

REPORT OF THE ELEVENTH

Global Biodiversity Forum

*Exploring Synergy Between the UN Framework Convention on
Climate Change and the Convention on Biological Diversity*

Buenos Aires, Argentina



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Convened by

IUCN – The World Conservation Union
World Resources Institute (WRI)
African Centre for Technology Studies (ACTS)
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IUCN National Committee for Argentina
Climate Action Network – Latin America
United Nations Institute for Training and Research (UNITAR)
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CONTENTS

Part I: Background to, and Emerging Issues from, the Forum

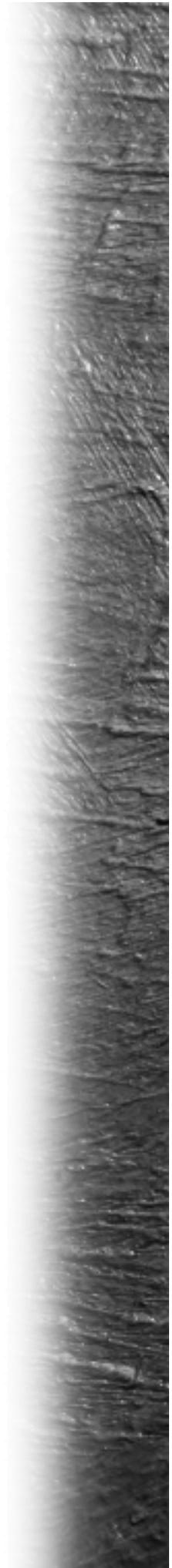
| | |
|---|-----------|
| Introduction | 7 |
| The Climate Change Agenda | 7 |
| International Efforts to Address Climate Change | |
| The UN Framework Convention on Climate Change | |
| The Kyoto Protocol | |
| Linking the Climate Change and Biodiversity Agendas..... | 9 |
| The Vulnerability of Ecosystems and Species to Climate Change | |
| Improving Resiliency to Climate Change | |
| Utilizing Biodiversity to Mitigate Climate Change | |
| Linking the Climate Change and Biodiversity Conventions..... | 11 |
| Thematic Programs | |
| National Strategies and Communications | |
| Financial and Economic Incentives | |
| The Global Biodiversity Forum (GBF)..... | 13 |
| The 11 th session of the Global Biodiversity Forum | |
| Emerging Issues from GBF 11 | 14 |
| Forests in the Climate Change Agenda | |
| Biodiversity, Climate Change and Finance | |
| National Strategies and Action Plans | |
| Sustainable Use and Climate Change | |
| Epilogue..... | 17 |
| End notes..... | 19 |

Part II: Forum Report

| | |
|--|-----------|
| Opening Plenary | 21 |
| Forests in the Climate Change Agenda..... | 22 |
| Overview of presentations | |
| Emerging issues | |
| Biodiversity, Climate Change and Finance..... | 25 |
| Overview of presentations | |
| Emerging issues | |
| National Strategies and Action Plans | 28 |
| Overview of presentations | |
| Emerging issues | |
| Sustainable Use and Climate Change | 30 |
| Overview of presentations | |
| Emerging issues | |
| Closing Plenary..... | 34 |
| Part III: Appendices | |
| Appendix 1: Statement of the GBF..... | 35 |
| Appendix 2: Participants List..... | 37 |

PART I

**Background to,
and Emerging Issues from,
the Forum**





INTRODUCTION

In 1896, Professor Svante Arrhenius published a paper in the *Philosophical Magazine and Journal of Science* theorizing that large scale burning of fossil fuels (first seen during the industrial revolution) could raise the concentrations of heat-trapping gases in the atmosphere and thus raise the surface temperature of the Earth. Over 100 years later, mounting evidence would suggest that Professor Arrhenius was, at least partially, correct.

The year 1998 was the warmest on record since 1860, capping off a consecutive 20-year warming trend, according to the World Meteorological Organization (WMO). Global temperatures are almost 0.7 °C above those a century ago, with the 10 warmest years all occurring since 1983 and seven of them since 1990.ⁱ

The year 1998 also witnessed one of the most severe El Niño events in recent memory. El Niño influenced climate around the globe including forest fires in Indonesia and Brazil, drought in Guyana and Papua New Guinea, flooding in China, Bangladesh, Ecuador, Peru and Kenya.

