UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/IW.PFA/1/2
23 October 2003

ORIGINAL: ENGLISH

INTERNATIONAL WORKSHOP ON
PROTECTED FOREST AREAS
Montreal, 6-8 November 2003
Item 3 of the provisional agenda*

OPPORTUNITIES AND CHALLENGES FOR ESTABLISHING AND ENSURING LONG-TERM SUSTAINABILITY OF PROTECTED FOREST AREAS IN THE CONTEXT OF THE PROGRAMME OF WORK ON FOREST BIOLOGICAL DIVERSITY

Note by the Executive Secretary

I. INTRODUCTION

1. In paragraph 19 (d) of decision VI/22, on forest biological diversity, the Conference of Parties to the Convention on Biological Diversity requested the Executive Secretary to prepare in collaboration with the United Nations Forum on Forests (UNFF), IUCN and other relevant members of the Collaborative Partnership on Forests (CPF) and hold an international workshop on protected forest areas to conserve and sustainably use forest biological diversity. The purpose of the workshop is to exchange current knowledge and experience on opportunities and challenges to establishing and ensuring long-term sustainability of protected forest areas and provide recommendations for the further implementation of activities under programme element 1, goal 3, objective 3 of the work programme on forest biological diversity. Proposed activities under this goal and objective include:

(a) Assess the comprehensiveness, representative ness and adequacy of protected areas relative to forest types and identify gaps and weaknesses.

(b) Establish (in accordance with Article 8(j)) with the full participation and with respect for the rights of indigenous and local communities, and other relevant stakeholders, comprehensive, adequate, biologically and geographically representative and effective networks of protected areas.

(c) Establish, in a similar manner, restoration areas to complement the network of protected areas where needed.

(d) Revise in a similar manner and ensure the comprehensiveness, adequacy, representative ness and efficacy of existing protected area networks.

(e) Assess the efficacy of protected forest areas for the conservation of biological diversity.

(f) Ensure that relevant protected areas are managed to maintain and enhance their forest biodiversity components, services and values.

2. In response to this request, the Executive Secretary invited, through a notification dated 13 August 2003, the UNFF Secretariat and members of the CPF to contribute to the preparation of the

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workshop and to participate in the meeting to be held from 6 to 8 November, prior to the ninth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA).

3. In addition, the Executive Secretary prepared this present note to facilitate the discussions in the workshop. Section II of the note provides the framework under the Convention on Biological Diversity of relevance to the Workshop. Section III summarizes the outcomes of major relevant international meetings in the context of the objectives of the Workshop. Section IV describes opportunities and challenges with regard to the planning, establishment and management, including assessment of its effectiveness, of protected forest areas, sites and networks and restoration areas to complement the network of forest protected areas.

II. THE FRAMEWORK UNDER THE CONVENTION ON BIOLOGICAL DIVERSITY

4. The Convention text provides an adequate framework for the establishment and management of protected areas. Protected area means "a geographically defined area, which is designed or regulated and managed to achieve specific conservation objectives" (Article 2 of the Convention on Biological Diversity). Paragraph (a) and (b) of Article 8 enjoins the Parties for establishing a system of protected areas and develop guidelines for the selection, establishment and management of protected areas. These paragraphs have direct relevance to the assessment of comprehensiveness, representativeness and adequacy of protected a forest areas, item 3.2 (a) of the workshop agenda. The guidelines referred to in Article 8(b), *inter alia* include guidance on how to ensure representativeness, comprehensiveness and adequacy of protected areas. Article 8(j) calls for protecting the knowledge of local and indigenous communities. Item 3.2 (b) of the Workshop agenda makes a particular reference to Article 8(j) for establishing comprehensive, adequate and effective networks of protected areas with full participation of all stakeholders.

5. In addition other articles of the Convention, for example, Article 6 on general measures for conservation and sustainable use which calls the Parties for development of national biodiversity strategies and action plans; Article 7 on identification and monitoring; article 12 on research and training are relevant to the agenda items 3.2 (c), (e) and (f) of the Workshop.

Relevant decisions of the Conference of the Parties

6. Protected areas form a central element of the various thematic programmes of work adopted at the fourth and subsequent meetings of the Conference of the Parties. A detailed account of on various decisions of the Conference of the Parties that have relevance to protected areas *per se* is available in the note by the Executive Secretary on status and trends of protected areas prepared for the ninth meeting of SBSTTA (UNEP/CBD/SBSTTA/9/5/Rev.1). Some specific decisions of the Conference of the Parties of relevance to the present Workshop include: decision IV/5, annex (programme element 3 of the programme of work on marine and coastal biological diversity); decision VI/22, annex (programme element 3, goals 1 and 2 of the programme of work on forest biological diversity), related to agenda items 3.2(a), (d), (e) and (f); decision V/16, annex, part II (task 2 of element 1 of the programme of work on Article 8(j) on effective participation of indigenous and local communities), which is of relevance to item 3.2(b); and programme element 1, goal 3 and objective 1 of the programme of work on forest biological diversity, which is related to agenda item 3.2(c).

7. At its sixth meeting, the Conference of the Parties adopted the Strategic Plan for the Convention (decision VI/26), the purpose and mission of which is to achieve by 2010 a significant reduction of the rate of biodiversity loss, as a contribution to poverty alleviation and benefits all life on earth. The Strategic Plan identifies eight main obstacles to the implementation of the Convention. Goal 3, on national biodiversity strategies and action plans, and obstacles 5 (b) and (c) on lack of effective cooperation and partnerships are of particular relevance to the present Workshop.

III. OUTCOMES OF SOME REGIONAL AND INTERNATIONAL MEETINGS

A. IFF International experts meeting on forest protected areas (San Juan, Puerto Rico, March 1999)

8. An international experts meeting on forest protected areas was held in March 1999 in San Juan, Puerto Rico and was sponsored by Brazil and the United States of America. The objective of the meeting was to develop a better understanding of issues related to protected forest areas, as covered in the Intergovernmental Panel on Forests/Intergovernmental Forum on Forest (IPF/IFF) proposals for action for the protection and conservation of all types of forests and to establishment of networks of protected areas. Results from the meeting 1/ were intended to contribute to the work of the Commission on Sustainable Development and the Intergovernmental Forum on Forest (IFF).

9. The participants in the workshop emphasized the need to implement proposals for action already agreed. The following conclusions from this expert meeting are relevant to the present overview of opportunities and challenges for protected forest areas:

(a) Promote synergies and eliminate inconsistencies among various international conventions and other agreements, as well as strengthen the relationship between the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) to achieve forest protection goals. Since 1999, this has been one of the tasks of the Collaborative Partnership on Forests (CPF);

(b) There is a need for comparable and consistent data on forest protected areas and their contribution to sustainable management. Better coordination is required between protected area reporting and forest reporting approaches at national and international level to avoid duplication;

(c) Planning, development and management of protected forest areas should take into account existing efforts to develop criteria and indicators for sustainable forest management and recognize the need for site-specific measures of management effectiveness;

(d) The involvement of indigenous and local communities should be improved by engagement in the planning process and participatory management processes;

(e) The IUCN protected areas management categories are widely used, but there is a need for better conceptualization of the breath of the issue and clarification of terms;

(f) There is a need to develop methods and indicators for valuing forest ecosystem goals and services in order to balance the social, cultural, spiritual, intrinsic and non-market values with economic values in a holistic way;

(g) Increasing management effectiveness is an urgent priority. Collecting accurate information about conditions within protected forest areas and adjacent lands would be an important step forward.

