.htm>) provides policy guidelines to help ensure that species reintroductions achieve their intended conservation benefit.

6. THEME 4: IMPROVING THE SOCIAL BENEFITS OF PROTECTED AREAS



I. SNAPSHOT

The relationship between local people and protected areas is one of the most challenging in conservation and encapsulates the problems inherent in trade-offs between the common good and the rights and needs of the individual. All too often conflicts are created by the failure to address people's needs early enough in planning a protected area. Programme Element 2 of the Programme of Work and its two goals set some standards to try to avoid such conflicts in the future and in fact stresses the positive role that society — and in particular indigenous and local communities — can play in conservation.

II. GOALS AND TARGETS	
GOAL	Goal 2.1: To promote equity and benefit sharing
TARGET	Establish by 2008 mechanisms for the equitable sharing of both costs and benefits arising from the establishment and management of protected areas
GOAL	Goal 2.2: To enhance and secure involvement of indigenous and local communities and relevant stakeholders
TARGET	Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas



III. CONTEXT

The *Programme of Work* activities aim to address three challenges that are increasingly recognised as being central to the development of a successful protected area network. First is broadening the spectrum of protected area governance models and mechanisms beyond the centralized, state-managed parks that currently dominate protected area practice (including in many cases an assessment of what exists). Second is addressing the need for more effective and diverse protected areas governance through participatory decision-making and management processes that incorporate and respond to the interests of a broader range of stakeholders, particularly the indigenous and local communities living in and around many protected areas. This implies an open and constructive review of the country's policies, models and practices. Third is ensuring that both the costs and benefits of protected areas are shared equitably.



IV. KEY ACTIVITIES FOR THE GOALS

There are a many suggested activities, falling into three groups: (1) a specific and time-limited *review* of options for involving stakeholders in protected areas policy; (2) a series of general *principles* to be used whenever protected area planning or management impacts indigenous and local people and (3) several broader *programmes* to encourage links between indigenous peoples and protected areas:

	REVIEW
✓	Carry out participatory national reviews of the status, needs and mechanisms for involving stakeholders in protected areas policy (Activity 2.2.1).
	PRINCIPLES
✓	Assess economic and socio-cultural impacts of protected area establishment and maintenance; adjust policies to avoid and mitigate negative impacts; and where necessary compensate costs and equitably share benefits (Activity 2.1.1).
✓	Recognize and promote a broad set of protected area governance types (Activity 2.1.2).
✓	Ensure adequate participation in protected areas planning, establishment, governance and management (Activities 2.2.1, 2.1.5 and 2.2.2).
✓	Support stakeholders to identify and harness their potential contributions to conservation (Activity 2.2.3).
✓	Use social and economic benefits generated by protected areas for poverty reduction (Activity 2.1.4).
✓	Ensure any resettlement of indigenous communities as a result of establishment or management protected area only takes place by prior informed consent (Activity 2.2.5).
	PROGRAMMES
✓	Encourage the establishment of protected areas that benefit indigenous and local communities, including by respecting, preserving, and maintaining their traditional knowledge in accordance with article 8(j) and related provisions (Activity 1.1.7).
✓	Promote indigenous and local communities to establish and manage protected areas , i.e. community conserved and private protected areas (Activities 2.1.3 and 2.2.4).
✓	Establish or strengthen national policies concerning genetic resources access and benefit sharing in protected areas (Activity 2.1.6).
	Although this appears to be a bewildering array of tasks, the principal proposal in this section is that individual countries should carry out a thorough review of management options, develop a set of recommendations in line with the principles identified in the <i>Programme of Work</i> , and apply the recommendations to their protected area programmes. Further steps, where necessary and appropriate, are to work with indigenous and local communities in setting up protected areas suitable to their own needs, including community conserved areas, recognising existing community conserved areas, and helping to ensure adequate benefit sharing.



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Review options for stakeholder involvement: undertake a participatory review of protected areas policies and legislation concerning participation, governance, equity and benefit sharing. Use this information to develop strategies to revise legislation as necessary — bearing in mind options for different governance approaches, compensation, benefit sharing, access to genetic resources and the fact that resettlement to create protected areas should only ever take place with by prior informed consent of the communities involved. IUCN recognises that protected areas need a range of different management approaches and classifies these through a six-part category system. Intensity of natural resource use and human settlement varies, from Category I strictly protected reserves where human presence is carefully controlled, to Category V protected landscapes and seascapes where people continue to live and use natural resources in management systems that are broadly compatible with conservation. Identifying a suitable mix of management approaches within a protected area system is a critically important part of the planning process. IUCN also stresses that a full range of ownership and governance options may be appropriate in a protected area system, although national protected areas legislation sometimes does not provide for private or communal property to exist within protected areas. Today, in many countries local communities are rightly insisting on a role in determining management policies. A suggested first step in this process is to carry out a national review of the status, needs and mechanisms for **involving stakeholders in protected areas policy**. The extent to which this is necessary will depend on management approaches within existing protected areas. In particular, reviews can consider a range of innovative approaches to protected area management, including:

Government-managed protected areas: state management at national or local level, occasionally delegated to an NGO.

Co-management or collaborative management: a variety of options for involving local communities in management, ranging from active consultation, to consensus-seeking, negotiating and sharing responsibility to in some cases transferring management responsibility to communities.

Community-conserved areas: natural or modified ecosystems containing significant biodiversity, ecological services and cultural values, voluntarily conserved by indigenous, mobile and local communities through customary laws or other effective means. Some of these may be official protected areas as recognized by the CBD and IUCN; others may be better regarded as compatible management systems suitable for buffer zones and corridors around protected areas or in other parts of the landscape or seascape.

Private protected areas: protected areas managed by private individuals, companies or trusts. Some countries recognise such areas in law and impose the same restrictions on these as state protected areas (e.g. Brazil), or even have state agencies running protected areas on private land (e.g., Finland through regional environment centres). Others remain uncertain about how to ensure their long-term security or to represent them within the protected area system.

IUCN explicitly recognises the validity of a range of different management approaches within a protected area network.

TABLE 2: PROTECTED AREA GOVERNANCE TYPES											
CLASSIFICATION OF PROTECTED AREAS BY IUCN CATEGORY AND GOVERNANCE TYPE											
GOVERNANCE TYPE	A. PROTECTED AREAS MANAGED BY THE GOVERNMENT			B. CO-MANAGED PROTECTED AREAS			C. PRIVATE PROTECTED AREAS		D. COMMUNITY CONSERVED AREAS		
IUCN CATEGORY (MANAGEMENT OBJECTIVE)	Federal or national ministry or agency in charge	Local/municipal ministry or agency in charge	Government-delegated management (e.g. to an NGO)	Transboundary management	Collaborative management (various pluralist influences)	Joint management (pluralist management board)	Declared and run by individual landowner	... by non-profit organizations (e.g. NGOs, universities)	... by for profit organizations (e.g. corporate land-owners)	Declared and run by indigenous peoples	Declared and run by local communities
I. Strict nature reserve or wilderness area											
II. Ecosystem conservation and protection											
III. Natural monument											
IV. Conservation through active management											
V. Landscape/seascape conservation & recreation											
VI. Sustainable use of natural resources											

Adapted from Borrini-Feyerabend, G, A Kothari and G Oviedo, *Indigenous and Local Communities and Protected Areas: towards Equity and Enhanced Conservation*, IUCN, WCPA and CEESP, 2004

Reviews of governance types can draw on a range of existing materials and approaches that need to be applied to the particular situation within a country and reflect the various principles outlined within the *Programme of Work* (see also tools in chapter 3). Because the establishment of protected areas affects the livelihoods and interests of many people, groups and institutions, mechanisms for effective **stakeholder participation** are important, whatever the governance model. Participatory approaches can help to minimise the costs to local communities. An increasing number of protected areas mix conservation with community use, although this does not work in all cases; for example, conservation of large and aggressive predators will in some cases require large areas free of permanent human communities. It would be naïve to assume that conservation and community objectives can always achieve a “win-win” resolution in the short term. There is, therefore, a need to assess **economic and socio-cultural impacts** of protected


area establishment and management, adjust policies to avoid and mitigate negative impacts, and, where appropriate, to compensate costs. Where local people agree to give up traditional rights to exploit resources in protected areas, for example fuelwood collection or livestock grazing, the provision of wood lots and fodder banks outside the protected area might be possible substitutes, but only if these are properly developed and provide equal, or better, resources. If any **resettlement** of indigenous or local communities is proposed as a consequence of protected areas establishment or management, the *Programme of Work* has stated that this should only be carried out with **the communities' prior informed consent and with proper compensation**.

Just as costs to communities need be compensated, the benefits that can accrue from protected areas can be shared and, in particular, directed towards **poverty reduction**. Distribution of protected area benefits can help to compensate costs. Establishing mechanisms for compensation and **benefit sharing** are, however, not easy, and identifying which communities or individuals are carrying costs and which communities or individuals should therefore have a share of any benefits can be complicated. Similarly, establishing costs and benefits is not always straightforward, and there is no one "best" method for delivering compensation. Finally, not all of the costs or benefits that a protected area may provide to local communities are economic. It is difficult if not impossible to assign a market value to, for example, an indigenous sacred site and even attempting to do so is often considered inappropriate. Some tools for addressing these issues exist, but this is also a subject about which much still needs to be learned.

Develop protected areas with local communities: although indigenous and local peoples are often portrayed as opponents to protected areas (sometimes for good reason), an increasing number of indigenous and local communities, both sedentary and mobile, begin to see protected area status as one realistic way of maintaining some kind of control over their traditional lands, and just as important of maintaining these lands in something close to their original state.

The key activity suggested by the *Programme of Work* in this section is therefore, when appropriate and when there is a need or desire, to **work with indigenous and local communities to identify, establish and manage protected areas**, i.e., community-conserved and private protected areas that have benefits to both indigenous communities and biodiversity.

It is also suggested that if necessary the government should investigate strengthening policies and laws relating to **access and benefit sharing** with respect to protected areas. This can include both working with communities (i) to identify existing Community Conserved Areas (CCAs) and carry out an inventory of their conservation, economic and socio-cultural values and needs and (ii) to establish, as appropriate, new community conserved areas or co-managed protected areas, managed according to identified needs.

 VI. CASE STUDIES	
TILCEPA	<p>Several sources can supply examples of how these ideas are applied in practice:</p> <p>The IUCN CEESP/WCPA Theme on Indigenous and Local Communities, Equity, and Protected Areas (TILCEPA) was set up in 2000 by the World Commission on Protected Areas (WCPA) and the Commission on Environmental, Economic, and Social Policy (CEESP) of the World Conservation Union (IUCN). This inter-commission initiative evolved from a Task Force on Local Communities and Protected Areas, created in 1999, which had a similar mandate. TILCEPA's websites (http://www.iucn.org/themes/ceesp/Wkg_grp/TILCEPA/TILCEPA.htm and http://www.tilcepa.org/) contains many links and examples likely to be useful.</p>
CEESP	<p>The site of the Commission on Environmental, Economic and Social Policy (CEESP) http://www.iucn.org/themes/ceesp/ contains a section on collaborative management (http://www.iucn.org/themes/ceesp/Wkg_grp/CMWG/CMWG.htm) and a wealth of manuals, tools, collections of articles and case studies available from http://www.iucn.org/themes/ceesp/Wkg_grp/TILCEPA/community.htm and, in general, from http://www.iucn.org/themes/ceesp/Publications/Publications.htm.</p>

 VII. TOOLS AND RESOURCES	
	<p><i>Indigenous and Traditional Peoples and Protected Areas: Principles, Guidelines and Case Studies</i> was produced with WWF (http://www.iucn.org/themes/wcpa/pubs/pdfs/Indig_people.pdf) and provides a succinct set of principles and copious case studies. It is also available in Spanish (http://www.iucn.org/themes/wcpa/pubs/pdfs/Indig_people-esp.pdf).</p> <p><i>Sharing Power</i> — Learning by Doing in Co-management of Natural resources throughout the World (http://www.iucn.org/themes/ceesp/Publications/sharingpower.htm#download) described in much detail processes of negotiation, the components of co-management agreements and the types of co-management institutions that can be developed</p> <p><i>Indigenous and Local Communities and Protected Areas: Towards Equity and Enhanced Conservation, produced in 2004</i> (http://www.iucn.org/themes/wcpa/pubs/pdfs/guidelinesindigenouspeople.pdf) reviews the progress made in Durban and by the CBD COP 7, assesses new concepts and approaches, explores options for action for co-managed protected areas and community conserved areas; and illustrates policy options in support of such approaches and options.</p> <p>The Biodiversity Support Program has guidelines for biodiversity projects in lands of indigenous people: <i>Good Governance, Indigenous Peoples and Biodiversity Conservation</i> (http://www.worldwildlife.org/bsp/publications/asia/120/Good_Governance_1.pdf).</p> <p>The Participatory Management Clearinghouse (http://www.iucn.org/themes/pmns/indexflash.htm) of the Ramsar Bureau, IUCN and the Swedish International Development Cooperation shares information and field experience on participatory resource management. Also in Spanish (http://www.sur.iucn.org/ces/index.cfm). It is classified thematically into</p>

ecosystems, regions and themes, and covers biodiversity, traditional knowledge, gender, water, equitable sharing, protected areas and indigenous peoples.