In China, floods resulted in the loss of over 3,000 lives while in Bangladesh, three major floods in just two months left 50% of the country under three meters of water for extended periods. In Central America, massive flooding and landslides, triggered by Hurricane Mitch, killed over 9,000 people, displaced 2.4 million and damaged over 130,000 homes.ⁱⁱ El Niño is also blamed for a wave of high sea surface temperatures that swept over many of the world's oceans in 1997-98, and for triggering one of the most extensive and severe coral bleaching episodes on modern record.

The events and aftermath of El Niño have served as a reminder of the intimate relationship between climate, natural resources and people, and are closely linked to one of the most important questions facing policy-makers today – the extent to which human activities have influenced the warming of the Earth over the last 100 years. Although the distinction between human-induced change and natural variability has yet to be fully resolved, there is a growing scientific consensus that human activities are having a discernible influence on the global climate.

With this background, a large number of organizations, including non-governmental organizations (NGOs) and international institutions, co-convened the 11th session of the Global Biodiversity Forum. The Forum, held during the fourth Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in November 1998, sought to address key ecological, economic, institutional and social issues related to the climate change agenda.

Part I of this report examines how climate change relates to ecosystems, species and people. The events that led up to the 11th GBF and the key themes and challenges emerging from the Forum are also described. Part II contains a full report from each of the four workshops as well as the opening and closing plenaries at the Forum.

THE CLIMATE CHANGE AGENDA

It is widely acknowledged that the amount of carbon dioxide and other so-called greenhouse gases in the atmosphere are increasing. Carbon dioxide in particular has increased by 30% over the last 200 years, primarily as a result of changes in land use (e.g. deforestation) and the combustion of fossil fuels, such as coal, oil and natural gas (e.g. in automobiles, industry and electricity generation). If current trends continue, the amount of carbon dioxide in the atmosphere will double during the 21st century, with further increases thereafter. The amounts of other greenhouse gases will also increase during the 21st century due primarily to human activities.

The accumulation of carbon dioxide and other greenhouse gases in the atmosphere will change the climate by enhancing the greenhouse effect, leading to an increase in the Earth's average surface temperature. Currently, the best estimate is that the global average surface temperature

will rise 1–3.5 °C (about 2–6 °F) by the year 2100 (relative to 1990), with continued increases thereafter. Because most greenhouse gases remain in the atmosphere for a long period of time, even if emissions from human activities were to stop immediately, the effect of accumulated past emissions would persist for centuries.ⁱⁱⁱ

International Efforts to Address Climate Change

Climate change was initially recognized as a serious problem meriting international attention at the First World Climate Conference in 1979. The Conference issued a declaration calling on the world's governments to prevent potential human-caused changes in climate that would adversely impact the well-being of humanity.

Greater understanding of the global climate and evidence of increasing concentrations of atmospheric carbon dioxide caused the United Nations Environment Programme (UNEP) and the World Meteorological Organization to establish the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC was given the responsibility of assessing the current state of knowledge on the science of climate change, and its potential ecological and social impacts, as well as framing options for mitigating and adapting to climate change.^{iv}

The IPCC published its First Assessment Report on Climate Change in 1990. The Report affirmed the underlying scientific basis of climate change. It also noted fossil fuel combustion from vehicles and industrial activities as one of the main contributors to human-induced carbon dioxide emissions. The Report also recognized the historic, current and future contributions of forest and land use activities to climate change.^v Using the IPCC report as a basis, the United Nations General Assembly established the Intergovernmental Negotiating Committee to begin negotiating a Framework Convention on Climate Change in 1990.

The United Nations Framework Convention on Climate Change (UNFCCC)

At the 1992 United Nations Conference on Environment and Development (the so-called Rio Earth Summit), the United Nations Framework Convention on Climate Change (UNFCCC) was signed by 154 governments. The stated objective of the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous, human-induced climate change. The Convention calls upon Parties to achieve that level in a

time-frame which will allow ecosystems to adapt naturally to climate change, and to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.^{vi}

The Convention divides the world into two groups: industrialized (Annex I) countries who have been primarily responsible for human-induced greenhouse gas emissions; and developing (non-Annex I) countries, who in the future will contribute to an increasing proportion of human-induced emissions. The Annex I group consists of 39 countries, including the US, Canada, the countries of the European Union, Japan, Australia, Poland, and Russia. The Convention specifies that these two groups have common but differentiated responsibilities for tackling the climate change problem.

Among the common responsibilities, Parties are obligated to develop national inventories of greenhouse gas emissions by source and removals by sinks.^{vii} They are also committed to developing national strategies for adapting to, and mitigating climate change, and to take climate change considerations into account in the social, economic, and environmental policies. Further, Parties are called upon to promote the sustainable management, conservation, and enhancement of sinks of greenhouse gases, including forests and all other terrestrial, coastal, and marine ecosystems.