(h) There is an urgent need for capacity-building for protected forest area managers and rangers, and indigenous and local communities.

10. The conclusions mentioned in paragraphs 9 (a), (b) and (c) above relate to agenda item 3.2 and to section IV A below, on assessment of the comprehensiveness, representativeness and adequacy of protected areas; the conclusion under (d) relates to section IV B on participation of indigenous and local communities, and the remaining conclusions (e)–(h) are covered in section IV F, on ways and means to ensure that protected areas are managed to maintain and enhance their biodiversity components.

1/ Final Report Brazil-United States International experts meeting on protected forest areas. San Juan, Puerto Rico March 15-19, 1999.

B. The second session of the United Nations Forum on Forests (New York, March 2002)

11. The second session of the United Forum on Forests (UNFF) was held in New York in March 2002. At this session, the Secretary-General presented a report on progress on the implementation of the IPF/IFF proposals for action regarding forest conservation and protection of unique types of forests and fragile ecosystems, highlighting the progress made in the establishment of protected areas, but also noting the limitations of the current assessment methods and the poor representation of unique types of forests. 2/

12. The progress report identified among others the following priority actions:

(a) Strengthening capacity of protected area managers to monitor and assess the status of biodiversity;

(b) Increase effectiveness of protected areas by increasing stakeholder involvement;

(c) Create the legal and institutional frameworks to ensure that stakeholders receive the benefits of the protected areas; and

(d) Promote case-studies to demonstrate the feasibility of public private partnerships and self-finance concepts for forest conservation.

13. These priority actions are relevant to agenda item 3.2, and section IV B below.

C. World Parks Congress (Durban, South Africa, September 2003)

14. The IUCN Fifth World Parks Congress (WPC) was held in Durban, South Africa, from 8 to 17 September 2003. About 3,000 delegates representing governments, international organizations, non-governmental organizations, academic and research institutions, the private sector, and local and indigenous people's organizations, attended the Congress. The main outputs of the Congress are the Durban Accord, Durban Action Plan, message to the Convention on Biological Diversity and a set of 32 recommendations approved by workshops during the Congress.

15. The Durban Accord calls for a fresh and innovative approach to protected areas and their role in broader conservation and development agenda, and for specific action inter alia on: expansion and strengthening of worldwide systems of protected areas; mainstreaming protected areas within overall development and poverty-alleviation agenda; interests and aspiration of all stakeholders. This has particular relevance to the present workshop. The Durban Action Plan provides a framework of the detailed actions needed to achieve the commitments called for in the Durban Accord. The message to the Convention on Biological Diversity calls on the Conference of the Parties to adopt a rigorous programme of work on protected areas including specific targets and time tables and establish effective means to monitoring and assessing the implementation of the programme of work. A detailed account of the outcome of the World Parks Congress is available in a note by the Executive Secretary prepared for the ninth meeting of SBSTTA (UNEP/CBD/SBSTTA/9/6/Add.2) and the related information documents (UNEP/CBD/SBSTTA/9/INF/21 and Add.1-3). The Durban Accord, Durban Action Plan, message to the Convention on Biological Diversity and recommendations of the Congress can also be found on the IUCN website (www.iucn.org/themes/wcpa/wpc2003).

16. The following recommendations of the Congress have relevance to the present workshop. Recommendations 5.01 and 5.02 on strengthening institutional and individual capacities have relevance to item 3.2(b), (d) (e) and (f). Recommendation 5.04 on building comprehensive and effective protected area systems is particularly important for agenda item 3.2(a), and part of (b). Recommendation 5.09 on integrated landscape management to support protected areas has a bearing on agenda item 3.2(c) forest restoration areas. Recommendations 5.16 and 5.17 on good governance and diversity of governance types, and recommendation 5.18 on management effectiveness evaluation are of relevance to agenda item 3.2 (f). Recommendations 5.24, 5.25 and 5.26 on indigenous people, co-management and community conserved areas are particularly related to part of agenda item 3.2 (b) on stakeholder participation, and (f).

2/ www.un.org/esa/forests/documents_unff.html

D. Outcomes of other relevant meetings

ITTO/IUCN Workshop on increasing the effectiveness of transboudary conservation areas in tropical forests (Ubon Rachatani, Thailand February 2003)

17. The number of transboundary conservation areas has grown from 59 in1988 to 169 in 2001, distributed throughout all regions of the world. The transboundary conservation areas programme of the International Tropical Timber Organization (ITTO) covers about ten million hectares in nine tropical countries. The workshop agreed on a statement on transboundary conservation areas, stressing their value for conservation and sustainable use of biodiversity; to be successful in the long term the transboundary conservation areas should meet social and economic as well as biodiversity objectives, and asked IUCN to further support the transboundary conservation areas task force work programme and to develop a learning network of regional transboundary conservation areas. Further details are available at the websites (www.iucn.org; www.itto.or.jp). The statement of the workshop is relevant to agenda item 3.2, and to section IV B.1 below, on establishment of networks of protected areas.

Regional processes

18. In Europe the Ministerial Conference for the Protection of Forests in Europe (MCPFE, also called Helsinki Process) and the Pan European Biological and Landscape Diversity Strategy work closely together on the issues of sustainable forest management and the establishment of a network of protected forests in Europe. The MCPFE developed a common classification tool for assessing protected forests at the European level; 3/ the tool is based on the IUCN classification, but eliminates many of the interpretation problems that existed at the pan-European level. The outcomes of a recent survey indicate that protected forest areas now amount to 11.7 % of the total forest area in Europe, with 85 % designated to conserve forest biodiversity, and 15 % designated to protect landscapes. The information is relevant to agenda item 3.2, and to section IV A below, on assessment of the comprehensiveness, representativeness and adequacy of protected areas, as well as to section IV B 1, on establishment of networks of protected areas.

19. The Montreal Process includes Argentina, Australia, Canada, Chile, China, Japan, the Republic of Korea, Mexico, New Zealand, the Russian Federation, the United States of America and Uruguay; the participating countries account for 90 % of the world's temperate and boreal forests or 60 % of all forests on the world. Since the Santiago Declaration was endorsed in 1995, the focus of the Montreal Process is on the implementation of criteria and indicators for sustainable forest management, which include explicitly the conservation of biological diversity. A "First Approximation Report" on national efforts to collect data on the criteria and indicators was presented in 1997, followed by a progress report in 2000. For the First Montreal Process Forest Report 2003, six countries have provided their national reports, which include relevant information on protected areas and conservation of biological diversity (www.mcpci.org/home_e.html). The information is relevant to agenda item 3.2, and to section IV F below, on ways and means to ensure that protected areas are managed to maintain and enhance their biodiversity components.