Parks Canada, CEESP and the **Ramsar Bureau** have developed a draft handbook for use in protected wetlands: *Evaluating Governance: A Handbook To Accompany A Participatory Process For A Protected Area* (http://www.ramsar.org/outreach_methodologies_evaluating-governance-handbook.doc) to design, conduct and follow up a participatory governance assessment.

The **Institute on Governance, Parks Canada** and the **Canadian International Development Agency** have developed five *Principles for Good Governance in the 21st Century* (<http://www.iog.ca/publications/policybrief15.pdf>) linked to UNDP principles.

The **CBD** has produced the voluntary *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization* (<http://www.biodiv.org/decisions/default.aspx?m=cop-06&d=24>) to help develop an access and benefit-sharing strategy, when establishing legislative, administrative or policy measures and/or when negotiating contractual arrangements.

The government of **Finland** Natural Heritage Services has developed principles for protected areas, which include principles for working with indigenous and local communities (<http://194.89.0.87/julkaisut/pdf/luo/b54.pdf>).

The **IUCN Environmental Law Centre** has drawn together *Assessing Biodiversity and Sharing the Benefits: Lessons from Implementing the Convention on Biological Diversity* (<http://www.iucn.org/themes/law/pdfdocuments/EPLP54EN.pdf>) which includes an overview of policies and many country case studies.

Many tools are available for participatory assessments e.g. the BAG (Basic Assessment Guide for Human Wellbeing) Assessment guide (<http://www.cifor.cgiar.org/scripts/newsletters/publications/detail.asp?pid=765>) and multidisciplinary landscape assessment (http://www.cifor.cgiar.org/publications/pdf_files/Books/exploring_bio.pdf) from the Center for International Forestry Research; participatory methods for assessment, monitoring and evaluation from FAO (<http://www.fao.org/forestry/foris/webview/forestry2/index.jsp?siteId=4321&sitereid=14110&langId=1&geoid=0>); participatory research methods from IRDC in Canada (<http://www.idrc.ca/>); stakeholder power analysis from the International Institute for Environment and Development (<http://www.iied.org/forestry/tools/stakeholder.html>).

7. THEME 5: CREATING AN ENABLING POLICY ENVIRONMENT



I. SNAPSHOT

A strong and effective protected areas system is generally supported by appropriate policies, legal instruments and institutions. The rapid growth of protected area networks means that laws and policies have not always kept pace with the rate of change. The Programme of Work encourages countries to understand the true value of protected areas and to provide more supportive policy environments.



II. GOALS AND TARGETS

GOAL	Goal 3.1: To provide an enabling policy, institutional and socio-economic environment for protected areas
TARGET	By 2008 review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems



III. CONTEXT

Most countries have legislation supporting protected areas. But as protected area networks expand and surrounding pressures grow more intense, existing policies may no longer be sufficient. The *Programme of Work* proposes that Parties carry out a brief study to identify legislative and institutional gaps and barriers that impede effective protected area management and then remedy these through appropriate government processes. In addition, many countries have not tried to quantify the wider values of their protected area systems, such as ecosystem services, value to the tourism industry etc. A well-managed protected areas system can make a positive contribution to the national economy. Improved valuation of protected area goods and services can increase political support for their designation and management, and also allows them to be integrated more effectively into broader economic planning.

Finally, government economic incentives to other sectors, such as agriculture, forestry or infrastructure development, inadvertently undermine protected areas by supporting incompatible activities. Reorienting incentives so that economic activity in other sectors of the economy supports rather than threatens protected areas is often a difficult but necessary change to the legislative framework for biodiversity conservation.



IV. KEY ACTIVITIES FOR THE GOALS

Parties are invited to assess the current situation and respond with appropriate policy, legal and economic mechanisms.

ASSESSMENT

- ✓ Conduct national assessments of **economic and cultural values** of protected areas, and include economic valuation and natural resource accounting in planning (Activity 3.1.2).

✓	Identify legislative and institutional gaps and barriers that impede the effective establishment and management of protected areas, and (Activity 3.1.1).
POLICY AND LEGAL DEVELOPMENT	
✓	Address gaps and barriers in policy and legislation (Activity 3.1.1 continued), in particular:
✓	Harmonize sectoral policies and laws to ensure they support protected areas (Activity 3.1.3, Activity 3.2.4).
✓	Consider governance principles , (e.g., the rule of law, decentralization, participatory decision making and equitable dispute resolution) (Activity 3.1.4).
✓	Develop institutional capacity for biodiversity conservation (Activity 3.1.10).
ECONOMIC INCENTIVES	
✓	Develop national incentive mechanisms , including appropriate institutions and legal frameworks , to support the establishment of a comprehensive protected area network, and where appropriate private protected areas (Activities 3.1.7 and 3.1.8).
✓	Identify and remove or mitigate perverse incentives . Wherever feasible, redirect these to positive incentives for conservation (Activity 3.1.5).
✓	Establish positive incentives that support protected areas (Activity 3.1.6).
✓	Identify and foster economic opportunities and markets for goods and services (including ecosystem services) produced by protected areas (Activity 3.1.9).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Assess policy frameworks: carry out assessments of the national legislative and policy frameworks which protected areas are subjected to, and thus could be used by Parties to develop approaches to identify gaps and barriers. Ideally, all Parties to the CBD should have in place the appropriate institutions and legal frameworks to support the establishment of comprehensive national, regional and sub-national protected area networks, with a range of governance types managed by institutions. But, of course, this is not always the case. Goal 3.1 thus requires Parties to **identify legislative and institutional gaps and barriers** that impede the effective establishment and management of protected areas by 2006, and to put into place strategies to effectively address these gaps and barriers by 2009.

Assess protected area costs and benefits: conduct national-level assessments of the “hidden and non-hidden economic benefits” of protected areas. Although, protected areas have many **economic and cultural values**, these are often poorly understood and under-valued by markets, politicians and the general public. This under-valuation of biodiversity can result in a view that establishing protected areas incurs huge opportunity costs, particularly for developing countries. The *Programme of Work* therefore recommends that Parties conduct national-level assessments of the “hidden and non-hidden economic benefits” of

protected areas to allow these values to be more fully recognized and respected in planning and resource-use decisions, while recognising that some values are not easily or appropriately quantified, for example spiritual values. Even where the market economic values of protected areas can be credibly quantified, it is important to place such market values in their particular local context. Moreover, aggregate economic values, by themselves, can disguise serious inequities in the current or proposed future distribution of protected area costs and benefits. It is therefore always important — as Activity 3.1.2 stresses — to assess “who appropriates these benefits.” That a protected area provides valuable watershed services to downstream users, for example, is unlikely to be relevant for upstream communities unless a mechanism is put in place that transfers resources from the downstream users to the upstream users, who are asked to forgo opportunities that alternate uses of the protected watershed would provide for them.

Quantifying the value of protected areas will not automatically result in the creation of tangible economic benefits. Rather, **economic opportunities and markets** for protected area goods and services also need to be actively identified, developed and promoted. Developing business plans for protected area agencies and individual protected areas is a good way of exploring the various market opportunities that exist. (Market opportunities include: ecotourism, sustainable use of renewable resources, extraction of non-renewable resources, developing income opportunities from education and research activities in protected areas, and developing markets for ecosystem services.) The business plan can serve as a roadmap for implementing financial strategies that take advantage of biodiversity goods and services and identify financial sources and opportunities offered by a protected area for which existing and potential customers might pay.

Perverse incentives: identify and address perverse policy incentives which undermine protected areas and replace these with positive incentives where appropriate. The CBD, has recognised “the need to remove policies or practices that create **perverse incentives** that lead to the degradation and loss of biological diversity, or to mitigate these perverse incentives, as a crucial element in national and global strategies to halt the degradation and loss of biodiversity” (<http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7755&lg=0>). This theme is continued in the *Programme of Work*. Addressing perverse incentives at governmental level requires interacting with other ministries (e.g., agriculture, finance), which may not regard the incentives as perverse at all. It may be worth therefore first targeting those policies that are already being reviewed and where quick changes are possible.

A three-stage process that identifies perverse incentives, designs and implements appropriate reforms, including redirecting some perverse incentives to protected areas financing, and then monitors, enforces and evaluates these reforms would provide the basis for removing these problems. As a practical way to get started, finance ministry officials could assign task forces to document all existing perverse subsidies, identify those which hold the greatest promise for reform, and develop preliminary action plans to address these.

CBD Decision VI/15 (<http://www.biodiv.org/decisions/default.aspx?m=COP-06&id=7189&lg=0>) which underlines “the special importance of designing and implementing incentive measures in reaching the objectives of the Convention, especially in regard to the sustainable use of biological diversity...” is also reflected in the *Programme of Work*. Once the threats to protected areas (see chapter 5) and the policies and practices giving rise to perverse incentives are identified, **positive incentive** measures can be chosen to change people’s economic behaviour in ways that benefit protected areas. Positive incentives may be *direct mechanisms* that reward specific changes in behaviour; *indirect mechanisms* that encourage conservation and sustainable use by establishing more general enabling conditions; or *disincentive mechanisms* that penalize activities that degrade protected areas and thus discourage such activities.


Strengthen the legal framework supporting protected areas: Many of the systems developed to evaluate the management effectiveness of protected areas (see chapter 10) include assessments of relevant national legislative and policy frameworks and thus could be used to identify gaps and barriers. Likely gaps highlighted in the *Programme of Work* include:


Establishing a legal basis: the **legal frameworks** that regulates protected areas on a national level vary considerably, but should always provide a solid foundation for the protected area system.

Integrating policy: while many countries have strengthened their protected area legal frameworks, it is still common to find **sectoral policies and laws** under different ministries (i.e. forestry, fisheries, environment, mining, etc) that contradict or undermine protected area objectives.

Reflecting a range of governance types: for many countries, legislation that proceeds from the assumption that protected areas are all public lands, governed and managed by a centrally based government protected areas agency, does not reflect reality and will not provide a supportive framework for protected areas. Legal and policy frameworks should also consider the trends towards greater participation in and diversity of protected area **governance** types (see chapter 6).

Institutional capacity: the usefulness of protected areas regulations and policy is dependent on sufficient financial and human resources as well as power to enforce legislation. While it is preferable to limit the need for enforcement through education, awareness and partnership, some degree of effective enforcement policies will usually be required. Institutional strengthening of protected area agencies is one of the most important elements in developing an effective protected areas system.

	VI. CASE STUDIES
WORLD COMMISSION ON PROTECTED AREAS	The second part of <i>Economic Values of protected Areas. Guidelines for Protected Area Managers World Commission on Protected Areas</i> (http://www.iucn.org/themes/wcpa/pubs/pdfs/Economic_Values.pdf) includes case studies of protected areas where protecting the environment has made a significant contribution to the economy – increasing national wealth, national incomes and levels of national economic output.
THE IUCN BIODIVERSITY ECONOMICS WEB SITE	(http://www.iucn.org/themes/economics/) and library (http://www.biodiversityeconomics.org/) includes case study material, publications and links to a wide variety of information on valuing environmental benefits and costs, developing positive economic incentives for nature conservation and investment in biodiversity-friendly business, and removing or reforming perverse incentives that result in the loss of biological diversity (http://biodiversityeconomics.org/incentives/index.html).
CBD SECRETARIAT	A number of case studies of efforts to identify and mitigate perverse incentives are also available from the CBD Secretariat website (http://www.biodiv.org/programmes/socio-eco/incentives/perverse.asp).