The Parties designated the Global Environment Facility (GEF) as an interim financing mechanism. In addition, the UNFCCC recognized the concept of 'Joint Implementation.' Under Joint Implementation, Parties acting under the auspices of the Convention voluntarily agree to undertake a project to reduce, avoid or sequester greenhouse gas emissions. In a subsequent meeting, a pilot phase was established to gain experience with Joint Implementation.

In recognition of their historical, and therefore differentiated, responsibilities for the build-up of greenhouse gases in the atmosphere, developed nations committed under the UNFCCC to voluntarily reduce emissions to 1990 levels by the year 2000. The UNFCCC instructed the first Conference of the Parties to determine whether developed country commitments were adequate.

Three years later, emissions in most industrialized countries were above 1990 levels and in some cases rising steadily. At the first Conference of the Parties in 1995, Parties recognized that voluntary commitments were

inadequate and agreed to the Berlin Mandate, which called for Parties to initiate a process for strengthening the commitments of Annex I Parties in the period beyond 2000. A separate subsidiary body, the Ad Hoc Group on the Berlin Mandate, was created to draft a protocol for adoption at the third Conference of Parties in 1997. The Berlin Mandate talks were given a significant push when the IPCC issued its Second Assessment Report in 1995 concluding "the balance of evidence suggests a discernible human influence on the global climate."^{viii}

The Kyoto Protocol

On December 11, 1997, delegates from 160 nations agreed to the Kyoto Protocol to the UNFCCC. The Protocol calls for the first ever legally binding commitments to reduce carbon dioxide and other greenhouse gas emissions. While individual country commitments vary, the Protocol calls for an overall reduction by five per cent from 1990 levels. Those countries with commitments are those Annex I Parties to the Convention. Developing (non-Annex I) countries have no commitments.

To accommodate national circumstances, each Annex I country agreed to a specific greenhouse gas reduction target. For example, Japan committed to a six per cent reduction, USA to a seven per cent reduction, while the European Union, as a group, committed to an eight per cent reduction. Not all Annex I countries agreed to a reduction; Australia was allowed an eight per cent increase from their 1990 emission level.^{ix}

These reductions must be accomplished within the 'commitment period' from 2008-2012. This five-year period was created to allow for increased flexibility in the timing of reductions. For example, Japan's emissions may be above the six per cent agreed reduction target in any given year during the commitment period, as long as the average over the five years is not. The Protocol requires inventories of the six major greenhouse gases.^x

To meet their Protocol commitments, Annex I countries have a number of options. They may:

- take domestic action to reduce emissions from their industrial sectors, such as replacing fossil fuel use with renewable energy sources
- take domestic action in the forest sector through a limited set of activities – afforestation and reforestation, that count as reductions, and deforestation, that counts as an emission



- utilize three market-based mechanisms created by the Protocol. Two of these (emissions trading and project-based credit trading) allow Annex I countries to buy, sell, or trade greenhouse gas reductions and emission allowances from other Annex I countries. The third mechanism allows Annex I countries to buy or trade project-based credits from non-Annex I countries – the Clean Development Mechanism.

LINKING THE CLIMATE CHANGE AND BIODIVERSITY AGENDAS

The Vulnerability of Ecosystems and Species to Climate Change

Climate change is considered to be one of the major threats to biodiversity at both the species and ecosystem levels. The main reason for this is because the rate of global climate change is projected to be more rapid than any change in climate that has occurred in the last 10,000 years. This is compounded by the fact that humans have altered the structure of many of the world's ecosystems making them less resilient to further change. Moreover, pollution and other indirect effects of the utilization of natural resources have increased since the

beginning of the industrial revolution. It is likely that many ecosystems will not be able to adapt to the additional stress of climate change without losing some of the species they contain or the services they provide.

The IPCC in its Second Assessment Report provided an authoritative and comprehensive assessment of the potential impacts of climate change on ecosystems.^{xi} According to the IPCC, regional changes in climate will alter forest function and composition significantly. About one-third of the existing forested area of the world will undergo major changes in species composition, and some forests may entirely disappear. Some species with climatic ranges limited to mountain-tops could become extinct because of habitat disappearance.