20. The World Forestry Congress, under the theme sessions "Forests for People" and "Forests for the Planet", covered relevant issues like maintenance of biodiversity, conservation and rehabilitation of forest sites. An open forum on emerging issues highlighted the conflicts and challenges of the combination of forest conservation and livelihood. The outcomes are relevant to agenda item 3.2, and to section IV C below, on establishment of restoration areas.

E. Meetings organized in the context of the Convention on Biological Diversity

1. Meeting of the Ad Hoc Technical Expert Group on Protected Areas (Tjärno, Sweden, June 2003)

21. At its fourth meeting, the Conference of the Parties selected protected areas as one of the three themes for in-depth consideration at its seventh meeting (decision IV/16, annex II). In preparation for this

3/ See www.minconf-forests.net.

meeting, an Ad Hoc Technical Expert Group on Protected Areas met from 10 to 14 June 2003 in Tjärno, Sweden. Participants of the meeting included Government nominated experts, experts from relevant international organizations such as IUCN, UNDP, UNEP-WCMC UNESCO, UNU, WRI, European Community, Swedish Scientific Council on Biological Diversity; non-governmental organizations, such as BirdLife International, Conservation International, Greenpeace International, The Nature Conservancy, and WWF. The objectives of the meeting included review methods and approaches for planning and management of protected areas; identification of ecosystem and bioregional approaches; identification of mechanisms for stakeholder involvement and options for management of transboundary protected areas.

22. The Group reviewed a number of issues relating, *inter alia*, to the planning, establishment, and management of protected areas; status and trends of, and threats to, protected areas; stakeholders involvement; and ecological networks. The Group also identified elements of a programme of work on protected areas for the Convention on Biological Diversity. The overall purpose of the programme of work on protected areas is to significantly reduce biological diversity loss at the international, national and sub-national levels through the implementation of the three main objectives of the Convention, and to contribute to poverty alleviation and 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 consists of three interlinked elements intended to be mutually reinforcing. It is developed bearing in mind the need to avoid unnecessary duplication with existing thematic work programmes and other ongoing initiatives of the Convention, and to promote synergy and coordination with relevant programmes of various international organizations.

23. The report of the Ad Hoc Technical Expert Group is being circulated as an information document for the ninth meeting of SBSTTA (UNEP/CBD/SBSTTA/9/INF/3). Section II of the report, on status, trends, roles and values of protected areas, and section III, on planning, establishing and managing protected areas and protected area networks, are of particular relevance to the present Workshop.

2. Liaison group meeting on the outcome of the World Parks Congress

24. The Executive Secretary convened a liaison group meeting on the World Park Congress on 18 September 2003 in Durban, South Africa, to analyse the outcomes of the Congress with a view to identifying elements from the Congress that are not fully reflected in the outputs of the Ad Hoc Technical Expert Group on Protected Areas, and which should be drawn to the attention of SBSTTA for possible integration in its advice to Conference of the Parties at its seventh meeting. The meeting was attended by members of the Ad Hoc Technical Expert Group on Protected Areas; the World Parks Congress stream leaders and workshop chairs and participants; United Nations organizations; intergovernmental organizations, non-governmental organizations, representatives of indigenous communities and the private sector. The report of the liaison group meeting is being circulated as an information document for the ninth meeting of SBSTTA (UNEP/CBD/SBSTTA/9/INF/23).

IV. OPPORTUNITIES AND CHALLENGES FOR THE ESTABLISHMENT OF PROTECTED FOREST AREAS AND ENSURING THEIR SUSTAINABILITY

25. This section considers the opportunities and challenges for establishing and ensuring long-term sustainability of protected forest areas, bearing in mind the need to provide recommendations for the further implementation of activities under programme element 1, goal 3, and objective 3 of the work programme on forest biological diversity. The six proposed activities under this objective are given in paragraph 1 above.

A. Assessment of the comprehensiveness, representativeness, adequacy of protected areas relative to forest types and of protected area networks, and their efficacy for the conservation of biological diversity; and identification of gaps and weaknesses(agenda items 3.2(a), part of (d) and (e))

26. For the purposes of the present note, protected areas and networks are considered:

(a) *Comprehensive*, when they include the full range of forest ecosystems across a landscape,

(b) *Representative*, when they include all types of forest (table 1) in a given geographical area,

(c) *Adequate*, when they maintain ecological viability of populations, species and communities, and

(d) *Effective*, when they conserve biological diversity.

27. In order to facilitate discussions to assess the comprehensiveness, representativeness and adequacy of protected forest areas, the following background material is provided.

1. Description and sources of information

28. The form and types of forests vary greatly throughout the world. A number of global classification systems of forests are available, but none of them has received universal acceptance. Forests can be broadly aggregated into five categories: temperate and boreal needle-leaf forests; temperate broad-leaved mixed forests; tropical moist forests; tropical dry forests; and sparse trees and parklands. A total of 22 main forest types (table 1) have been identified in these five categories (*Global Biodiversity Outlook, 2001*). However, there is no consensus on these classification types and as a result information on protected forest areas under various forest types is not available except on broad categories/aggregates of forests. This situation has a bearing on the assessment of comprehensiveness, representativeness and adequacy of protected forest areas.

Table 1: Main forest types

Forest Type	**Area (km^2)**
Boreal and Temperate Needleleaf	**12,511,062**
Evergreen needleleaf	8,894,690
Deciduous needleleaf	3,616,372
Temparate Broadleaf and Mixed	**6,557,026**
Mixed broadleaf/ needleleaf	1,803,222
Broadleaf evergreen	342,892
Deciduous broadleaf	3,738,323
Fresh water swamp forest	126,963
Sclerophyllous dry forest	485,093
Disturbed	60,533
Tropical Moist	**11,365,672**
Lowland evergreen broadleaf rainforest	6,464,455
Lower montane forest	620,014
Upper montane forest	730,635
Fresh water swamp	516,142
Semi-evergreeen moist broadleaf	1,991,013
Mixed needle-leaf and broadleaf	17,848
Needle-leaf	61,648
Mangrove	121,648
Disturbed	842,269
Tropical Dry	**3,701,883**
Deciduous/ semi-deciduous broad-leaf	3,034,038
Sclerophyllous	405,553
Thorn	262,292
Sparse trees and park lands	**4,748,694**
Temperate	2,407,735
Tropical	2,304,959
TOTAL	**38,808,671**

Source: *Global Biodiversity Outlook 2001*

29. IUCN has developed a comprehensive system of categories of protected areas for conservation management. In 1994, it revised its classification scheme, and currently six categories of protected areas are included in it. The IUCN categories provide a common language and enable the comparison and summary of management objectives for the world's protected areas. In Article 2 of the Convention on Biological Diversity, a protected area is defined as "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives". The term protected forest area is sometimes used to indicate a forest area under forest management laws, not necessarily for biodiversity purposes. In the present context, the term "protected area" is used in the strict sense as defined above.

30. The most comprehensive dataset on protected areas world-wide is managed by the UNEP World Conservation Monitoring Centre in the form of a world database on protected areas, maintained in partnership with the IUCN World Commission on Protected Areas. The world database currently holds more than 100,000 records of protected areas and was launched into the public domain at the Fifth World Parks Congress in September 2003.