	VII. TOOLS AND RESOURCES
	ANALYSIS
	<p>Numerous methods have been employed to quantify the benefits of protected areas. Generally, those that are most easy to apply tend to focus on marketable benefits and require the least amount of data collection, but are prone to under-valuation. More complex methods that include valuation of non-marketable values tend to require more investment in data collection, usually rely on a number of assumptions that may be more or less valid, and may fall prey to the objections discussed above concerning economic valuation of non-material benefits. A guide to the different types of methodological approaches available is given in the CBD document <i>Biodiversity Issues for Consideration in the Planning, Establishment and Management of Protected Area Sites and Networks</i> (http://www.biodiv.org/doc/publications/cbd-ts-15.pdf).</p> <p>IUCN's, World Commission on Protected Areas has published <i>Economic Values of protected Areas. Guidelines for Protected Area Managers that</i> explains how to assess economic values of protected areas (http://www.iucn.org/themes/wcpa/pubs/pdfs/Economic_Values.pdf), as does the World Bank, IUCN and TNC paper <i>How much is an ecosystem worth? Assessing the economic value of conservation</i> (http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000012009_20041207120119). How valuations should be conducted and used to answer specific policy questions is discussed in the World Bank paper <i>Assessing the Economic Value of Ecosystem Conservation</i> (http://www.biodiversityeconomics.org/pdf/topics-628-00.pdf).</p>
	POLICY AND LEGISLATION
	<p>While the world's diversity of political and legal systems makes it dangerous to prescribe a particular "blueprint" for protected areas legislation, "capacity building in environmental law" is a central mission of IUCN's Environmental Law Programme (ELP) (http://www.iucn.org/themes/law/elpo6.html).</p>
	ECONOMIC INCENTIVES
	<p>The Conservation Finance Alliance (CFA), a broad alliance of NGOs, multi- and bi-lateral organisations has contributed to an online source (http://guide.conservationfinance.org/) of potential financing opportunities for nature conservation in general, with a special focus on protected area management. The web site includes an introduction to business planning and a guide to writing a business plan (http://guide.conservationfinance.org/chapter/index.cfm?IndexID=29). There are also detailed sections on a wide range of conservation finance mechanisms (for more details see chapter 9).</p> <p>Decision VII/18 (http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7755&lg=0) includes a set of "proposals for the application of ways and means to remove or mitigate perverse incentives" (developed by a CBD experts' workshop held in 2003) and encourages Parties and governments to use the proposals as "voluntary interim guidance" while subsequent meetings of SBSTTA 10 (see : http://www.biodiv.org/doc/meetings/sbstta/sbstta-10/official/sbstta-10-12-en.pdf) and the COP finalize these proposals as CBD guidelines.</p>


The IUCN paper *Using Economic Incentives for Biodiversity Conservation* (<http://www.biodiversityeconomics.org/pdf/topics-321-00.pdf>) identifies the different categories and types of economic incentives that can be used for biodiversity conservation.

8. THEME 6: CAPACITY BUILDING



I. SNAPSHOT


Protected areas do not manage themselves. They generally need trained, dedicated, and adequately compensated staff, sufficient equipment and infrastructure, and support from local communities. Many protected areas are still too new to have developed the associated human and material resources needed for effective management and therefore capacity building has been highlighted in the Programme of Work. Capacity building involves formal training, informal exchanges and collaboration and more general educational efforts.

 II. GOALS AND TARGETS	
GOAL	Goal 3.2: To build capacity for the planning, establishment and management of protected areas
TARGET	By 2010, comprehensive capacity building programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels, and raise professional standards
GOAL	Goal 3.3: To develop, apply and transfer appropriate technologies for protected areas
TARGET	By 2010 the development, validation, and transfer of appropriate technologies and innovative approaches for the effective management of protected areas is substantially improved, taking into account decisions of the Conference of the Parties on technology transfer and cooperation.
GOAL	Goal 3.5: To strengthen communication, education and public awareness
TARGET	By 2008 public awareness, understanding and appreciation of the importance and benefits of protected areas is significantly increased.



III. CONTEXT

Many protected areas do not have the human, technical or administrative capacity to adequately support their core management activities. In many instances, protected area managers and their staff also need a new range of skills. These skills vary at each site but often relate to interaction with people, including both indigenous and local communities and also the increasing number of tourists who want to visit protected areas and experience wild nature. To do this, Parties can start by **assessing** capacity-building needs and then **establishing** capacity building programmes. The Programme of Work indicates that these programmes should be **implemented** by 2010, resulting in documentation of knowledge and experience and lessons learned to encourage the wide **dissemination** of “appropriate technologies” for conservation and sustainable use of protected area biodiversity, and for protected area management. The need to strengthen **communication, education** and **awareness** about protected areas throughout wider society is also stressed.

 IV. KEY ACTIVITIES FOR THE GOALS	
ASSESSING NEEDS AND PLANNING RESPONSES	
✓	Carry out national capacity-needs assessments for protected areas management by 2006 (Activity 3.2.1), including:
✓	Document existing knowledge and experiences on protected area management, and use this documentation to identify knowledge and skills gaps (Activity 3.2.2).
✓	Assess technology requirements of stakeholders involved in protected area management , e.g. indigenous communities, NGOs, research institutions and the private sector, (Activity 3.3.2).
CAPACITY BUILDING	
✓	Develop capacity-building programmes for protected areas (Activity 3.2.1 continued), including:
✓	Fill critical gaps in capacity to carry out core management activities , including providing adequate compensation for protected areas management staff.
✓	Exchange lessons learned, information and capacity-building experiences among countries, relevant organisations, communities and protected area managers (Activities 3.2.3 and 3.5.4).
✓	Document and encourage increasing dissemination of appropriate technologies for protected area management (Activities 3.3.1, 3.3.4 and 3.3.5).
INCREASING AWARENESS	
✓	Develop suitable communication, education and public awareness programmes on the importance of protected areas role in biodiversity conservation and sustainable socioeconomic development (Activities 3.5.1, 3.5.2, 3.5.3 and 3.5.5).
✓	Develop mechanisms for effective communication between managers and indigenous and local communities and other environment educators (Activity 3.5.4).
✓	Continuously evaluate such programmes to maximise their effectiveness (Activity 3.5.6).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Assess national capacity needs: by 2006, assess national capacity-needs for protected areas management training and use the results of the assessment to establish capacity building programmes. The *Programme of Work* suggests Parties carry out a **national capacity-needs assessment** by 2006. This will be a cross-cutting exercise, since capacity encompasses everything from effective and relevant laws and policies to sound management organisations, to the skills of individuals and the empowerment of indigenous and local communities. Moreover, capacity needs will vary according to a country's level of

development and protected area system. At a minimum, though, a national assessment should cover: the legal and policy framework; formal government protected area institutions and their coordination with other sectors; protected area planning and management; public participation and partnerships; public awareness and support; and the needs of diverse stakeholder groups. Much of this could be covered in a systems-wide assessment of the management effectiveness of protected areas (see chapter 10) from which the priorities for a capacity-building programme could be developed.

Document existing practice, knowledge and experiences on protected area management, and identify knowledge and skills gaps. Effective capacity building also needs to take into account a mechanism by which **knowledge and experiences** on protected area management are documented and gaps identified. The *Programme of Work* specifically notes that the documentation of traditional knowledge should be done in line with work to implement CBD Article 8(j) (<http://www.biodiv.org/convention/articles.asp?lg=o&a=cbd-o8>), which covers “traditional knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.”

Some of the most successful capacity building activities can be informal, through networking, cooperation and exchanges between protected area staff including in different countries. Groups such as the International Rangers Federation can help to facilitate such exchanges.

Assess the requirements of stakeholders involved in protected area management, i.e. indigenous communities, NGOs, research institutions and the private sector.

Develop communication, education and public awareness (CEPA) programmes and strategies: traditionally, protected area managers were expected to be experts in fields of natural science and were tasked primarily with applying this expertise to the protection of nature. The context and the range of skills and capacities needed by managers have however changed dramatically in the last two decades. Not only must managers understand the pressures on biological systems, but they also must understand and deal with a host of additional issues such as financial planning and management, cultural sensitivity, communication skills, a conceptual and practical understanding of participatory management, and competing policy objectives.


One way to ensure that capacity is built among those who manage or are otherwise involved in protected areas is to **exchange lessons learned, information and capacity-building experiences** among countries and relevant organisations. Vehicles include the CBD’s Clearing-house Mechanism (<http://www.biodiv.org/chm/default.aspx>) and the Protected Areas Learning Network (PALNet) (<http://palnet.whirl-i-gig.com/new/>) or the networks highlighted in this guide: e.g., the Global Invasive Species Programme (<http://www.gisp.org/>), Conservation Finance Alliance (<http://conservationfinance.org/>) and Earth Conservation Toolbox (<http://www.earthtoolbox.net/>). Just as important are opportunities for exchanges and skills sharing between protected areas. The private sector can sometimes be instrumental in bringing new skills into the protected areas field.


The CBD recognises that technology development and transfer is crucial to sustainable development (<http://www.biodiv.org/programmes/cross-cutting/technology/>). Appropriate **technologies** relevant to implementation of the CBD range from “hard” (e.g., mechanical and electronic systems such as remote sensing, monitoring equipment, storage and archiving systems and genetic analysis equipment) to “soft” (e.g., skills, processes, standards and methods). Implementation of CBD Article 16, which deals with technology transfer (<http://www.biodiv.org/convention/articles.asp?a=cbd-16>), focuses largely on the

“hard” technologies, whereas much of the capacity most urgently needed for protected areas management are “soft” technologies that are mostly in the public domain (and can be found on the Internet). What is lacking for some, particularly in developing countries, are the technical resources to access this information, the technical skills to utilize it and the financial resources to develop the technical resources and skills. “Technology transfer” in the protected areas is therefore not so much a matter of agreements to transfer rights and skills to use particular gadgets, but rather an objective and outcome of capacity building activities.

Although the need for **communication, education and public awareness** (CEPA) programmes is largely accepted by protected area agencies, these issues often fail to receive priority in institutional planning, management strategies, or funding. Given the multiple pressures they face, and the need to work ever more closely with a wide range of partners and stakeholders, protected area managers need the resources to ensure CEPA is carried out effectively. CEPA programmes can foster greater public awareness of and political support for conservation goals. Skilfully applied, they can also enhance planning and community involvement efforts. They are particularly important in countries where there is still a general lack of awareness of the need to protect biodiversity. Protected area communication campaigns targeting urban dwellers can significantly increase political and financial support. By leveraging mass media, protected area managers can also place biodiversity conservation in the eye of decision makers. In addition, long-term education through incorporation of ecology and conservation concepts into formal curricula can help to strengthen the understanding of general environmental concepts (recommended in Activity 3.5.5).

Education programmes can build the capacity of local stakeholders to understand and negotiate their roles in protected area management, or to apply scientific research to the implementation of new natural resource management practices (Activity 3.5.3). In addition, through a two-way dialogue on conservation knowledge and values, they can bring indigenous and local knowledge into management planning. CEPA strategies applied early, together with active community participation processes, can help avoid conflict. Protected area staff should be equipped with the skills both to communicate with stakeholders and to deal with potential conflicts. The effective design of CEPA strategies depends upon thorough assessment of target audiences’ knowledge, attitudes and values, current practices, and incentives and barriers to change. Programmes should be based upon a solid foundation of research, rather than assumptions. **Evaluation** of CEPA programmes should therefore be integrated into protected area monitoring and evaluation plans, with measurable indicators linked to conservation objectives for the area.

	VI. CASE STUDY
CEPA DATABASE	Case studies on biodiversity communication, education and public awareness can be found on the CBD CEPA Database of Case Studies and Best Practices (http://www.biodiv.org/programmes/outreach/cepa/projects/home.shtml).