Climate change is expected to have a serious effect on desertification processes, at least in certain regions. In areas where the environment becomes drier and the soil becomes further degraded through erosion and compaction, desertification is likely to become irreversible. The global hydrological cycle is likely to intensify as a result of climate change and could have major impacts on regional water resources, especially in areas where the quantity and quality of water supplies are already a serious problem today, such as low-lying coastal areas, deltas and small islands.

The geographical distribution and extent of wetlands is likely to be altered, and some regional studies indicate a loss of wetlands as a result of climate change. Sea level rise and changes in storm patterns could result in the erosion of shores and associated habitat, increased salinity of estuaries and freshwater aquifers, altered tidal ranges in rivers and bays and increased coastal flooding. Coastal ecosystems, such as coral reefs, mangroves, and coastal wetlands are particularly at risk. Individual species will be more vulnerable because of climate change, and even where they are able to tolerate changes, they will have to deal with a variety of new competitors, predators, diseases, and alien species for which they have no natural defense. Finally, carbon stored in forests and wetlands, in particular peatlands undergoing transition, as a result of climate change, will likely be lost as CO₂, enhancing the greenhouse effect.

It is believed that climate change may lead to an increased incidence of floods and extreme weather events, such as hurricanes and windstorms. In the case of floods, this would put hundreds of thousands of people living in

the coastal zone and millions more worldwide at a greater risk of occasional storm-related flooding. The risk of hunger and famine may also increase in some locations due to shifting patterns of production in addition to other adverse impacts on coastal agriculture and infrastructure development. Communities that are currently struggling to improve their livelihoods will likely be made more vulnerable by climate change. Addressing the problem of climate change is central to efforts to conserve the integrity and diversity of nature and to ensure natural resources are used equitably and sustainably.

Improving Resiliency to Climate Change

Although climate variability and change pose risks to ecosystems and species, and social and economic systems, they also provide opportunities. Adaptation is an important approach for protecting ecological, social and economic systems. Actions that adapt to and mitigate the effects of climate change enhance the resilience of vulnerable systems, and reduce the risk of damage to human and natural systems from climate change and variability.^{xii}

Hurricane Mitch in 1998 devastated human settlements, crippled national and local economies, and displaced tens of thousands of people. The floods in Bangladesh and China had a similar effect. More often than not, the areas most affected were areas where the environment was the most degraded, and the people who were the most vulnerable were those most resource-dependent, including women and children. At the same time, protected areas and other areas with effective management regimes in place demonstrated an ability to buffer at least some of the adverse effects.

Good conservation and management practices today may therefore be the most cost-effective and practical way of dealing with the variations and changes in climate in the future. In order to develop such practices, it will be important to consider the vulnerability of human health, ecosystems, and socio-economic systems, and examine the role of communities in improving our ability to cope with the adverse effects of variations and changes in climate.

Utilizing Biodiversity to Mitigate Climate Change

The conversion and degradation of forest and grassland ecosystems are not only significant driving forces behind species extinction and the loss of critical ecosystem functions and services, but are also contributors to climate change.^{xiii} For centuries prior to the 1700s, carbon

Table 1 Forests and Land Use Change Under the Kyoto Protocol

Articles relevant to land use change and forests

- 3.3** Defines which activities may be utilized by industrialized countries during the 2008-2012 commitment period to achieve emissions reductions in particular human-induced afforestation, reforestation and deforestation that has occurred since 1990.
- 3.4** States that later Conferences of the Parties may include additional activities such as forest harvest and management to achieve emissions reductions.
- 6 and 17** Outline project-based credit and emissions trading between industrialized countries. These allow industrialized countries to trade emission allowances with other industrialized countries. Article 6 specifies project-based credit trading and explicitly refers to enhancing carbon storage and reducing emissions, such as by slowing deforestation and tree planting.
- 12** Outlines the Clean Development Mechanism (CDM). Allows industrialized countries to meet their reductions via projects in developing countries. There is no explicit mention of land use change and forest projects, making it uncertain that such projects will be allowed.

stored in terrestrial ecosystems were reduced as people converted temperate forests and grasslands into farms. Today, owing mostly to deforestation in the tropics, releases from land-based activities are probably greater than ever before, accounting for about 16 per cent of carbon flows into the atmosphere in 1991.^{xiv} In the coming years, as rates of deforestation continue to rise, CO₂ emissions are expected to increase even further.

Therefore, the conservation of forests offers important opportunities to protect biodiversity and slow climate change. For example, old-growth Douglas Fir forests in the Pacific Northwest of the United States, provide a critical breeding and feeding habitat to a range of species, such as the Spotted Owl and Northern Goshawk. These forests are also one of the most efficient storehouses of carbon.