31. The United Nations List of Protected Areas is compiled from information provided by national protected area agencies and other organizations to the world database of protected areas and through literature search. The 2003 version was also launched at the Fifth World Parks Congress. However, the 2003 United Nations List of Protected Areas includes all protected areas from all countries and territories, provided that they comply with the IUCN protected areas definition, with or without IUCN management categories assigned, regardless of the size, and including international and regional designated sites.

32. Another important source of data on forests is the FAO Global Forest Resource Assessment 2000. It is based on national reports from country correspondents. Unfortunately, many countries have not provided information on protected areas, so the general overview on protected forest areas in the report is based on additional information submitted by industrialized countries and an updated map of the UNEP WCMC protected forest areas.

2. Protected forest areas: distribution and geographical variation

33. The Global Forest resource Assessment estimated that around 12% of the world's forests are included in IUCN protected areas categories I- VI. However, the draft 2003 *State of World's Protected Areas* suggests that the global total protection within these management categories may be somewhat lower (around 10.5%) and total global forest protection including areas not assigned to management categories is around 16%. This assessment was done using recent version of the world database on protected areas in combination with an approximate map of global forest cover derived from the Global Land Cover Database. According to this analysis, the most protected forests are tropical moist forests and temperate needle-leaf forests, which have over 11% of their area included in protected areas and tropical dry forests are the least protected with less than 9% of their area included in protected areas belonging to management categories I-VI. About 10% of the temperate broad-leaved forests are included under protected area of various IUCN categories. The draft *State of World's Protected Areas* also states that total amount of forest area protected is higher than these figures suggest, as about two million km^2 of these forest types are also included under protected areas that do not fall under any of the IUCN management categories. Protected areas not belonging to any IUCN management categories have particular significance in tropical moist forests. In this forest type, the area of these undetermined management category protected areas is almost equal to that of IUCN management category protected areas.

34. Regarding regional variation, Central America, South America, Eastern and Southern Africa and Australia/New Zealand have 25% or more of their forests within some kind of protected area. If only protected areas in IUCN management categories are considered, only Australia /New Zealand and Central America have more than 20% of their forests under protection. Forests in North Africa and the Middle East and in the Pacific are particularly poorly protected with less than 5 % of their area included within protected areas in IUCN categories I-VI.

35. While the forest categories included in the draft *State of World's Protected Areas* are very broad, a previous analysis carried out by WCMC stated that freshwater swamp forests in both tropical and

temperate regions, mixed needle-leaved and broad–leaved forests in tropical and tropical thorn and sclerophyllous dry forests are poorly protected.

36. The total number of sites and their extent in different forest biomes according to the 2003 United Nations list is given in table 2.

Table 2: Number and area of different protected forest sites according to the 2003 United Nations list

Forest biomes	Total Number of protected sites	Extent (Km^2)	% Biome protected
Tropical humid forests	2,799	2,450,344	23.31
Subtropical/temperate rain forests	5,969	665,174	16.92
Temperate needle-leaf forests	9,842	1,350,221	8.61
Tropical dry forests	4,195	2,210,563	12.77
Temperate broad leaf forests	26,394	856,502	7.64
Evergreen sclerophyllous forests	4,195	399,587	10.64

37. There are some differences in the percentage of protected areas of different forest types between data sets of draft *State of World's Protected Areas* and the 2003 United Nations list. This is due to the fact that the 2003 United Nations list includes all protected areas irrespective of IUCN management categories, Whereas the draft *State of World's Protected Areas* only considers protected areas that fall within IUCN management categories. According to the United Nations list, the maximum number of protected forest sites occur in the temperate broad-leaf forest type, whereas tropical humid forests have least number of sites. However, a diametrically opposite situation emerges in terms percentage of the total forest type protected(7.64% and 23.31 % respectively).

38. FAO estimates that about 12% of the world's forests fall within protected areas (FAO 2001). However, there is some discrepancy between FAO assessment and the maps of protected areas developed by WCMC. To illustrate this, the area under different forest biomes calculated by WCMC and FAO is given in tables 3 and 4.

39. According to the data compiled by the WCMC, the percentage of protected temperate forest biomes is very less when compared to tropical humid forests. In temperate zones (temperate needle-leaf forests and temperate broad leaf forests) the percentage of biome protected is well below 10%, where as in tropical humid forests it is 23%.

Table 3: Protected forest area estimation by UNEP-WCMC

Biome (UNEP-WCMC)	Total area of biome ($km^{2)}$	Protected area ($km^{2)}$	Protected area (% of total area)
Tropical humid forests	10,510,000	2,450,000	23.3

Biome (UNEP-WCMC)	Total area of biome ($km^{2)}$	Protected area ($km^{2)}$	Protected area (% of total area)
Tropical dry forests/woodlands	17,310,000	2,210,000	12.8
Sub-tropical/temperate rainforests/woodlands	3,930,000	660,000	16.9
Temperate needle-leaf forests/woodlands	15,680,000	1,350,000	8.6
Temperate broad-leaf forests	11,210,000	850,000	7.6
Evergreen sclerophyllous forests	3,750,000	400,000	10.6
Total	62,390,000	7,920,000	

Table 4. Protected forest area estimation by FAO

Ecological domain	Total area (km^2)	Protected area (km^2)	Protected area (% of total area)
Tropical	19,970,000	3,040,000	15.2
Subtropical	3,700,000	420,000	11.3
Temperate	5,070,000	830,000	16.3
Boreal	9,950,000	490,000	5.0
Total	38,690,000	4,780,000	12.4

3. Representativeness, comprehensiveness and adequacy of protected forest areas

40. To be effective, forest protected areas must include the full range of forest ecosystems across a landscape (comprehensiveness), reflect the diversity within ecosystems by sampling different areas of the same ecosystem type across the landscape (representativeness), and the network of protected areas must maintain ecological viability and integrity of populations, species and communities (adequacy) (Kanowski et al 1999; Frankel et al 1995).

41. From the foregoing account only about 12% of the global forest area is under a protected category with geographical and forest type variations. The question then is: what are the criteria for assessing comprehensiveness, representativeness and adequacy? Do the existing forest protected areas meet this criteria?. How effective are protected forest areas in conserving forest biological diversity? Practical approaches for assessing representativeness, comprehensiveness and adequacy are still not available and this is further clouded by the lack of consensus on forest classification systems. Although some general studies about the efficacy of protected areas in conserving the species and landscapes are available, specific studies or reports pertaining to forest protected areas in different geographical regions and for

different forest types are lacking. The participants in the Workshop are invited to exchange information on these issues.

42. The general data on the extent of protected areas in different biomes are relevant to measure the progress towards the increase in protected areas, but they provide only limited information (insight) into the actual conservation of biological diversity. Information on protected area coverage of global rare and exceptional forest types, like montane tropical cloud forests, mangrove forest, riparian forests and temperate rain forests, and of vulnerable types like semi-arid and Mediterranean forest ecosystems is still not available. For mangrove forests, for instance, the total area has decreased by 1%, from 16.3 million hectare in 1990 to 14.6 million ha in 2000 (FAO, State of the World Forest 2003). How much of these mangrove forests are included in protected areas is not known. Only when forest associations or vegetation communities have been thoroughly surveyed and mapped, will it be possible to assess the contribution to the overall conservation of forest biological diversity and the main gaps that exist.