	VII. TOOLS AND RESOURCES
	SPECIFIC TOOLS FOR CAPACITY BUILDING
	<p>The IUCN Commission on Education and Communication has a series of useful publications on capacity building, http://www.iucn.org/themes/cec/cec/home_page.htm including of particular relevance, including <i>Communicating Protected Areas</i> (http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/CEC/Books/Communicating_PA.pdf), <i>Engaging People in Sustainability</i> (http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/CEC/Books/EngagingPeopleInSustainability_smV5.pdf) and <i>Evaluating Environmental Education</i> (http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/CEC/Books/Evaluating_Environmental_Ed.pdf).</p> <p>To help implement the CBD's Global Initiative on Communication, Education and Public Awareness (Decision VI/19: http://www.biodiv.org/decisions/default.asp?dec=VI/19), the CEPA Portal is a reporting tool on Decision VI/19 and a resource for practitioners (http://www.biodiv.org/programmes/outreach/cepa/home.shtml).</p>
	MORE GENERAL AWARENESS RAISING MATERIAL
	<p>The ASEAN (Association of South East Asian Nations) Regional Center for Biodiversity Conservation (ARCBC) has a range of “freeware” in the Biodiversity Software Series including <i>Conservation Options & Decisions Analysis: A software package for nature conservation planning</i> and <i>Specimen-Based, Biological Data and Collections Management Software</i> (http://www.arcbc.org.ph/download.htm)</p> <p>The CBD's Subsidiary Body on Scientific, Technical and Technological Advice prepared <i>An Indicative list of technologies for conservation and sustainable use of biological diversity</i> (http://www.biodiv.org/doc/meetings/sbstta/sbstta-09/information/sbstta-09-inf-13-en.pdf) for the 9th meeting of the of the CBD</p> <p>The UNEP-World Conservation Monitoring Centre has developed an animated presentation that combines images, sound and script to convey the importance of biodiversity and underlines our immense responsibility in ensuring that future generations continue to benefit from all that biodiversity has to offer (http://www.unep-wcmc.org/biodiversity/presentation/4422/).</p> <p>Practical tools on social communication and participatory action research in co-management are available at http://www.iucn.org/themes/ceesp/Publications/CMWG/SP-Chapters.pdf.</p> <p>Greencom has a number of resources on education and communication targeting behaviour change, including <i>Environmental Education & Communication for a Sustainable World: Handbook for International Practitioners</i> (edited by Brian A. Day and Martha C. Monroe (a practical handbook focusing on how human behaviours and practices can create a more sustainable world); <i>Heating Up Society to Take Environmental Action: A Guide to Effective Environmental Education and Communication</i> (which sums up GreenCOM's experience in 30 countries); and <i>SCALE – System-wide Collaborative Action for Livelihoods and the Environment</i> (a framework for the use of social change methodologies) (http://www.aed.org/Projects/greencom.cfm).</p>

9. THEME 7: ENSURING FINANCIAL SUSTAINABILITY



I. SNAPSHOT

Managing protected areas costs money. 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. 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.



II. GOALS AND TARGETS

GOAL

Goal 3.4: To ensure financial sustainability of protected areas and national and regional systems of protected areas

TARGET

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



III. CONTEXT

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.

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 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).

	IV. KEY ACTIVITIES FOR THE GOALS
	ANALYSIS
✓	Complete national-level financial analyses by 2005 and develop and begin to implement “ sustainable financing plans ” by 2008 (Activities 3.4.1. and 3.4.2).
	STEPS TO FINANCIAL STABILITY
✓	Enhance donor assistance programmes – including the Global Environment Facility (GEF), bilateral and multilateral assistance – to support national and regional protected area systems in developing countries and economies in transition (Activities 3.4.3).
✓	Regional cooperation for protected areas financing (Activity 3.4.4).
✓	Integrate protected areas needs into national and regional development strategies and cooperation programmes (Activity 3.4.6).
	IMPROVING INFORMATION FLOWS TO OPTIMIZE INVESTMENTS
✓	Improve the quality and availability of information and reporting on protected areas financing (Activity 3.4.5).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Assess national-level financial analysis and planning for protected area by 2005: 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 (see chapter 10 on protected area effectiveness)?

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?

Develop country-level sustainable financing plan by 2008: 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 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 MDGs;
- (c) Screening and feasibility analysis of potential financial mechanisms; and
- (d) Elaboration of a comprehensive plan for ensuring long-term financial support for the system of protected areas;

Implement country-level sustainable finance plans: Implementation will require actions at site, national and sometimes supra-national levels. Business plans covering the protected area system need to take into account the broader enabling environment, planning activities and implementation of finance mechanisms (see figure below). Specific actions can include, for example:

Creation, capital expansion and strengthening of existing environmental funds, such as national protected area trust funds

Adoption of new laws /policies that allow for creation of well-tested site-based finance mechanisms (e.g., tourism-based user fees) and for local income to be retained for funding of local protected area needs

Laws, policies and other measures that put in place innovative types of finance mechanisms, such as resource extraction fees, water use payments, etc.;

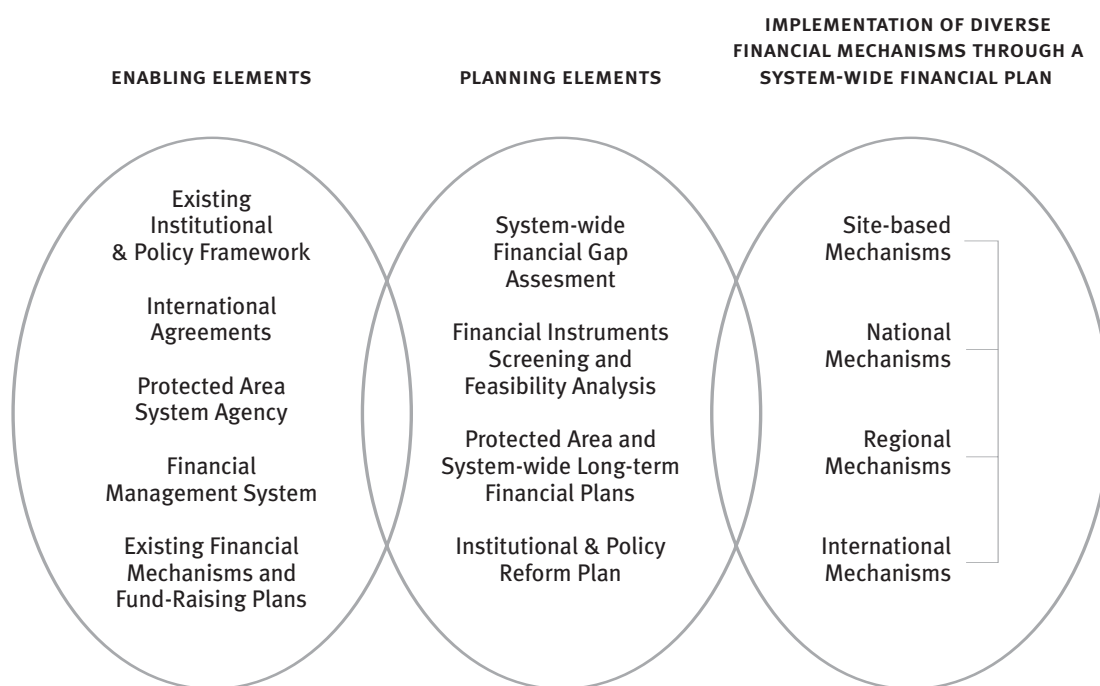
Identification of perverse subsidies (particularly in sectors most directly related to protected areas) and redirection of such subsidies to protected areas financing; and

Development of external funding programs, with short-term and sustainable financing elements

Donor governments can help to implement the *Programme of Work* by increasing their support to protected areas in developing countries and those with economies in transition (through bilateral and multilateral programmes, including the GEF). **Regional cooperation funding** may also be available for some Parties, particularly in the cases of transboundary protected areas and marine protected areas, for small countries like small island developing states, and for countries with existing regional organisations such as the Andean community.

Integration of protected areas into **development cooperation programmes** is crucial for their long-term sustainability. These need to reconcile development goals with protected area objectives effectively, in particular where such goals are not necessarily compatible as is often the case with infrastructure development (e.g., roads and dams) or natural resource extraction (mining, oil and gas, and forestry). Explicit integration of protected areas needs into development cooperation programmes is also critical, especially since a large share of external biodiversity assistance comes through development agencies (e.g., the World Bank,

FIGURE 5
SYSTEM-WIDE BUSINESS PLAN: LEVERAGING THROUGH CONSISTENT DESIGN



USAID, SIDA). This is consistent with the efforts of many donor agencies to “mainstream” environmental concerns into their development assistance.

Develop strategies for information management and reporting on protected areas financing: Enhancing the quantity and quality of **information and reporting** on protected areas financing will bring a number of benefits. By sharing basic protected area budget information, Parties will benefit from a broader understanding — amongst other government agencies, donors, and the public — of protected area system financial needs. Donors would benefit from a greater ability to make strategic protected area investments and to coordinate funding. Parties should assess their own forms of tracking and reporting protected areas funding, and also consider opportunities to share this information via reports to the CBD, World Database on Protected Areas (WDPA) and other information sharing systems.



VI. CASE STUDY

As noted above, a wealth of material and case studies can be found on the web sites of The Conservation Finance Alliance (<http://www.conservationfinance.org/index.htm>), in its Conservation Finance Guide (<http://guide.conservationfinance.org/>) and in The Biodiversity Finance Collection (<http://www.biodiversityeconomics.org/finance/index.html>).



VII. TOOLS AND RESOURCES

The **Conservation Finance Alliance (CFA)** (<http://www.conservationfinance.org/index.htm>) was established in 2002 to encourage and enhance collaboration among institutions and organisations involved in the sustainable financing of biodiversity conservation to meet global conservation commitments. Extensive technical guidance on all aspects of conservation finance is available on the CFA's Conservation Finance Guide (<http://guide.conservationfinance.org/>).

IUCN's Biodiversity Economics Library has guidance and case studies (<http://www.biodiversityeconomics.org/finance/index.html>).

IUCN also produced *Financing protected areas: guidelines for protected area managers* (http://iucn.org/themes/wcpa/pubs/pdfs/Financing_PAs.pdf), which includes a guide for developing protected areas business and financial plans, discusses the mechanisms for generating revenue flows from both public and private sources, including a guide to potential grant-based sources of financing, and case studies. More recently, for the Programme of Work, IUCN has produced: *Sustainable Financing of Protected Areas: A Global Review of Challenges and Options* (April 2005), which should be available on IUCN's web site shortly.

Options for raising revenue are reviewed in *Raising Revenues for Protected Areas. A menu of options* (<http://biodiversityeconomics.org/pdf/topics-226-00.pdf>).

WWF's Macroeconomics Office has also produced material on use of payments for environmental services: *From Good will to payments for Environmental Services: A survey of Financing Alternatives for Sustainable Natural Resource Management in Developing Countries* (<http://www.panda.org/downloads/policy/financingalts.pdf>).

The specific roles of the **Global Environment Facility** and international financing of national protected areas are reviewed in the paper *Financing national protected area networks internationally: the Global Environment Facility as a multilateral mechanism of transfer* (<http://www.uni-kiel.de/ifw/pub/kap/2004/kap1227.pdf>).

CBD Information Clearinghouse (www.biodiv.org) has a special section on funding sources for implementing the CBD.

10. THEME 8: STANDARDS, MANAGEMENT EFFECTIVENESS AND MONITORING



I. SNAPSHOT

Protected areas only work as conservation tools if they are managed effectively to maintain their values in perpetuity. Three important first steps in addressing management effectiveness are: identifying an agreed set of standards for a protected area or a national protected areas system; developing and applying systems for evaluating management effectiveness, thus helping to identify necessary changes (adaptive management); and establishing systems to monitor the status and trends of protected areas and their biodiversity.




II. GOALS AND TARGETS

GOAL	Goal 4.1: To develop and adopt minimum standards and best practices for national and regional protected area systems
TARGET	By 2008, standards, criteria, and best practices for planning, selecting, establishing, managing and governance of national and regional systems of protected areas are developed and adopted.
GOAL	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
GOAL	Goal 4.3: To assess and monitor protected area status and trends
TARGET	By 2010, national and regional systems are established to enable effective monitoring of protected-area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets



III. CONTEXT

While there is still an urgent need to establish new protected areas in many places (see chapter 3), attention is increasingly turning to ensuring effective protection and management of existing protected area systems; this is addressed in Programme Element 4. It requires development of a set of minimum standards and best practices for protected area management (Goal 4.1), implementation of systems for evaluating management effectiveness (Goal 4.2), and ongoing monitoring of status and trends of protected areas and their biodiversity (Goal 4.3). Implementing the Goals under Programme Element 4 is essential in order to determine whether the activities undertaken in Programme Elements 1-3 are having their intended impacts, and to provide the information needed to implement an adaptive approach to management.