Russia and Canada house most of the world's boreal forests, making these two nations critical carbon storehouses. However, further deforestation or degradation of these forests could potentially be a significant source of emissions. These same forests also harbor endangered animal species and are the traditional homelands of

indigenous peoples. Carbon sequestration potential, endangered forest regions, and biodiversity 'hot spots' often overlap, particularly in developing countries, offering opportunities for synergies among various concerns.^{xv}

The UNFCCC commits nations to promoting sustainable management and conservation of forests and other terrestrial, as well as marine, ecosystems. The Kyoto Protocol could provide opportunities to encourage the restoration, protection, and conservation of forests and other ecosystems within developed and developing countries. However, a great deal of work needs to be done to ensure that the ecological and social values of forests and other biodiversity are given adequate consideration.

LINKING THE CLIMATE CHANGE AND BIODIVERSITY CONVENTIONS

At present the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) are mainly implemented in parallel rather than jointly, yet the relationship between the two issues is profound. First and foremost, the goals of the CBD, encompassing conservation, sustainable use, and the equitable sharing of benefits, are unlikely to be achieved without taking climate change into account. Secondly, there are positive synergies that can be captured, and negative outcomes that need to be avoided, concerning the implementation of these two agreements. Thirdly, there are institutional linkages that could be further explored to avoid redundancy of effort and capture economies of scale in operation. There are a number of issues that immediately provide avenues through which Parties to the CBD and the UNFCCC could develop a mutually supportive relationship. These include: (1) thematic programs; (2) national strategies and communications; (3) financial and economic incentives.

Thematic Programs

Forests

Forests have been consistently identified as the single most important substantive topic that the CBD and the UNFCCC share. Article 4(d) of the UNFCCC explicitly calls on Parties to promote sustainable management and conservation of forests and other natural ecosystems that serve as sinks of greenhouse gases. The Kyoto Protocol recognizes a

limited set of forest activities – afforestation, reforestation, and deforestation – that could be used by industrialized countries to meet their legally binding commitments to reduce greenhouse gas emissions. Further, the Protocol allows for additional activities in the forest and land use sector, such as forest and land management practices, to be incorporated into the framework.

There are however no clear definitions for such forest activities, leading to concerns that countries may adopt a narrow focus toward forests and other natural ecosystems valuing them only for their carbon sequestration benefits. This could lead to policies that promote the development of fast growing, monoculture plantation forestry at the expense of the conservation and enhancement of biodiversity.

The CBD has developed a programme of work which focuses on research, criteria and indicators and development of technologies necessary for the conservation and sustainable use of forest biodiversity. The objectives of the programme are to develop measures and tools for enhancing integration of the principles of the Convention into national forest and land-use programmes; to identify financing mechanisms for these activities; and to contribute to the ongoing work in other international processes, including the UNFCCC. At CBD COP 4, the Parties noted the potential impact of the activities listed in the Kyoto Protocol on forest biological diversity and on other ecosystems; and requested “the Executive Secretary to strengthen relationships with... the United Nations Framework Convention on Climate Change and its Kyoto Protocol... with a view to making implementation activities and institutional arrangements mutually supportive.”^{xvi}

Marine and Coastal Biodiversity

Coral reef ecosystems are considered to be extremely sensitive to climate change, since many corals live on the upper edge of their temperature tolerance. These ecosystems provide a variety of goods and services to society, such as tourism, fisheries, and coastal protection but are continuously under stress from a variety of human activities. One

of the most severe coral bleaching events in modern record occurred in 1997-98, due to increased sea surface temperatures. Every major reef region in the world experienced bleaching, except the Central Pacific Ocean.

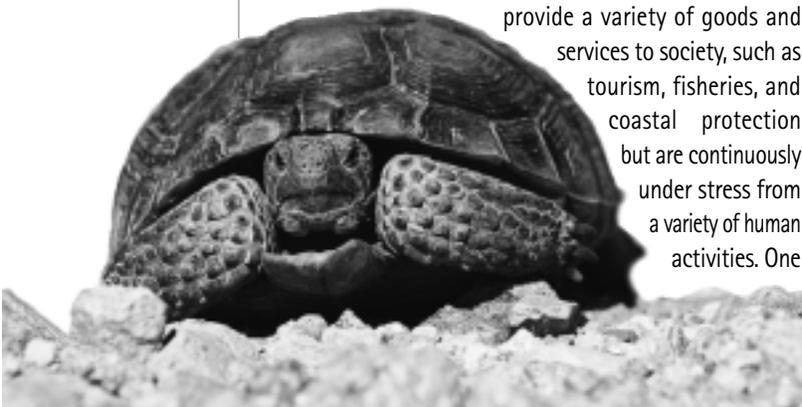
At CBD COP 4 the Parties noted the increase in coral bleaching and its possible link to climate change and requested its Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to study the issue and report its findings to the next CBD Conference of the Parties. The CBD Parties also invited the UNFCCC to address this matter urgently in its deliberations.^{xvii}