43. It is also generally agreed that the existing systems of protected areas are not sufficient to meet the role anticipated by the Convention of conserving representative components of biodiversity and of meeting the target of significantly reducing the rate of biodiversity loss by 2010. Many of the planet's important forest areas are either not represented or inadequately represented by protected areas. In addition many unique sites and biodiversity hotspots are not, or not adequately, protected.

44. To evaluate the efficacy of protected areas, an understanding of the various threats to protected areas is essential, since many threats undermine the maintenance of ecological viability and integrity of populations, species and communities. Direct and indirect threats to protected areas as well as their underlying causes have been reviewed by many authors (e.g. WRI *et al.* 1992, UNEP, 1995; Carey *et al*. 2000). A detailed account of threats to protected areas is also available in the report of the Ad Hoc Technical Expert Group on Protected Areas and the Durban Action Plan of the World Parks Congress. An IUCN survey conducted in 1999 in 10 key forest countries identified management and security as the two key issues (IUCN 1999).

45. The annual loss of about 12.5 million hectares of natural forest as result of deforestation and fragmentation including changes in land-use and unsustainable logging is an important threat factor. Deforestation and subsequent fragmentation of forest areas, has a negative impact especially on species with large home range and enhance the effect of negative impacts. Additional threat factors include the impact of climate change, hunting and wildlife trade of the species living in protected areas.

46. Threats to protected areas are not confined to developing countries or to the tropics. Loss of old-growth forest in Europe and North America, for example, has been nearly complete in most areas except the boreal north, and remaining forest fragments within protected areas are under threat from air pollution, acid rain, overuse of national parks, and other threats.

47. From the foregoing account, it can be concluded that more than 10% of the world`s forest area is protected. However, there is only limited information available on the representativeness of the current protected areas with regard to different forest types. Participants in the Workshop may therefore wish to make recommendations on:

(a) The need to further promote the work on the development of harmonized regional and national forest classification systems, based on harmonized and accepted forest definitions as mentioned under programme element 3, goal 1, of the programme of work on forest biological diversity;

(b) The need for developing a practical methodology for assessing the comprehensiveness, representativeness and adequacy of protected forest areas taking into account different geographical and socio-economic conditions;

(c) Requesting SBSTTA to make recommendations to the Conference of the Parties on the establishment of comprehensive and representative national systems of protected forest areas, taking into account the draft programme of work on protected areas.

B Establishment, with full participation and with respect for rights of indigenous and local communities, and other relevant stakeholders, of comprehensive, adequate, biologically and geographically representative networks of protected areas (agenda item 3.2 (b) and part of (d))

48. Item 3.2(b) has two components: (i) how to establish(planning, selection and establishment) network of protected forest areas; (ii) stakeholder involvement in particular indigenous and local communities in the establishment of networks of protected forest areas. The following paragraphs provide a brief account of various approaches for planning and establishment of protected area sites and general approaches for stakeholder participation. A detailed account of these approaches is available in the report of the Ad Hoc Technical Expert Group on Protected Areas (UNEP/CBD/SBSTTA/9/INF/3) and the working documents on protected areas prepared for the ninth meeting of SBSTTA (UNEP/CBD/SBSTTA/9/5/Rev.1, UNEP/CBD/SBSTTA/9/6 and Add.1 and 2).

1. Establishment of networks of protected forest areas

49. In the context of the Convention, protected-areas planning can be undertaken as part of the development of national biodiversity strategies and action plans. In this and other contexts, a number of priority-setting methods have been proposed and implemented over the past decade or more. The scope of these methods varies, from broad-brush global approaches to detailed national and even local approaches. Some of the best known approaches for setting protected area planning include: the "*hotspot*" ; the "*major wilderness area"*; the "*megadiversity country";* the WWF "G*lobal 200*"; the "*Frontier Forests*"; the *"Important Bird Area (IBA)"*; "*world's natural cultural diversity"* of the World Heritage Convention and "*Biosphere reserves*" of the UNESCO Man and Biosphere programme.

50. Selection of protected areas can be guided by scientific tools aiming for evaluating a protected-areas network in terms of its potential to sustain viable populations of focal species. These methods include site-selection algorithms that select the optimal set of sites given one or several sets of criteria (e.g. number of species, habitats/ecosystem types, minimized edge lengths, etc.). These methods can be applied both at the planning stage for setting up a new protected area system and to evaluate existing systems (Margules and Pressey, 2000). Some countries and organizations developed and published guidelines and methodologies for protected area site planning. Notable among them are: best-practice guidelines on national system planning for protected areas by the IUCN World Commission on Protected Areas and the Ecoregional Approach Methodology developed by the Nature Conservancy (Groves *et al*. 2002). Both the WCPA and ERP frameworks for protected-areas system planning point out that the process by which a plan is prepared is as important as the ultimate content of the plan (Davey, 1998). Annex IV to recommendation VIII/3 B adopted by SBSTTA at its eighth meeting provides guidelines for the development of national systems of marine and coastal protected areas.

51. The planning and establishment of particular protected area sites require a more detailed process of ecological and socio-economic assessment. Most countries already have detailed methodologies for protected area site planning written into relevant legislation and regulations. Any new site planning methodology needs to be built on latest conservation science, and some examples of new methods include:

(a) The "Five–S Framework for Site Conservation" developed by The Nature Conservancy, which provides an approach to identify the key targets for conservation at a site, analysing threats, evaluating capacity, devising management strategies, and establishing systems for monitoring the effectiveness of site management over time;

(b) The framework applied by Birdlife International in a number of African countries in collaboration with the Global Environment Facility. Key elements include: establishing the time frame; determining the institutional focal point, its mandate and expertise; analysing tenurial and legal status issues; analysing key threats and developing responses; developing a monitoring system; promotion of the site plan; assessment of available data and data gaps concerning biological and socio-economic

information; assessment of financial resources; and integration of the site into wider conservation networks and frameworks(Nicoll 2002, Birdlife International, 2001).

52. The Pan-European Ecological Network (PEEN) is an example of a network at international (regional) level, where a common systematic approach is adopted for the selection of a representative network of protected areas in the European Union. At a pan-European level this work is supported by the Pan-European Biological and Landscape Diversity Strategy (PEBLDS) and by the Ministerial Conference for the Protection of Forests in Europe (MCPFE).

53. The Strategic Round Table on the Role of Protected Areas and Ecological Networks, held in The Hague on 5-6 June 2003, also highlighted the importance of ecological networks as an approach that provides opportunities to meet the objectives of conserving biodiversity, sustainable use and equitable sharing of benefits.

54. Transboundary protected areas provide another example of networks. The efficient conservation and management of natural areas crossing one or more borders often require the establishment of transboundary protected areas. Such initiatives have significant value in promoting cooperation between nations as well as great practical benefits for management. As of 2001, there were at least 169 complexes of two or more adjoining protected areas divided by international boundaries, involving a total of 667 protected areas representing 113 countries.