	IV. KEY ACTIVITIES FOR THE GOALS
✓	Collaborate with partners on the development, testing, review and promotion of voluntary protected areas standards and best practices on planning and management, governance and participation (Activity 4.1.1).
✓	Develop and adopt appropriate long-term monitoring and assessment systems for evaluating the effectiveness of protected area management and governance, including the status and trends of biodiversity within protected area systems and sites, and implement management effectiveness evaluations (Activities 4.1.2, 4.2.1, 4.2.2 and 4.3.1).
✓	Implement key recommendations arising from site- and system-level management effectiveness evaluations, as an integral part of an adaptive approach to management (Activities 4.1.3 and 4.2.3).
✓	Improve and update national and regional databases on protected areas. Share data with the World Database on Protected Areas and participate in the <i>United Nations List of Protected Areas</i> and the State of the World's Protected Areas assessment process (Activities 4.3.3 and 4.3.4).

V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Draw up standards for protected areas in a country. Effective conservation can be supported by adoption of a minimum set of **standards and best practices** as to what constitutes good management. The starting point is to define the desired standards for each major aspect of management, i.e. the way in which management should be conducted if there were no constraints arising from deficiencies in funding, staffing numbers, staff skills, or other aspects of management. Information on best practices (where available) combined with professional experience and knowledge of local circumstances can be used to establish the desired management standards. IUCN has produced an extensive series of “best practice” guides for protected area management (see chapter 4 amongst others) and has proposed a set of minimum standards for protected area management and there exist several well-documented national and regional standard setting processes (see below). Development of minimum standards and identification of best practices can assist in undertaking assessments of management effectiveness.

Develop and adopt systems for evaluating effectiveness of management and implement long-term monitoring systems within protected areas: There are four main components that should be considered when designing and implementing **monitoring and assessment systems** of management effectiveness of protected areas: design/planning issues; long-term viability of monitoring systems; adequacy and appropriateness of management resources, systems and processes; and delivery of protected-area objectives. IUCN's WCPA has developed a management effectiveness evaluation framework which provides a consistent basis for designing evaluation systems for protected areas and systems which look at these three areas. The framework is based around a cycle of protected area management with six distinct stages, or elements:

- it begins with establishing the *context* of existing values and threats,

- progresses through *planning*, and
- allocation of resources (*inputs*), and
- as a result of management actions (*process*),
- eventually produces goods and services (*outputs*)
- that result in impacts or *outcomes*.

These six stages have a central core, which is a cycle of evaluation, reflection, and learning. Evaluation that assesses each of these elements, and the links between the elements provides a relatively comprehensive picture of management effectiveness. The framework can be tailored to specific contexts, habitat types and other locally variable circumstances.

Information on the status and trends of biodiversity within protected areas is the objective of “outcome” monitoring in the process of management effectiveness evaluation (Goal 4.2). The development of biodiversity conservation targets (see chapter 4) should help guide monitoring these “outcomes”, i.e. the ecological integrity or biodiversity health of a protected area or system. The CBD framework on global level indicators adopted in Decision VII/30 (<http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7767&lg=0>) will help to improve consistency across regions and protected areas, allowing the aggregation of information collected through protected area monitoring programmes, and comparisons at different levels and different times. Understanding the cause-and-effect linkages between management and outcomes is critical to identifying how management can be improved: i.e. in driving **adaptive management strategies**. Assessment is only worth carrying out if it is linked in turn to practical plans to address any problems or management weaknesses that are discovered through assessment.

Identify a methodology and carry out assessments of management effectiveness in at least 30 per cent of protected areas by 2010: A large number of alternative assessment methodologies have already been developed, ranging from quick self-assessment questionnaires to long-term, detailed monitoring and evaluation systems. Parties can either select a methodology “off-the-shelf” or devise a tailored system drawing on existing materials, working towards a rigorous approach to measuring management effectiveness.


Update information on the World Database on Protected Areas: National-level data on protected areas are needed to monitor progress towards the protected area system goals set through processes of system planning (Goal 1.1) and site planning (Goal 1.4), and to assess the effectiveness of management strategies and interventions (Goal 4.2). Data sets generally include information on extent, location and demarcation of sites; biodiversity targets, indicators and trends in biodiversity indicators; information on management (standards, assessment results etc) and nature, magnitude and trends of threats.


Better information on protected areas is needed at the global as well as national level. The **World Database on Protected Areas** (WDPA) provides the only consistent source of data on protected areas on a global basis and as such, forms the basis for all efforts to evaluate implementation of the *Programme of Work* at a global level. Goal 4.3 therefore specifically calls on Parties to report protected areas data in their national and thematic reports to the CBD and to the WDPA.

For data to be comparable across countries, national data need to be reported in a harmonized manner. However, countries have diverse systems for categorizing and reporting protected areas. The Decision therefore “recognizes the value of a single international classification system for protected areas and the benefit of providing information that is comparable across countries and regions...” (Paragraph 31) and encourages Parties to assign their protected areas into categories consistent with the

IUCN protected area category system. This does not mean Parties need to revise their own categorization systems, but rather that they are requested to “translate” these into the analogous IUCN categories for international reporting.

case studies

	VI. CASE STUDIES
STANDARDS AND BEST PRACTICES	<p>A review of standards for protected area staff was carried out by the ASEAN Regional Center for Biodiversity Conservation (ARCBC) outlining how to carry out a training needs analysis and including examples of occupational standards used in biodiversity conservation. (http://www.arcbc.org/arcbcweb/pdf/vol1no4/sp_occupational.pdf). A much larger volume <i>Competence Standards for Protected Area Jobs in South East Asia</i> (http://www.arcbc.org/arcbcweb/pdf/competence_standards.pdf) consists of recommendations for the skills and knowledge ideally required for 24 key protected areas jobs; the recommendations are divided into 17 technical categories and five levels. The book contains details of all the standards and guidance as to how to use them.</p> <p>The National Parks and Protected Area Management Committee of the Australian Government Department of the Environment and Heritage (DEH) has a specific programme concentrating on the development of best practice models for protected area management. Currently 13 best practice guidelines are posted on the DEH web site (http://www.deh.gov.au/parks/best-practice/reports/index.html), including guidelines on <i>Staff Training, Park Interpretation and Education</i> and <i>Public Participation in Protected Area Management</i>.</p>
MONITORING AND ASSESSMENT SYSTEMS	<p>A number of monitoring and assessment systems have been developed, many based on the IUCN-WCPA Evaluation Framework (see in tools below). These include assessments undertaken at a protected area system level such as WWF’s RAPPAM methodology (http://www.panda.org/about_wwf/what_we_do/forests/our_solutions/protection/tools/rappam/index.cfm); a review of Finland’s parks (http://www.metsa.fi/mee/index.htm); and State of the Parks assessment and reporting in New South Wales in Australia (http://www.nationalparks.nsw.gov.au/) and in Canada (http://www.pc.gc.ca/docs/pn-np/ie-ei/prior/mesures-actions/mesures-actions6c_E.asp). Site based assessments vary from use of a simple scorecards such as the World Bank/WWF Tracking Tool (http://www.panda.org/downloads/forests/areprotectedareasworking.pdf) (used to measure progress in 200 protected areas), the Nature Conservancy’s Parks in Peril scorecard (http://www.parksinperil.org/wherewework/) through to more detailed site-based monitoring and assessment programmes (http://www.enhancingheritage.net).</p>
WORLD DATABASE ON PROTECTED AREAS	<p>The World Database on Protected Areas (http://sea.unep-wcmc.org/wdbpa/).</p> <p>The <i>Speaking a Common Language</i> report discusses development of the database (http://www.iucn.org/themes/wcpa/pubs/pdfs/speakingacommonlanguage.pdf).</p>

	VII. TOOLS AND RESOURCES
	<p data-bbox="448 436 768 464">STANDARDS AND BEST PRACTICES</p> <p data-bbox="448 485 1365 543">IUCN Best Practice Series (http://www.iucn.org/themes/wcpa/pubs/guidelines.htm) provides information that can be used to develop standards for many aspects of management.</p> <p data-bbox="448 575 1390 758">IUCN's Ecosystem, Parks and People project has proposed a set of minimum standards for protected areas management. Those standards are summarized in <i>Securing Protected Areas In the Face of Global Change: Issues and Strategies</i> (the book can be purchased at http://www.iucn.org/bookstore/TOCs/Sec-PAs.htm). A summary of the standards is given in the book's executive summary which can be downloaded from (http://conserveonline.org/2004/11/a/en/IUCN_Protected_Areas_Exec_Summary_English_9_Nov.pdf).</p>
	<p data-bbox="448 814 846 842">MONITORING AND ASSESSMENT SYSTEMS</p> <p data-bbox="448 873 1341 932"><i>The WCPA Framework for Assessing the Management of Protected Areas</i> can be found at (http://www.iucn.org/themes/wcpa/pubs/pdfs/Evaluating_Effect.pdf).</p> <p data-bbox="448 963 1390 1083"><i>The Rapid Assessment and Prioritization of Protected Areas Management (RAPAM)</i> methodology provides protected areas agencies with a country-wide overview of the effectiveness of protected area management, threats, vulnerabilities and degradation (http://www.panda.org/downloads/forests/rappam.pdf).</p> <p data-bbox="448 1115 1373 1234"><i>The World Bank / WWF tracking tool</i> used a simple questionnaire to track progress in management effectiveness (http://lnweb18.worldbank.org/ESSD/envext.nsf/80ByDocName/ReportingProgressInProtectedAreaManagementEffectivenessTrackingToolJuly2002/\$FILE/PATrackingToolJune2003.pdf).</p> <p data-bbox="448 1266 1352 1356"><i>The Parks in Peril</i> approach has been applied in Latin America by The Nature Conservancy and several resources are available (http://www.parksinperil.org/resources/publications.html).</p> <p data-bbox="448 1388 1292 1446"><i>Parks Canada</i> has developed detailed monitoring systems for ecological monitoring (http://www.pc.gc.ca/progs/np-pn/ecosystem/ecosystem3_e.asp).</p>
	<p data-bbox="448 1497 837 1524">WORLD DATABASE ON PROTECTED AREAS</p>
	<p data-bbox="448 1556 1219 1583">The database can be accessed directly (http://sea.unep-wcmc.org/wdbpa/)</p>

11. THEME 9: USING SCIENCE



I. SNAPSHOT

Good protected area management needs a good basis of knowledge about biodiversity, environmental services, social issues and management strategies. Although protected areas are perhaps the world's most important resource in terms of building ecological knowledge, much of the current research that takes place in protected areas is not translated into information that is of use to managers. The Programme of Work suggests some steps to address this problem.



II. GOALS AND TARGETS

GOAL	Goal 4.4: To ensure that scientific knowledge contributes to the establishment and effectiveness of protected areas and protected area systems
TARGET	Scientific knowledge relevant to protected areas is further developed as a contribution to their establishment, effectiveness, and management.



III. CONTEXT

This goal aims to address the many acknowledged gaps in our knowledge of biodiversity and about its relationship to human activities including the establishment and management of protected areas. It recognises that much of the information we do have is inaccessible to most protected area decision makers, managers and stakeholders, and that much research is not designed to provide the information needed for protected area management. Targeted research on protected areas in the fields of economics and the social sciences is particularly rare.



IV. KEY ACTIVITIES FOR THE GOALS

The activities call on Parties to:

- ✓ Intensify research on **priority topics** relevant to protected areas across a number of scientific disciplines (Activities 4.4.2 and 4.4.3).
- ✓ Strengthen **research collaboration** with relevant centres of expertise and indigenous and local communities (Activities 4.4.1, 4.4.2, 4.4.4 and 4.4.7).
- ✓ Improve the **targeting and dissemination** of research findings, particularly for developing countries. (Activities 4.4.5 and 4.4.6).



V. POTENTIAL STEPS FOR IMPLEMENTATION OF IDENTIFIED ACTIVITIES

Draw up a list of priority research topics: Much of the information needed for good protected area management comes from general adequate minimum baseline surveys from ecological inventories and surveys along with an increased understanding of how natural systems operate and regulate themselves.

Other information needed is more specific to protected areas – such as the minimum size/area requirements for endangered species, or the impacts of different protected area management interventions and governance models. Each country will have unique priorities that reflect its own particular characteristics, needs and resources.

Promoting biodiversity research means much more than just setting research agendas. It requires improving skills and institutional capacity, and covers work in the social sciences, economics and humanities, as well as natural sciences. Where research involves the territories or knowledge of indigenous and local communities, mechanisms for ensuring their awareness about what is planned, obtaining their prior informed consent, and returning research results are required. Research that takes place in protected areas should wherever possible be aligned to cover the needs of protected area management; this is often not the case today.


With respect to research in the natural sciences, the 1992 *Global Biodiversity Strategy* provides a list of priorities from an extended consultation among scientists and conservation professionals around the globe (http://biodiv.wri.org/pubs_content_text.cfm?ContentID=532).