Article 2 of the UNFCCC explicitly acknowledges the importance of natural ecosystems, and commits Parties to address the climate change problem in a manner that will “allow ecosystems to adapt naturally to climate change.” The vulnerability of countries with coral reefs, such as Small Island Developing States (SIDS), to climate change is recognized in Articles 4.8 and 4.9. These provisions call for full consideration of the actions necessary to meet their specific needs and concerns in dealing with the adverse effects of climate change.^{xviii}

National Strategies and Communications

The UNFCCC and the CBD (as well as the UN Convention to Combat Desertification – UNCCD) commit Parties to prepare national strategies and action plans in order to implement these agreements. Under the UNFCCC, all Parties, including industrialized and developing countries, are called upon to develop ‘national communications’ that contain inventories of greenhouse gas emissions (from industrial activities and land use change) and greenhouse gas removals by sinks. Further, the Parties agreed to adopt national programs for mitigating climate change and develop strategies for adapting to its impacts.

The CBD, under Article 6, calls on Parties to develop national biodiversity strategies and to integrate biodiversity conservation and sustainable use into relevant sectoral or cross-sectoral plans, programs and policies. The UNCCD calls on its Parties to integrate strategies to combat desertification and mitigate the effects of drought into national policies for sustainable development. Under both the CBD and UNCCD, this would include the plans, programs, and policies that are designed to implement the UNFCCC and the Kyoto Protocol.



With the adoption of these and other multilateral environmental agreements, the planning and implementing capacity in many countries has become stressed and fragmented. Investigating ways to integrate communication and reporting requirements between the three conventions would be a practical step toward increasing efficiency and enhancing synergy in implementation. The CBD has taken steps with the biodiversity-related conventions to explore joint work programs and the development of integrated information systems in order to disseminate technical and scientific information relevant to both agreements.^{xix}

Financial and Economic Incentives

The UNFCCC and CBD are linked in part through the use of the Global Environment Facility (GEF) as their financial mechanism. The GEF has an important and clearly defined role to play in financing the incremental costs of country-driven projects that provide global environmental benefits in the context of both conventions. Additional financial innovations, however, are needed to implement these conventions.

Firstly, there is a need to explore common issues and challenges facing the financing of climate change and biodiversity from several perspectives, in particular, economic, legal, and institutional. Secondly, further examination of the role and function of public national environmental funds, private social responsibility funds, environmental and social standards for export credit agencies, and the elimination of environmentally perverse subsidies is needed.

For biodiversity, it has been proposed that new approaches to finance need to be developed as part of the broader framework of enabling conditions, including public awareness, clearer definition of property rights, strengthening of the legal system, and reforming fiscal policies such as taxes and subsidies.^{xx} For climate change, the Kyoto Protocol calls for the creation of new market-based mechanisms to facilitate emissions reductions in the most cost-effective manner possible. It is imperative that these new market mechanisms, created by the Kyoto Protocol, do not lead to the loss of biodiversity.

THE GLOBAL BIODIVERSITY FORUM (GBF)

The Global Biodiversity Forum (GBF) was conceived by the Global Biodiversity Strategy (WRI, IUCN, UNEP, 1992), and is designed to contribute to the further development and implementation of the Convention on Biological Diversity (CBD) and other biodiversity-related instruments at the international, regional and national levels.

The Global Biodiversity Forum (GBF) provides an independent, open and strategic mechanism to foster analysis, dialogue and debate among all interested parties on critical issues related to biodiversity. It achieves this by:

- providing a forum to examine a broad spectrum of perspectives, proposals and experiences from all stakeholders
- building diverse partnerships among stakeholders (including governments, indigenous groups, local communities, NGOs and the private sector)
- providing an impetus to key issues and areas that require further development and attention.

The first formal test of the Forum concept was hosted by the African Centre for Technology Studies (ACTS) in Nairobi in January 1993. Since then, ten sessions of the Global Diversity Forum have been held. Box 1 outlines topics of previous Forums.