2. Stakeholder participation

55. Throughout the twentieth century, the number of protected areas steadily increased. The concept of protected areas also evolved from national parks and strict nature reserves to areas where management could ensure conservation of species, habitats and ecosystem functions and services, and guarantee the needs of local people living within or outside these protected areas. The widening of the range of conservation and sustainable use benefits delivered by protected areas led to a concomitant widening of the range of stakeholders—importantly including indigenous and local communities as key drivers and beneficiaries in many locations.

56. The establishment of protected areas affects the livelihoods and interests of many people, groups and institutions. Without local support, effective and sustainable management of a protected area becomes extremely difficult. Conversely, where local people support a protected area's establishment, effective management becomes infinitely easier. It is therefore widely recognized that local consultation and participation are key ingredients for success in protected area planning and design. The need for effective stakeholder participation arises, in fact, at the stage of protected area system planning, when potential protected areas are being identified. This process must take socio-economic and local political factors—as well as biological criteria—into account, and this is done most accurately and effectively with the participation of key stakeholders. Stakeholder participation is particularly important in establishing access and user rights and defining the potential benefits from protected forest areas. The basic requirement is a broad and inclusive approach, recognising the full range of products and services that are provided by the forest areas under consideration.

57. The type and extent of participation will depend on local circumstances, including issues such as the rights, customs and traditions of indigenous and local communities in accordance with national law, available mechanisms and governance approaches, and the degree of interest of stakeholders. There is no one right way to facilitate effective stakeholder participation, since countries, cultures, and protected areas vary so greatly. There are, however, a number of general approaches and principles that protected-areas planners may wish to take into account and that are often used in combination. These include:

(a) Information sharing;

(b) Participatory assessment;

(c) Benefit-sharing**;**

(d) Building capacity for local stakeholder participation;

(e) Involvement in decision making; and

(f) Community-led conservation.

58. Participation is one of the core elements in the process and preparation of national biodiversity strategies and action plans. Likewise, in the development of national forest programmes participation is considered one of the key issues.

59. An independent review by FERN on customary use of biological resources in accordance with traditional practices in 23 countries revealed positive examples and efforts in several countries, but very few countries have developed a systematic approach to customary use of local and indigenous communities. This seems to be one of the areas where major progress could be made.

60. The Conference of the Parties specifically considered full and effective participation of indigenous and local communities in the implementation of the Convention. In paragraph 12 of decision V/16, the Conference of the Parties detailed a number of actions that should be taken to facilitate the participation of indigenous and local communities. The Ad Hoc Technical Expert Group on Protected Areas has identified elements of a programme of work on protected areas under the Convention. Goal 2.5 of programme element 2, on enabling activities, deals with stakeholder involvement. One of the suggested activities includes the development by Parties of specific plans and initiatives to involve stakeholders in all levels of protected areas establishment and management of protected areas. In addition, the programme of work also calls upon Parties to ensure an enabling environment for the involvement of local and indigenous stakeholders in decision making, and in the development of their capacities and opportunities to establish and manage community-conserved areas and private protected areas (UNEP/CBD/SBSTTA/9/6). Similarly, programme element 1, goal 4, objective 3 of the programme of work on forest biological diversity reiterates the need for active involvement of local and indigenous communities.

C Establishment of restoration areas to complement the network of protected forest areas (agenda item 3.2 (c))

61. Forest restoration is reflected in the expanded programme of work on forest biological diversity, which explicitly emphasizes restoration of forest biological diversity in programme element 1, goal 3, objective 1. The principles of the ecosystem approach, described in programme element 1, goal 1, objective 1, reflect the relevance of the landscape approach. Although not specifically aimed at protected areas, the development of the concept of forest restoration has important implications for protected areas; it can contribute to both an increase in the area as well as an enhanced quality of protected areas. The recent development of the concept, and its further broadening by introducing the idea of "forest landscape restoration" is therefore extremely relevant for a broader approach to protected areas.

62. The basis for the concept of forest restoration was prepared in 1996, with the launch of the WWF and IUCN "Joint Forest Strategy". A special workshop on forest restoration held in Segovia, Spain, in July 2000, further elaborated the concept, underlining the relevance of the social, environmental and economic aspects of restoration, and the importance of the landscape scale.

63. Forest landscape restoration seeks to strengthen the relationship between rural development, forestry and other natural resource management and conservation approaches. It shifts the emphasis from simply maximizing tree cover or protection on individual sites to optimizing the total supply of forest benefits such as clean water, nature conservation and timber production within a broader landscape. It thus contributes to synergy between the main environmental conventions, including the work of the UNFF. During the XII World Forestry Congress, the Global Partnership on Forest Landscape Restoration was represented. Partners include IUCN, WWF, the Forestry Commission of Great Britain, the Government of Kenya, ITTO, CIFOR, ICRAF, CARE, UNFF, FAO, UNEP-WCMC, and SCBD, and many more partners are exploring how to contribute.

64. The relevance of forest landscape restoration is evident. Many forest types, especially in developed countries, have been changed into agricultural land, have disappeared as a result of urbanization or are fragmented as a result of infrastructure development. Often only very small remnants

of forests are left like small islands in an endless ocean of agricultural land. In the tropics, the situation is not very different, with some 850 million hectares of secondary forests and severely degraded land where society would benefit from restoration or rehabilitation. Recently, CIFOR, together with national partners from China, Viet Nam, the Philippines, Indonesia, Peru and Brazil, has been analysing rehabilitation projects over the past two decades, with the aim of synthesizing the lessons learned and using them as a basis for extension of the relevant lessons to other countries or regions.

65. IUCN has started regional initiatives on forest landscape restoration in the Lower Mekong Basin and in several African countries. Other interesting cases to illustrate this "landscape approach" and the "broadening" of the concept of protected areas can also be found in the United States of America, where the national system evolves to include many different kind of protected areas, mainly consisting of forests (Brown, *et al*., 2003), and in southern Kenya, where conservation outside protected areas is impossible due to declining land area, increasing population, alienation of local people and lack of socio-economic incentives. A new "landscape" approach seeks to incorporate local wishes and associated cultural resources by introducing community wildlife sanctuaries as an integral part of Maasai group ranches (Wishitemi, E.L. and Okello, 2003).

66. Over the last few decades, there has been a growing acknowledgement that forest conservation goals can only be met through integrated strategies that include, but are not limited to, protected areas. Protected forest areas are seldom, if ever, adequate to achieve conservation goals in isolation from the complementary management of other forest areas (Kanowski, *et al*., 1999). The landscape restoration approach could be a useful instrument to address this problem.

67. Besides the official and legally protected areas, which cover about 11.5% of the land surface, numerous other approaches exist to conserving forest biological values outside these "official" protected areas, where protection is arranged at a finer jurisdiction level and where management is ensured by provinces, villages or communities, or groups of interested people. Examples include:

(a) Informal forest reserves on public land, where values are secured through secure tenure or agreed management plans;

(b) Voluntary agreements and conservation covenants for forest on private, community or traditional lands;

(c) Set-aside of important areas or biotopes or special management regimes for biodiversity conservation in the framework of major forest certification schemes;

(d) Appropriate forest management regimes, expressed in codes of practice, management plans or certification schemes.