Identify partner research organisations and communities: and draw up collaborative agreements as necessary, including proper recognition of local rights and intellectual property rights. While it is important for protected areas managers and agencies to develop their own research capacities, most will find it difficult to pursue more than a very limited set of priorities on their own. Activity 4.4.7, therefore, encourages Parties to “develop and strengthen working partnerships with appropriate organizations and institutions which undertake research studies leading to an improved understanding of biodiversity in protected areas.” It is important that the objectives and terms of such partnerships be carefully established in advance. Protected areas agencies will particularly want to ensure that collaborative research accords with research priorities needed to strengthen management effectiveness that ideally are set through a country-driven research priority-setting process. Research partnerships with private sector corporations can also be of benefit, for example, in developing sustainable uses of biological resources (e.g., forestry, fisheries) in the commercial exploration of wild genetic resources (bioprospecting), and for restoration. Private sector partnerships are also key vehicles for technology transfer and capacity building in these fields. But, as has been widely recognized and debated in the CBD process and elsewhere, the commercial motivation of private sector firms adds an additional layer of risk and complexity to research partnerships, particularly where access to genetic resources is concerned.

Develop new vehicles for ensuring that research results reach all stakeholders: Research on protected areas and biodiversity will only be useful to protected areas managers and stakeholders if it is in a useful form and is broadly disseminated to key target audiences. Often, the same information needs to be delivered in different forms to different target groups. A conservation biologist working in the field at a protected area will have very different information needs and different levels of understanding and time available from a policymaker, indigenous community leader or tourist. For some audiences, translation into local languages will be crucial.

Diverse delivery mechanisms are also therefore required, to get the results of research into the hands of those who want and can make use of them. Increasing numbers of people have access to the Internet, but many, particularly in developing countries, do not. And even some who have Internet access and skills lack the high speed “broadband” connections necessary to download scientific materials, which are often large files due to graphics, maps and other data-heavy components. CD-ROM discs are an increasingly popular means of dissemination, since they require only a computer and printer to deliver large

amounts of information. Printed material, however, is still extremely important for many protected area professionals in developing countries.

	VI. CASE STUDIES
AUSTRALIAN	<p>The Australian biodiversity research priority-setting process (http://www.deh.gov.au/biodiversity/publications/research-priorities/index.html) developed a set of principles for selecting research that other countries may wish to study and adapt to their own needs (http://www.deh.gov.au/biodiversity/publications/research-priorities/appendix4.html).</p>
PARKSWATCH	<p>ParksWatch is promoting research in the protected areas in Latin America, by publicizing research needs within its web site (http://www.parkswatch.org/research_needs.htm) with the aim of getting researchers to expand on the ideas provided and develop a project to fulfil the research gaps in the parks and protected areas.</p>

	VII. TOOLS AND RESOURCES
	<p><i>Equitable Partnerships in Practice: People & Plants Conservation Manual</i> offers practical guidance on how to arrive at equitable biodiversity research, including researcher codes of ethics, institutional policies and community research agreements. The book can be purchased from Earthscan Publishers (http://shop.earthscan.co.uk/ProductDetails/mcs/productID/33/groupID/6/categoryID/8/v/22936297-253a-45da-ac53-6b39cc2bc466).</p> <p>The Australian government's Department of Education, Science and Training has developed <i>Principles for the Assessment and Practice of Research in Protected and Environmentally Sensitive Areas</i> (http://www.dest.gov.au/archive/Science/astec/ethics/part1.html), which include principles on conservation, transparency, the role of governments and administration as well as specific principles relevant to aboriginal and Torres Strait Islander peoples' concerns.</p> <p><i>Biodiversity and Traditional Knowledge: equitable partnerships in practice</i> by Sarah Laird, published by Earthscan in 2002 outlines steps towards working with local communities (http://shop.earthscan.co.uk/ProductDetails/mcs/productID/33/groupID/6/categoryID/8/v/a3c401d9-9ccc-4c72-a0a0-9255b65a31dd).</p>

SECTION 3:
APPENDICES

APPENDIX 1: PROGRAMME OF WORK ON PROTECTED AREAS*

1. *In situ* conservation, sustainable use of biological diversity and the fair and equitable sharing of benefits arising from the use of genetic resources are dependent upon properly maintaining sufficient natural habitat. Protected areas, together with conservation, sustainable use and restoration initiatives in the wider land-and seascape are essential components in national and global biodiversity conservation strategies. They provide a range of goods and ecological services while preserving natural and cultural heritage. They can contribute to poverty alleviation by providing employment opportunities and livelihoods to people living in and around them. In addition, they also provide opportunities for research including for adaptive measures to cope with climate change, environmental education, recreation and tourism. As a result, most countries have developed a system of protected areas. The protected-area network now covers about 11 per cent of Earth's land surface. Less than 1 per cent of the Earth's marine area is covered. The central role of protected areas in implementing the objectives of the Convention has been repeatedly emphasized in decisions of the Conference of Parties. They form a vital element of the various thematic programmes of work, namely, marine and coastal biological diversity, inland water ecosystems biological diversity, dry and sub-humid lands biological diversity, forest biological diversity and mountain biological diversity.

2. Given their many benefits, protected areas are important instruments for meeting the Convention's targets of significantly reducing the rate of biodiversity loss by 2010. However, according to the best available data on the status and trends on protected areas (see UNEP/CBD/SBSTTA/9/5), the current global systems of protected areas are not sufficiently large, sufficiently well-planned, nor sufficiently well-managed to maximize their contribution to biodiversity conservation. Therefore, there is an urgent need to take action to improve the coverage, representativeness and management of protected areas nationally, regionally and globally.

3. The Convention on Biological Diversity works with many partner organizations, conventions and initiatives in facilitating conservation and sustainable use through protected areas. These include the IUCN World Commission on Protected Areas (WCPA); the UNEP World Conservation Monitoring Centre (UNEP-WCMC); the International Maritime Organization (IMO); the World Resources Institute (WRI); The Nature Conservancy (TNC); the World Wide Fund for Nature (WWF); the UNESCO Man and Biosphere programme (MAB); the UNESCO World Heritage Convention; the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention); the Convention on the Conservation of Migratory Species of Wild Animals and the associated agreements; the Convention on Trade in Endangered Species of Wild Fauna and Flora (CITES); (EU) the United Nations Forum on Forests (UNFF); the Global Environment Facility (GEF), International Convention for Regulation of Whaling (ICRW); Food and Agriculture Organization of the United Nations (FAO); UN Convention on the Law of the Sea (UNCLOS); indigenous organizations, other stakeholders and industry; and various regional agreements and programmes.

4. The present *Programme of Work* on protected areas features goals and activities that are specific to protected areas. Some elements of existing programmes of work on forests, inland waters, dry and sub-humid lands, coastal and marine and mountain biological diversity as well as the Global Strategy for Plant Conservation and the Global Taxonomy Initiative also apply to protected areas. The goals and activities contained in these existing programmes of work should also be applied and implemented, as and whenever appropriate for their respective protected areas. Other relevant guidelines developed under cross-cutting issues of the CBD should also be taken into account when implementing the *Programme of Work*.

* Decision VII/28 of the seventh meeting of the Conference of the Parties to the Convention on Biological Diversity, on Protected Areas, see <http://www.biodiv.org/decisions/default.asp?m=COP07&id=7765&lg=0>

5. The World Summit on Sustainable Development, in its Plan of Implementation, has stated that the achievement of the 2010 target requires new and additional financial and technical resources for developing countries, and that the progress in establishment and maintenance of a comprehensive, effectively managed, and ecologically representative global system of protected areas is of crucial importance for achieving the 2010 target. The WSSD also called for provision of financial and technical support for activities in this field, recognizing that funding for this purpose generally should consist of a mixture of national and international resources and include the whole range of possible funding instruments such as public funding, debt for nature swaps, private funding, remuneration from services provided by protected areas, and taxes and fees at the national level for the use of ecological services.

II. OVERALL PURPOSE AND SCOPE OF THE PROGRAMME OF WORK

6. The overall purpose of the *Programme of Work* on protected areas is to support the establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas that collectively, *inter alia* through a global network contribute to achieving the three objectives of the Convention and the 2010 target to significantly reduce the current rate of biodiversity loss at the global, regional, national and sub-national levels and contribute to poverty reduction and the pursuit of sustainable development, thereby supporting the objectives of the Strategic Plan of the Convention, the World Summit on Sustainable Development Plan of Implementation and the Millennium Development Goals.

7. The *Programme of Work* consists of four interlinked elements intended to be mutually reinforcing and cross-cutting in their implementation. It was developed bearing in mind the need to avoid unnecessary duplication with existing thematic work programmes and other ongoing initiatives of the Convention on Biological Diversity, and to promote synergy and coordination with relevant programmes of various international organizations. Parties are encouraged to apply where appropriate the objectives and activities from these thematic work programmes and the work on cross-cutting issues.

8. The Convention's work on protected areas takes into account the ecosystem approach. The ecosystem approach is the primary framework for action under the Convention, and its application will help reach a balance between the three objectives of the Convention. Multiple-use protected areas applied in an ecosystem approach context can, for example, help meet specific goals relating to conservation, sustainable use and the fair and equitable sharing of benefits arising from the use of genetic resources. The ecosystem approach provides a framework within which the relationship of protected areas to the wider landscape and seascape can be understood, and the goods and services flowing from protected areas can be valued. In addition, the establishment and management of protected area systems in the context of the ecosystem approach should not simply be considered in national terms, but where the relevant ecosystem extends beyond national boundaries, in ecosystem or bioregional terms as well. This presents a strong argument for and adds complexity to the establishment of transboundary protected areas and protected areas in marine areas beyond the limits of national jurisdiction. Any work under this programme on marine and coastal protected areas should be consistent with decision VII/5 on Marine and Coastal biodiversity.

9. The *Programme of Work* is intended to assist Parties in establishing national programmes of work with targeted goals, actions, specific actors, timeframe, inputs and expected measurable outputs. Parties may select

from, adapt, and/or add to the activities suggested in the current *Programme of Work* according to particular national and local conditions and their level of development. Implementation of this *Programme of Work* should take into account the ecosystem approach of the Convention on Biological Diversity. In implementing the *Programme of Work*, Parties are encouraged to pay due regard to the social, economic and environmental costs and benefits of various options. In addition, Parties are encouraged to consider the use of appropriate technologies, source of finance and technical cooperation, and to ensure, through appropriate actions, the means to meet the particular challenges and demands of their protected areas.

10. The implementation of the *Programme of Work* will contribute to achieving the three objectives of the Convention

PROGRAMME ELEMENT 1: Direct actions for planning, selecting, establishing, strengthening, and managing, protected area systems and sites

GOAL 1.1 To establish and strengthen national and regional systems of protected areas integrated into a global network as a contribution to globally agreed goals

TARGET By 2010, terrestrially and 2012 in the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area system is established as a contribution to (i) the goal of the Strategic Plan of the Convention and the World Summit on Sustainable Development of achieving a significant reduction in the rate of biodiversity loss by 2010; (ii) the Millennium Development Goals — particularly goal 7 on ensuring environmental sustainability; and (iii) the Global Strategy for Plant Conservation.

Suggested activities of the Parties

1.1.1 By 2006, establish suitable time-bound and measurable national and regional level protected area targets and indicators.

1.1.2 As a matter of urgency, by 2006, take action to establish or expand protected areas in any large, intact or relatively unfragmented or highly irreplaceable natural areas, or areas under high threat, as well as areas securing the most threatened species in the context of national priorities, and taking into consideration the conservation needs of migratory species.

1.1.3 As a matter of urgency, by 2006 terrestrially and by 2008 in the marine environment, take action to address the under-representation of marine and inland water ecosystems in existing national and regional systems of protected areas, taking into account marine ecosystems beyond areas of national jurisdiction in accordance with applicable international law, and transboundary inland water ecosystems.

1.1.4 By 2006, conduct, with the full and effective participation of indigenous and local communities and relevant stakeholders, national-level reviews of existing and potential forms of conservation, and their suitability for achieving biodiversity conservation goals, including innovative types of governance for protected areas that need to be recognized and promoted through legal, policy, financial institutional and community

mechanisms, such as protected areas run by Government agencies at various levels, co-managed protected areas, private protected areas, indigenous and local community conserved areas.

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.