The 11th Session of the Global Biodiversity Forum

One of the initiatives of IUCN, following the 1996 World Conservation Congress in Montreal, Canada, was to develop a coordinated strategy for climate change as it relates to the conservation of biodiversity and natural resources and to participate more actively in the UNFCCC and the IPCC processes. Among IUCN's first efforts to implement this initiative, was a collaboration with its members and partners in organizing in December 1997 the ninth session of the GBF, held in Kyoto, Japan during UNFCCC COP 3. Box 2 contains the main points from GBF 9.

In July 1998 in Buenos Aires, Argentina, the IUCN National Committee for Argentina invited the IUCN Senior Advisor for Social Policy to discuss the possibility of an event during the fourth Conference of the Parties to UNFCCC.

Box 1: Previous topics of the Global Biodiversity Forum

GBF 1 – *Gland, Switzerland* (October 1993) hosted by IUCN – examined critical issues facing the further development of the Convention. It was held immediately prior to the first meeting of the Intergovernmental Committee on CBD (ICCBD1).

GBF 2 – *Nassau, Bahamas* (November 1994) hosted by the Bahamas National Trust – was held immediately prior to the first meeting of the Conference of the Parties (COP 1) to the Convention.

GBF 3 – *Jakarta, Indonesia* (November 1995) hosted by the Indonesian Biodiversity Foundation and WWF-Indonesia Programme – was held immediately prior to the COP 2 to the CBD. The first regional session of the GBF (GBF-Latin America) was held for Latin America in Colombia in May 1996.

GBF 4 – *Montreal, Canada* (Aug/Sept 1996) hosted by the Canadian Coalition for Biodiversity, Canadian Global Change Program and a number of other organizations – was held immediately prior to the second meeting of the Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA2). The second regional session of the GBF (GBF 1-East Africa) was held in Kenya in September 1996.

GBF 5 – *Buenos Aires, Argentina* (November 1996) hosted by the Fundacion of the GBF (GBF 1-East Africa) was held in Kenya in September 1996.

GBF 6 – *New York, USA* (April 1997) hosted by the Biodiversity Action Network (BIONET) – explored options for incorporating indicators and targets into national implementation reports required under the Convention on Biological Diversity.

GBF 7 – *Harare, Zimbabwe* (June 1997) hosted by Zimbabwe Trust – explored the synergies between the CBD and CITES and was held immediately prior to the CITES COP10.

GBF 8 – *Montreal, Canada* (August 1997) hosted by IUCN Canada – was held immediately prior to the 3rd meeting of SBSTTA. The third regional session of the GBF (GBF 2-East Africa) was held in Nairobi, Kenya, on 17-19 November 1997 and was hosted by ICRAF.

GBF 9 – *Kyoto, Japan* (December 1997) hosted by IUCN – was held during the UNFCCC COP 3 and explored the linkages between biodiversity and climate change.

GBF 10 – *Bratislava, Slovakia* (May 1998) hosted by IUCN was held immediately prior to the CBD COP 4.

Based on this meeting, the IUCN National Committee for Argentina and the IUCN Climate Change Initiative in collaboration with the IUCN Biodiversity Policy Coordination Division (BPCD) and the IUCN Regional Office for South America (SUR), agreed to take the lead in convening the 11th session of the Global Biodiversity Forum. A host of other organizations agreed to co-convene the event, including some traditional GBF partners such as World Resources Institute (WRI), African Centre for Technology Studies (ACTS), United Nations Environment Programme (UNEP), Biodiversity Action Network (BIONET), and Indigenous Peoples Biodiversity Network (IPBN) and some new partners, in particular the Climate Action Network – Latin America and the United Nations Institute for Training and Research (UNITAR).

Working in close collaboration, these organizations agreed that the objectives of the Forum would be to:

1. Facilitate a dialogue between the two communities
2. Identify areas for mutually reinforcing collaboration in the implementation of both conventions.

Together, they developed an agenda that aimed to address the key ecological, economic, institutional and social issues related to the climate change agenda.

About 150 individuals from 40 countries participated in the 11th session of the GBF, held on 6-8 November 1998 during UNFCCC COP 4 (2-13 November 1998).