68. Participants in the Workshop may wish to endorse forest landscape restoration as an important approach towards considering protected areas in the broader framework of land use, as well as for effective participation of stakeholders. Since, this approach has the potential to meet the twin objectives of conservation and poverty alleviation. Participants may also wish to make recommendations for the further clarification of the role of the landscape approach and its contribution to the development of effective network of protected areas.

D. Ways and means to ensure that protected areas are managed to maintain and enhance their biodiversity components, services and values (agenda item 3.2 (f))

69. Protected areas are a cornerstone of biodiversity conservation. However, given the fierce competition for land and resources around the world, it is important that protected areas be strategically situated with respect to their biogeographic, ecological, and socio-economic contexts. They also need to be effectively managed. Key factors for achieving effective management of protected areas include strategic planning, implementation of the management plan, good governance, stakeholder participation, clear legal or customary frameworks to prevent damaging activities, effective compliance and

enforcement, ability to control external activities that affect the protected area, availability of the required human and institutional capacity and sustainable financing.

70. Recognizing that the existing system of protected areas is incomplete and requires strengthening, expansion and consolidation, the World Parks Congress called for a global system of protected areas that will safeguard all globally and nationally important areas for biodiversity. The Congress reiterated that a comprehensive and well managed system of protected areas is an essential basis for maintaining the biological diversity and ecosystem services necessary for sustainable development and achievement of the Millennium Development Goals.

71. Despite their acknowledged importance, comprehensive evaluations of the effectiveness of protected areas have been relatively rare, or have tended to focus on monitoring biological conditions, assessing only a limited set of management indicators (Sweatman 1997). One-off evaluations of a management agency or one of its programmes have been more common, and over the past few years, non-governmental organizations have become increasingly involved in undertaking assessments of protected area effectiveness (Kothari et al 1989). At regional and global scales, publications such as the United Nations list of protected areas, *Protecting Nature: Regional Reviews of Protected Areas* (Mc Neely *et al* 1994), and regional overviews such as *Protected Areas Systems Review of the Indo-Malayan Realm* (Mackinnon 1997), have provided some information on management effectiveness. However, these reviews were not intended to provide systematic evaluations of management effectiveness, and do not do so.

72. Evaluation is part of adaptive management, a circular process that allows information concerning the past to feed into and improve management in future. Adaptive management is an essential tool of the ecosystem approach (see decision V/8 of the Conference of the Parties). Evaluation of the management goals and the achieved results is also an important aspect of several main schemes for certification of sustainable forest management; a useful elaboration of the principles is provided by ISO 14.

73. In the past few years, efforts to develop robust and comprehensive approaches for evaluating effectiveness of individual or systems of protected areas have proliferated. Most prominent among these is the IUCN "framework for assessing management effectiveness" (Hockings *et al* 2000) developed in collaboration with WWF, the World Bank and the World Heritage Convention. It provides an "umbrella" of guiding concepts under which a range of more specific methodologies has been developed. A key aspect of this framework is that it may be used to build an evaluation methodology at the level of an individual protected area or for a system of related protected areas. Components of the IUCN framework include design of systems and individual protected areas (context and planning), appropriateness of management systems and processes (inputs and processes), and delivery of protected area objectives (outputs and outcomes).

74. The IUCN management effectiveness framework does not provide a detailed methodology for assessment, since the methodologies used in different contexts must be fitted to the purpose and context of a particular evaluation. The World Heritage Convention, for example, has collaborated with IUCN and other partners to adapt the IUCN Guidelines into a manual and workbook for evaluating management effectiveness at World Heritage sites (UNESCO-IUCN 2001). Many other context-specific methodologies for the evaluation of protected-areas management effectiveness have been developed. 4/

75. The World Parks Congress emphasized that a strong protected areas programme of work, under the Convention on Biological Diversity, including specific targets and timetables, is essential for meeting the targets of substantially reducing the rate of biodiversity loss by 2010. The Congress recognized that accomplishing these biodiversity–focused targets will be possible only if equal attention is given to setting and meeting targets for the following enabling activities :

(a) More equitably sharing the costs and benefits of protected areas establishment and management;

4/ See appendix III to the report of the Ad Hoc Technical Expert Group on Protected Areas (UNEP/CBD/SBSTTA/9/INF/3).

(b) Building capacity;

(c) Improving the effectiveness of protected areas management and governance;

(d) Increasing financial support—particularly in developing countries.

76. Programme element 2 of the draft programme of work on protected areas (UNEP/CBD/SBSTTA/9/6) deals with enabling activities and the proposed goals include: policy and institutional reforms; capacity building ; financial sustainability; education and communication. Detailed activities for Parties and supporting activities under these goals are also proposed.

77. Capacity building is of paramount importance for the effective management of protected areas. As the scope of protected areas management has expanded to embrace a wider variety of governance and management models (ranging from the "traditional" national park to protected areas managed by local governments, private land-holders, non-governmental organizations, and local and indigenous communities), the skills required to mange protected areas are both broader and more specialized than in the past. Against this background, the World Parks Congress in its message to the Convention emphasized the need to develop and implement by 2006 a strong, comprehensive and sustainable programme on capacity-building , working with an array of relevant institutions, learning networks and centres of excellence.

78. Setting priorities and carrying out systematic planning are important steps in establishing effective protected-areas networks, but ultimately, the effectiveness of protected areas comes down to questions of governance and management: who has the authority over the area; who bears the responsibility; who is accountable to whom? There is no one globally applicable prescription for good governance. The traditional model of a single national protected-areas agency managing parks owned by the State is not the only protected-area governance and management system. Around the world there many other systems are in vogue such as: decentralized governance by provincial/state or local government units; co-management arrangements between governments, local communities and other stakeholders; indigenous territories managed for conservation purposes by indigenous communities with or without the support and concurrence of the government; community-conserved areas voluntarily established by local and indigenous communities, whether legally recognized by governments or not; protected areas governed by private-sector entities (both non-profit and for-profit) under contract or outright private ownership.

79. Decentralization of protected-area governance and management and community-based approaches have received a lot of political attention in recent years. Decentralization has many advantages, but national Governments need to retain a clear role in setting minimum standards for protection and need to maintain functional and institutional links.

80. The Durban Action Plan stresses the importance of good governance. Noting that the quality and consistency of governance varies greatly throughout the world, it calls for providing effective mechanisms to incorporate local voices and traditions and to provide checks and balances in decentralized structures.

81. Significant additional financial resources are needed to support an effective global system of protected areas. It is widely recognized that the financial resources available for biodiversity conservation in general and protected areas in particular are grossly inadequate, particularly in the developing countries. According to one study, the total annual cost of a global, representative system of protected areas would be some US$ 45 billion, including the costs of establishing new areas, recurrent management costs, and payments to meet private opportunity costs of existing and new areas (Balmford *et al.,* 2002).