1.1.6 By 2009, designate the protected areas as identified through the national or regional gap analysis (including precise maps) and complete by 2010 terrestrially and 2012 in the marine environments the establishment of comprehensive and ecologically representative national and regional systems of protected areas.

1.1.7 Encourage the establishment of protected areas that benefit indigenous and local communities, including by respecting, preserving, and maintaining their traditional knowledge in accordance with article 8(j) and related provisions.

Suggested supporting activities of the Executive Secretary

1.1.8 Identify options for quantitative and qualitative protected areas targets and indicators that should be used at the global level that could contribute to the 2010 target and the Millennium Development Goals.

1.1.9 Invite relevant international and regional organizations to offer their assistance to the Parties in conducting national-level gap analyses.

1.1.10 Compile and disseminate through the clearing-house mechanism and other relevant media relevant approaches, frameworks and tools for system planning and promote and facilitate the exchange of experiences and lessons learned in applying and adapting them to different ecological and social settings.

GOAL 1.2 To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function

TARGET By 2015, all protected areas and protected area systems are integrated into the wider land- and seascape, and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks.

Suggested activities of the Parties

1.2.1 Evaluate by 2006 national and sub-national experiences and lessons learned on specific efforts to integrate protected areas into broader land- and seascapes and sectoral plans and strategies such as poverty reduction strategies.

1.2.2. Identify and implement, by 2008, practical steps for improving the integration of protected areas into broader land- and seascapes, including policy, legal, planning and other measures.

1.2.3. Integrate regional, national and sub-national systems of protected areas into broader land- and seascape, *inter alia* by establishing and managing ecological networks, ecological corridors and/or buffer zones, where appropriate, to maintain ecological processes and also taking into account the needs of migratory species.

1.2.4. Develop tools of ecological connectivity, such as ecological corridors, linking together protected areas where necessary or beneficial as determined by national priorities for the conservation of biodiversity.

1.2.5. Rehabilitate and restore habitats and degraded ecosystems, as appropriate, as a contribution to building ecological networks, ecological corridors and/or buffer zones.

Suggested supporting activities of the Executive Secretary

1.2.6. Encourage the organization of regional and sub-regional workshops for the exchange of experiences on integration of biodiversity and protected areas into relevant sectoral and spatial plans.

1.2.7. Compile and disseminate, using the CHM and other media, case-studies of best practices and other reports regarding the application of the ecosystem approach in relation to protected areas at the international, regional, national and sub-national levels.

GOAL 1.3 To establish and strengthen regional networks, transboundary protected areas (TBPAs) and collaboration between neighbouring protected areas across national boundaries

TARGET Establish and strengthen by 2010/2012 transboundary protected areas, other forms of collaboration between neighbouring protected areas across national boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation.

Suggested activities of the Parties

1.3.1 Collaborate with other parties and relevant partners to establish effective regional networks of protected areas, particularly in areas identified as common conservation priorities (e.g. barrier reef systems, large scale river basins, mountain systems, large remaining forest areas and critical habitat for endangered species), and establish multicountry coordination mechanisms as appropriate to support the establishment and effective long term management of such networks.

1.3.2 Collaborate with other Parties and relevant partners through the United Nations Informal Consultative Process on the Law of the Sea (UNICPOLOS) to establish and manage protected areas in marine areas beyond the limits of national jurisdiction, in accordance with international law, including the UN Convention on the Law of the Sea, and based on scientific information.

1.3.3 Establish, where appropriate, new TBPA's with adjacent Parties and countries and strengthen effective collaborative management of existing TBPA's.

1.3.4 Promote collaboration between protected areas across national boundaries.

Suggested supporting activities of the Executive Secretary

1.3.5 Collaborate and consult with relevant organizations and bodies for developing guidelines for establishing transboundary protected areas and collaborative management approaches, as appropriate, for dissemination to Parties.

1.3.6 Compile and disseminate information on regional networks of protected areas and transboundary protected areas, including, as far as possible, their geographical distribution, their historical background, their role and the partners involved.

1.3.7 Review the potential for regional cooperation under the Convention on Migratory Species with a view to linking of protected area networks across international boundaries and potentially beyond national jurisdiction through the establishment of migratory corridors for key species.

GOAL 1.4 To substantially improve site-based protected area planning and management

TARGET All protected areas to have effective management in existence by 2012, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a long-term management plan with active stakeholder involvement.

Suggested activities of the Parties

1.4.1 Create a highly participatory process, involving indigenous and local communities and relevant stakeholders, as part of site-based planning in accordance with the ecosystem approach, and use relevant ecological and socio-economic data required to develop effective planning processes.

1.4.2 Identify appropriate measurable biodiversity conservation targets for sites, drawing on criteria laid out in Annex I to the Convention on Biological Diversity and other relevant criteria.

1.4.3 Include in the site-planning process an analysis of opportunities for the protected area to contribute to conservation and sustainable use of biodiversity at local and regional scales as well as an analysis of threats and means of addressing them.

1.4.4 As appropriate, but no later than 2010, develop or update management plans for protected areas, built on the above process, to better achieve the three objectives of the Convention.

1.4.5 Integrate climate change adaptation measures in protected area planning, management strategies, and in the design of protected area systems.

1.4.6 Ensure that protected areas are effectively managed or supervised through staff that are well-trained and skilled, properly and appropriately equipped, and supported, to carry out their fundamental role in the management and conservation of protected areas.

Suggested supporting activities of the Executive Secretary

1.4.7 Compile and disseminate through the clearing-house mechanism current relevant approaches, frameworks and tools for site planning and promote and facilitate the exchange of experiences and lessons learned in applying and adapting them in different ecological & social settings.

1.4.8 Disseminate information on successful management models of protected areas which serve to further the three objective of the Convention and may also contribute to poverty reduction and the pursuit of sustainable development.

GOAL 1.5 To prevent and mitigate the negative impacts of key threats to protected areas

TARGET By 2008, effective mechanisms for identifying and preventing, and/or mitigating the negative impacts of key threats to protected areas are in place.

Suggested activities of the Parties

1.5.1 Apply, as appropriate, timely environmental impact assessments to any plan or project with the potential to have effects on protected areas, and ensure timely information flow among all concerned parties to that end, taking into account decision VI/7 A of the Conference of the Parties on guidelines for incorporating biodiversity related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessments.

1.5.2 Develop by 2010 national approaches to liability and redress measures, incorporating the polluter pays principle or other appropriate mechanisms in relation to damages to protected areas.

1.5.3 Establish and implement measures for the rehabilitation and restoration of the ecological integrity of protected areas.

1.5.4 Take measures to control risks associated with invasive alien species in protected areas.

1.5.5 Assess key threats to protected areas and develop and implement strategies to prevent and/or mitigate such threats.

1.5.6 Develop policies, improve governance, and ensure enforcement of urgent measures that can halt the illegal exploitation of resources from protected areas, and strengthen international and regional cooperation to eliminate illegal trade in such resources taking into account sustainable customary resource use of indigenous and local communities in accordance with article 10(c) of the Convention.

Suggested supporting activities of the Executive Secretary

1.5.7 Address issues specific to protected areas, in the guidelines for incorporating biodiversity considerations in environmental impact assessment and strategic environmental assessment, procedures and regulations.

1.5.8 Collaborate with the International Association for Impact Assessment and other relevant organizations on further development and refinement of the impact assessment guidelines particularly to incorporate all stages of environmental impact assessment processes in protected areas taking into account the ecosystem approach.

1.5.9 Compile and disseminate through the clearing-house mechanism and other means case studies, best practices and lessons learned in mitigating the negative impacts of key threats and facilitate the exchange of experiences.

PROGRAMME ELEMENT 2: Governance, Participation, Equity and Benefit Sharing

GOAL 2.1 To promote equity and benefit-sharing

TARGET Establish by 2008 mechanisms for the equitable sharing of both costs and benefits arising from the establishment and management of protected areas.

Suggested activities of the Parties

2.1.1. Assess the economic and socio-cultural costs, benefits and impacts arising from the establishment and maintenance of protected areas, particularly for indigenous and local communities, and adjust policies to avoid and mitigate negative impacts, and where appropriate compensate costs and equitably share benefits in accordance with the national legislation.

2.1.2. Recognize and promote a broad set of protected area governance types related to their potential for achieving biodiversity conservation goals in accordance with the Convention, which may include areas conserved by indigenous and local communities and private nature reserves. The promotion of these areas should be by legal and/or policy, financial and community mechanisms.

2.1.3. Establish policies and institutional mechanisms with full participation of indigenous and local communities, to facilitate the legal recognition and effective management of indigenous and local community conserved areas in a manner consistent with the goals of conserving both biodiversity and the knowledge, innovations and practices of indigenous and local communities.

2.1.4. Use social and economic benefits generated by protected areas for poverty reduction, consistent with protected-area management objectives.

2.1.5. Engage indigenous and local communities and relevant stakeholders in participatory planning and governance, recalling the principles of the ecosystem approach.

2.1.6. Establish or strengthen national policies to deal with access to genetic resources within protected areas and fair and equitable sharing of benefits arising from their utilization, drawing upon the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization as appropriate,.

GOAL 2.2 To enhance and secure involvement of indigenous and local communities and relevant stakeholders

TARGET Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas

Suggested activities of the Parties

2.2.1. Carry out participatory national reviews of the status, needs and context-specific mechanisms for involving stakeholders, ensuring gender and social equity, in protected areas policy and management, at the level of national policy, protected area systems and individual sites.

2.2.2 Implement specific plans and initiatives to effectively involve indigenous and local communities, with respect for their rights consistent with national legislation and applicable international obligations, and stakeholders at all levels of protected areas planning, establishment, governance and management, with particular emphasis on identifying and removing barriers preventing adequate participation.

2.2.3 Support participatory assessment exercises among stakeholders to identify and harness the wealth of knowledge, skills, resources and institutions of importance for conservation that are available in society.

2.2.4 Promote an enabling environment (legislation, policies, capacities, and resources) for the involvement of indigenous and local communities and relevant stakeholders in decision making, and the development of their capacities and opportunities to establish and manage protected areas, including community-conserved and private protected areas.

2.2.5 Ensure that any resettlement of indigenous communities as a consequence of the establishment or management of protected areas will only take place with their prior informed consent that may be given according to national legislation and applicable international obligations.

Suggested supporting activities of the Executive Secretary

2.2.6 Make available to Parties case-studies, advice on best practices and other sources of information on stakeholder participation in protected areas

2.2.7 Promote, through the CHM, technical publications and other means, the international sharing of experience on effective mechanisms for stakeholder involvement and governance types in conservation in particular with regard to co-managed protected areas, indigenous and local community conserved areas and private protected areas.

PROGRAMME ELEMENT 3: Enabling Activities

GOAL 3.1 To provide an enabling policy, institutional and socio-economic environment for protected areas

TARGET By 2008 review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems.

Suggested activities of the Parties

3.1.1 By 2006, identify legislative and institutional gaps and barriers that impede the effective establishment and management of protected areas, and by 2009, effectively address these gaps and barriers.

3.1.2 Conduct national-level assessments of the contributions of protected areas, considering as appropriate environmental services, to the country's economy and culture, and to the achievement of the Millennium Development Goals at the national level; and integrate the use of economic valuation and natural resource accounting tools into national planning processes in order to identify the hidden and non-hidden economic benefits provided by protected areas and who appropriates these benefits.

3.1.3 Harmonize sectoral policies and laws to ensure that they support the conservation and effective management of the protected area system.

3.1.4 Consider governance principles, such as the rule of law, decentralization, participatory decision-making mechanisms for accountability and equitable dispute resolution institutions and procedures.

3.1.5 Identify and remove perverse incentives and inconsistencies in sectoral policies that increase pressure on protected areas, or take action to mitigate their perverse effects. Whenever feasible, redirect these to positive incentives for conservation.

3.1.6 Identify and establish positive incentives that support the integrity and maintenance of protected areas and the involvement of indigenous and local communities and stakeholders in conservation.

3.1.7 Adopt legal frameworks to national, regional and sub-national protected areas systems of countries where appropriate.

3.1.8 Develop national incentive mechanisms and institutions and legislative frameworks to support the establishment of the full range of protected areas that achieve biodiversity conservation objectives including on private lands and private reserves where appropriate.

3.1.9 Identify and foster economic opportunities and markets at local, national and international levels for goods and services produced by protected areas and/or reliant on the ecosystem services that protected areas provide, consistent with protected area objectives and promote the equitable sharing of the benefits.