82. The World Parks Congress noted that while the last decade has seen a massive growth in the number and extent of protected areas, funding has only increased modestly, and as much as $25 billion additional annual support is now required to establish and maintain a comprehensive, effective system of protected areas. The Congress identified the following three basic transformations for raising such sums, for using them effectively on ground, and for their sustainability over time:

(a) Governments and donor agencies must be convinced – through realistic and systematic valuation exercises – that the goods and services provided by protected areas are worth investing in as priority elements of development and poverty alleviation, rather than just conservation-oriented "set-asides";

(b) A broader spectrum of financial instruments and strategies need to be employed to complement the role of "traditional" donors such as the Global Environment Facility and bilateral aid agencies, including protected area business planning, trust funds, conservation concessions, redirection of perverse subsidies to support conservation initiatives, capture of the value of ecological services such as watershed protection, and mobilization of "green" private sector investment; and

(c) The absorptive capacity to effectively utilize increased funding in transparent and accountable ways needs to be strengthened, or neither donors nor private sector investors are likely to heed the call for increased support for protected areas.

83. Participants in the Workshop, while noting the important progress towards developing a framework for the evaluation of the management effectiveness of protected areas, may wish to recommend:

(a) The development of practical, efficient and cost effective evaluation tools and methods;

(b) The development of, and agreement on, a set of simple, regional or national indicators to measure the success of forest biological diversity conservation;

(c) Effective ways and means to develop and support decentralized management to the subnational or local levels, necessary to create an effective network of protected areas;

(d) Effective ways to increase support for and promote participatory management.

REFERENCES

Balmford, A., Bruner, A., Cooper, P., Costanza, R., Farber, S., Green, R. E., Jenkins, M., Jefferiss, P., Jessamy, V., Madden, J., Munro, K., Myers, N., Naeem, S., Paavola, J., Rayment, M., Rosendo, S., Roughgarden, J., Trumper, K., Turner, R.K. 2002. "Economic Reasons for Conserving Wild Nature." Science Vol, 297. August 9

BirdLife International. 2001. Guidelines for Important Bird Area Site Action Planning. Africa NGO-Government Partnerships for Sustainable Biodiversity Action Project.

Brown, J. Mitchell, N. and Tuxill, J. 2003. Partnerships and lived-in landscapes: an evolving US system of parks and protected areas. Parks 13(2):31-41

Bruner, A. Gullison, R. E., Rice, R. E., da Fonseca G. A. B. 2001. "Effectiveness of Parks in Protecting Tropical Biodiversity". Science Vol. 291:125-128.

Carey, C., N. Dudley and S. Stolton. 2000. Squandering Paradise? The importance and vulnerability of the world's protected areas. Gland, Switzerland: WWF.

Davey, A.G. 1998. National System Planning for Protected Areas. Gland, Switzerland and Cambridge, UK: IUCN.

Frankel,O, A.H.D, Brown and J.J. Burdon 1995. The Conservation of Plant Biodiversity, Cambridge University press.

Groves, C.R., D.B. Jensen, L.L. Valutis, K.H. Redford, M.L. Shaffer, J.M. Scott, J.V. Baumgartner, J.V. Higgins, M.W. Beck, and M.G. Anderson. 2002. "Planning for Biodiversity Conservation: Putting Conservation Science into Practice." BioScience Vol. 52 No. 6. June. pp. 499-512.

Hockings, M., S. Stolton and N. Dudley. 2000. Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas. Gland, Switzerland and Cambridge, U.K.: IUCN.

FAO, 2001. Global Forest Resources Assessment 2000. FAO Forestry Paper 140, Rome, Italy. 479p.

FERN,2002. Status of Implementation of Forest – related Clauses in the CBD. Commissioned by the Global Forest Coalition, March 2002.

Global Biodiversity Outlook 2001. Secretariat of the Convention on Biological Diversity.

IUCN. 1994. Guidelines for Protected Areas Management Categories. CNPPA with assistance of WCMC. Gland, Switzerland and Cambridge, UK: IUCN.

IUCN. 1998. Economic Values of Protected Areas: guidelines for protected area managers. Produced by the Task Force on Economic Benefits of Protected Areas of the World Commission on Protected Areas (WCPA) of IUCN in collaboration with the Economics Services Unit of IUCN.

IUCN. 1999. Threats to Forest Protected Areas: Summary of a survey of 10 countries carried out in association with the World Commission on Protected Areas. Research Report for the World Bank/WWF Alliance for Forest Conservation and Sustainable Use. November.

Kanowski, P.J. Gilmour, D.A., Margules, C.R. and Potter, C.S. 1999 International Forest Conservation: Protected areas and beyond. Commonwealth of Australia

Kothari, A., Pande, P., Singh. S. and Variava, D. 1989. Management of National Parks and Sanctuaries in India: A Status Report. New Delhi: Indian Institute of Public Administration.

MacKinnon, J. (Ed.) 1997. Protected Area Systems of the Indo-Malayan Realm. Hong Kong: The Asian Bureau for Conservation Limited.

McNeely, J.A., J. Harrison and P. Dingwall (Eds.) 1994. Protecting Nature: Regional Reviews of Protected Areas. Gland, Switzerland and Cambridge, UK: IUCN.

Margules, C.R. and R.L. Pressey. 2000. "Systematic conservation planning." Nature Vol. 405: 243-253.

Nicoll, M. 2002. "Conservation and Ecological Monitoring within Madagascar's Protected Areas. Status Report." October (Unpublished manuscript.)

Sweatman, H. (Ed.) 1997. Long-Term Monitoring of the Great Barrier Reef: Status Report Number 2. Townsville, Australia: Australian Institute of Marine Science.

UNEP, WCMC IUCN 2003. State of the World's Protected Areas (Draft)

UNEP, WCMC IUCN 2003. United Nations List of protected Areas

UNEP. 1995. Global Biodiversity Assessment. Cambridge University Press

UNEP. 2002. Global Environment Outlook-3: Past, present and future perspectives. United Nations Environment Programme, Nairobi, Kenya and Earthscan.

UNESCO/IUCN. 2001. The Enhancing Our Heritage Toolkit. A training manual on how to build assessment, monitoring and reporting systems on the management effectiveness of World Heritage Sites.

Wishitemi, B.E.L. and Okello, M.M. 2003. Application of the protected landscape model in southern Kenya. Parks 13(2):12-21.

WRI, IUCN and UNEP. 1992. Global Biodiversity Strategy: Guidelines for action to save, study and use Earth's biotic wealth sustainably and equitably. ISBN: 0-915825-74-0.

LIST OF ACRONYMS AND ABBREVIATIONS

ERP	Ecoregional Planning
IBA	Important Bird Area
FAO	Food and Agriculture Organization of the United Nations
MAB	UNESCO – Man and the Biosphere programme
SBSTTA	Subsidiary Body on Scientific Technical and Technological Advice
UNEP-WCMC	World Conservation Monitoring Centre
WCPA	World Commission on Protected Areas
WPC	World Parks Congress
WRI	World Resources Institute
WWF	World Wide Fund For Nature