3.1.10 Develop necessary mechanisms for institutions with responsibilities for conservation of biological diversity at the regional, national and local level to achieve institutional and financial sustainability.

3.1.11 Cooperate with neighbouring countries to establish an enabling environment for transboundary protected areas and for neighbouring protected areas across national boundaries and other similar approaches including regional networks.

Suggested supporting activities of the Executive Secretary

3.1.12 In collaboration with key partners such as OECD, IUCN, WWF and the secretariats of other conventions compile information on relevant guidance, resource kits and other information on incentive measures including those relating to the development of incentive options.

3.1.13 Compile and disseminate, through the CHM and other media, case-studies on best practices on the use of incentive measures for the management of protected areas.

3.1.14 Compile and disseminate through the CHM and other media best practices on ways and means to integrate the use of incentive measures into protected area management plans, programmes and policies including opportunities for the removal or mitigation of perverse incentives.

GOAL 3.2 To build capacity for the planning, establishment and management of protected areas

TARGET By 2010, comprehensive capacity building programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels, and raise professional standards.

Suggested activities of the Parties

3.2.1 By 2006 complete national protected-area capacity needs assessments, and establish capacity building programmes on the basis of these assessments including the creation of curricula, resources and programs for the sustained delivery of protected areas management training.

3.2.2 Establish effective mechanisms to document existing knowledge and experiences on protected area management, including traditional knowledge in accordance with Article 8 (j) and Related Provisions, and identify knowledge and skills gaps.

3.2.3 Exchange lessons learnt, information and capacity-building experiences among countries and relevant organizations, through the Clearing-house Mechanisms and other means.

3.2.4 Strengthen the capacities of institutions to establish cross-sectoral collaboration for protected area management at the regional, national and local levels.

3.2.5 Improve the capacity of protected areas institutions to develop sustainable financing through fiscal incentives, environmental services, and other instruments.

Suggested supporting activities of the Executive Secretary

3.2.6 Cooperate with IUCN and other relevant organizations to compile and disseminate available information.

3.2.7 Cooperate with initiatives such as the Protected Areas Learning Network (PALNet-IUCN) and explore lessons learned from those experiences, in collaboration with relevant organizations.

GOAL 3.3 To develop, apply and transfer appropriate technologies for protected areas

TARGET By 2010 the development, validation, and transfer of appropriate technologies and innovative approaches for the effective management of protected areas is substantially improved, taking into account decisions of the Conference of the Parties on technology transfer and cooperation.

Suggested activities of the Parties

3.3.1 Document and make available to the Executive Secretary appropriate technologies for conservation and sustainable use of biological diversity of protected areas and management of protected areas.

3.3.2 Assess needs for relevant technologies for protected area management involving indigenous and local communities and stakeholders such as the, research institutions, non-Governmental organizations and the private sector.

3.3.3 Encourage development and use of appropriate technology, including technologies of indigenous and local communities with their participation, approval and involvement in accordance with Article 8(j) and Related Provisions, for habitat rehabilitation and restoration, resource mapping, biological inventory, and rapid assessment of biodiversity, monitoring, *in situ* and *ex situ* conservation, sustainable use, etc.

3.3.4 Promote an enabling environment for the transfer of technology in accordance with decision VII/29 of the Conference of Parties on technology transfer and cooperation to improve protected area management.

3.3.5 Increase technology transfer and cooperation to improve protected area management.

Suggested supporting activities of the Executive Secretary

3.3.6 Compile and disseminate information provided by Parties and relevant international organizations on appropriate technologies and approaches for efficient management of protected areas and conservation and sustainable use of biological diversity of protected areas.

GOAL 3.4 To ensure financial sustainability of protected areas and national and regional systems of protected areas

TARGET 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.

Suggested activities of the Parties

3.4.1 Conduct a national-level study by 2005 of the effectiveness in using existing financial resources and

of financial needs related to the national system of protected areas and identify options for meeting these needs through a mixture of national and international resources and taking into account the whole range of possible funding instruments, such as public funding, debt for nature swaps, elimination of perverse incentives and subsidies, private funding, taxes and fees for ecological services .

3.4.2 By 2008, establish and begin to implement country-level sustainable financing plans that support national systems of protected areas, including necessary regulatory, legislative, policy, institutional and other measures.

3.4.3 Support and further develop international funding programmes to support implementation of national and regional systems of protected areas in developing countries and countries with economies in transition and small island developing States.

3.4.4 Collaborate with other countries to develop and implement sustainable financing programmes for national and regional systems of protected areas.

3.4.5 Provide regular information on protected areas financing to relevant institutions and mechanisms, including through future national reports under the Convention on Biological Diversity, and to the World Database on Protected Areas.

3.4.6 Encourage integration of protected areas needs into national and, where applicable, regional development and financing strategies and development cooperation programmes.

Suggested supporting activities of the Executive Secretary

3.4.7 Convene as soon as possible, but not later than 2005, a meeting of the donor agencies and other relevant organizations to discuss options for mobilizing new and additional funding to developing countries and countries with economies in transition and small island developing States for implementation of the programme of work.

3.4.8 Compile and disseminate case-studies and best practices concerning protected area financing through the clearing-house mechanism and other media.

3.4.9 Review and disseminate by 2006 studies on the value of ecosystem services provided by protected areas.

GOAL 3.5 To strengthen communication, education and public awareness

TARGET By 2008 public awareness, understanding and appreciation of the importance and benefits of protected areas is significantly increased.

Suggested activities of the Parties

3.5.1 Establish or strengthen strategies and programmes of education and public awareness on the importance of protected areas in terms of their role in biodiversity conservation and sustainable socio-economic

development, in close collaboration with the Communication, Education and Public Awareness Initiative (CEPA) under the Convention on Biological Diversity and targeted towards all stakeholders.

3.5.2 Identify core themes for education, awareness and communication programmes relevant to protected areas, including *inter alia* their contribution to economy and culture to achieve specific end results such as compliance by resource users and other stakeholders or an increased understanding of science-based knowledge by indigenous and local communities and policy makers and an increased understanding of the needs, priorities and value of indigenous and local communities; knowledge, innovations and practices by Governments, non-Governmental organizations and other relevant stakeholders.

3.5.3 Strengthen, and where necessary, establish information mechanisms directed at target groups such as the private sector, policy makers, development institutions, community-based organizations, the youth, the media, and the general public.

3.5.4 Develop mechanisms for constructive dialogue and exchange of information and experiences among protected-area managers, and between protected area managers and indigenous and local communities and their organizations and other environment educators & actors.

3.5.5 Incorporate the subject of protected areas as an integral component of the school curricula as well as in informal education.

3.5.6 Establish mechanism and evaluate the impacts of communication, education and public awareness programmes on biodiversity conservation to ensure that they improve public awareness, change behaviour and support the achievement of protected area objectives.

Suggested supporting activities of the Executive Secretary

3.5.7 Collaborate with IUCN and other relevant organizations to collect and disseminate educational tools and materials for adaptation and use in the promotion of protected areas as an important means of achieving the conservation and sustainable use of biodiversity.

3.5.8 Establish, in collaboration with the IUCN and other relevant partners, an initiative to engage the global news and entertainment industry (television, film, popular music, internet, etc.) in a global campaign to raise awareness of the consequences of biological diversity loss and the important role of protected areas in biodiversity conservation.

PROGRAMME ELEMENT 4: Standards, assessment, and monitoring

GOAL 4.1 To develop and adopt minimum standards and best practices for national and regional protected area systems

TARGET By 2008, standards, criteria, and best practices for planning, selecting, establishing, managing and governance of national and regional systems of protected areas are developed and adopted.

Suggested activities of the Parties

4.1.1 Collaborate with other Parties and relevant organizations, particularly IUCN, on the development, testing, review and promotion of voluntary protected areas standards and best practices on planning and management, governance and participation.

4.1.2 Develop and implement an efficient, long-term monitoring system of the outcomes being achieved through protected area systems in relation to the goals and targets of this work programme.

4.1.3 Draw upon monitoring results to adapt and improve protected area management based on the ecosystem approach.

Suggested supporting activities of the Executive Secretary

4.1.4 In collaboration with the key partners and based upon the best practices promote available guidance for parties minimum standards for planning, selecting, establishing, managing and governance of protected area sites and systems.

4.1.5 Compile information on best practices and case-studies on effective management of protected areas and disseminate it through clearing-house mechanism and facilitate exchange of information.

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.

Suggested supporting activities of the Executive Secretary

4.2.5 Compile and disseminate information on management effectiveness through the clearing-house mechanism and develop a database of experts in evaluation of protected area management effectiveness and consider the possibility of organizing an international workshop on appropriate methods, criteria and indicators for evaluating the effectiveness of protected area management.

4.2.6 In cooperation with IUCN-WCPA and other relevant organizations, compile and disseminate information on best practices in protected area design, establishment and management.

GOAL 4.3 To assess and monitor protected area status and trends

TARGET By 2010, national and regional systems are established to enable effective monitoring of protected-area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets.

Suggested activities of the Parties

4.3.1 Implement national and regional programmes to monitor and assess the status and trends of biodiversity within protected area systems and sites.

4.3.2 Measure progress towards achieving protected area targets based on periodic monitoring and report on progress towards these targets in future national reports under the Convention on Biological Diversity as well as in a thematic report at COP-9.

4.3.3 Improve and update national and regional databases on protected areas and consolidate the World Database on Protected Areas as key support mechanisms in the assessment and monitoring of protected area status and trends.

4.3.4 Participate in the World Database on Protected Areas maintained by UNEP-WCMC, and the United Nations List of Protected Areas and the State of the World's Protected Areas assessment process.

4.3.5 Encourage the establishment and establishment use of new technologies including geographic information system and remote sensing tools for monitoring protected areas.

Suggested supporting activities of the Executive Secretary

4.3.6 Develop and consolidate working partnerships with appropriate organizations and institutions that have developed and maintained monitoring systems and databases on protected areas, in particular with the UNEPWCMC and the IUCN World Commission on Protected Areas.

4.3.7 Explore establishment of a harmonized system and time schedule for reporting on sites designated under the Convention on Wetlands, the World Heritage Convention, and UNESCO MAB programme, and other regional systems, as appropriate, taking into account the ongoing work of UNEP-WCMC on harmonization of reporting and the IUCN protected area management category system for reporting purpose.

4.3.8 Prepare an updated format for the thematic report on protected areas covering, *inter alia*, integration of protected areas and national systems of protected areas into relevant sectors and spatial planning taking into account decision VII/25 on national reporting.

GOAL 4.4 To ensure that scientific knowledge contributes to the establishment and effectiveness of protected areas and protected area systems

TARGET Scientific knowledge relevant to protected areas is further developed as a contribution to their establishment, effectiveness, and management.

Suggested activities of the Parties

4.4.1 Improve research, scientific and technical cooperation related to protected areas at national, regional and international levels.

4.4.2 Promote interdisciplinary research, to improve understanding of the ecological social and economic aspects of protected areas, including methods and techniques for valuation of goods and services from protected areas

4.4.3 Encourage studies to improve the knowledge of the distribution, status and trends of biological diversity.

4.4.4 Encourage collaborative research between scientists and indigenous and local communities in accordance with Article 8(j) in connection with the establishment and the effective management of protected areas

4.4.5 Promote the dissemination of scientific information from and on protected areas including through the clearing-house mechanism.

4.4.6 Promote the dissemination of, and facilitate access to, scientific and technical information, in particular publications on protected areas, with special attention to the needs of developing countries and countries with economies in transition, in particular least developed countries and small island developing States.

4.4.7 Develop and strengthen working partnerships with appropriate organizations and institutions which undertake research studies leading to an improved understanding of biodiversity in protected areas

APPENDIX 2: ABBREVIATIONS AND ACRONYMS

CBD: Convention on Biological Diversity

CCA: Community Conserved Area

CEESP: The site of the Commission on Environmental, Economic and Social Policy

CEPA: Communication Education and Public Awareness

COP: Conference of the Parties

EIA: Environmental Impact Assessment

GEF: Global Environment Facility

IUCN: IUCN – The World Conservation Union

IUCN-WCPA: IUCN – World Commission on Protected Areas

NBSAP: National Biodiversity Strategy and Action Plan

NISP: National Implementation support Partnerships

NGO: Non Governmental Organization

TILCEPA: Theme on Indigenous and local Communities, Equity and Protected Areas

UNEP: United Nations Environment Programme

WDPA: World Database on Protected Areas

WWF: World Wide Fund for Nature