EMERGING ISSUES FROM GBF11

The opening plenary included introductory remarks by the IUCN National Committee for Argentina, the World Resources Institute as well as the Executive Secretaries of both UNFCCC and the CBD. The keynote address of GBF 11 was delivered by the president of UNFCCC COP 4 and the Secretary of Natural Resources and Sustainable Development, Maria Julia Alsogaray. A Call to Action was presented by UNEP. The plenary concluded with presentations of each of the four workshop themes for the Forum. They were:

- Forests in the Climate Change Agenda
- Biodiversity, Climate Change and Finance
- National Strategies and Action Plans
- Sustainable Use and Climate Change

On Saturday, 7 November, the four workshops were held in parallel over the course of the day. On Sunday, 8 November, the workshop organizers presented the conclusions and recommendations of each of the workshops in plenary, and the Forum was brought to a close. The following describes the main points that emerged from the four workshops.

Forests in the Climate Change Agenda

Participants in this workshop recognized that the destruction and conversion of forests and other natural ecosystems world-wide is a significant contributor to the loss of biodiversity and also a part of the problem of climate change. Forest-based measures intended to mitigate climate change could provide significant biodiversity and socio-economic benefits. However, this outcome is not assured. Done incorrectly, the forest-based measures to address climate change through the UNFCCC and its Kyoto Protocol could result in negative impacts on forests and other natural ecosystems, communities and the climate system.

It is essential that the Parties develop clear guidelines to avoid adverse impacts of forest-based measures on biodiversity in the implementation of the market mechanisms of the UNFCCC and its Kyoto Protocol. In particular, there is a need to avoid measures that replace natural forests with plantations, even if doing so produces a net reduction in greenhouse gas emissions.

At the same time, the Parties to the UNFCCC and its Kyoto Protocol should seek to produce benefits for biodiversity conservation. It was recommended that the IPCC Special Report on Land Use Change and Forestry assess the biodiversity consequences of forest-based options for mitigating climate change under the Kyoto Protocol. The Clean Development Mechanism (CDM) has the potential to facilitate forest-based projects that contribute to climate mitigation, biodiversity conservation and sustainable development.

Biodiversity, Climate Change and Finance

The participants discussed the role of financial and economic incentives in promoting the objectives of the UNFCCC and the CBD. The discussions covered three general areas:

- Energy sector and conservation linkages
- The Kyoto Protocol's Clean Development Mechanism (CDM): issues and problems
- Potential private sector impact on biodiversity and climate change initiatives.

Box 2: Forging the link between climate change and biological diversity

On December 6, 1997 130 participants representing a wide range of stakeholders, including governments, international institutions, and NGOs met in Kyoto, Japan for a Global Biodiversity Forum on Climate Change and Biodiversity. The forum was convened to coincide with the Third Conference of the Parties to the UNFCCC. Below is a synthesis of the major points that were raised.

1. The negotiations of the UNFCCC have yet to address directly the serious threat that climate change poses to the diversity of life on Earth. Governments should, therefore, negotiate a climate change treaty which recognizes that biodiversity loss is likely to accelerate because of climate change.
2. A growing body of research indicates that a clear and immediate danger now faces individual species and habitats as a result of climate change. However, more accurate predictions of the possible ecological responses to climate change are needed to facilitate the development of adaptation strategies to climate change.
3. Projects undertaken in the pilot phase of Joint Implementation under the UNFCCC demonstrate that forest-based carbon sequestration projects have the potential to serve as a viable element of a climate change mitigation strategy. Some projects have demonstrated not only climate benefits, but also benefits to forest and biodiversity conservation.
4. Provisions under the Kyoto Protocol, such as the "net" approach, emissions trading and the Clean Development Mechanism hold both promise and potential peril for achieving forest conservation objectives. The Conventions on Climate Change, Biological Diversity, and Desertification as well as the Ramsar Convention should collaborate more closely in order to build synergies and strengthen their effectiveness in promoting sustainable development.
5. Governments, international financial institutions, and non-governmental organizations should place a high priority on developing the institutional capacity to implement policies and actions that jointly address the problems of climate change and biodiversity loss.

In the first instance, it was recognized that the Global Environment Facility (GEF) has an important and clearly defined role to play in financing the implementation of the UNFCCC and the Convention on Biological Diversity. It was also noted that the GEF may be in a unique position to further the debate on how to implement the two conventions in a mutually supportive manner.

For climate change, two modalities were presented to facilitate financing for climate change mitigation. One proposed an international currency transactions tax of .25% in order to generate financial capital of approximately \$100–200 billion per year, which could be used to finance clean energy investments in industrialized and developing countries. A second suggestion was to allow within the framework of the Kyoto Protocol the allocation of emissions entitlements, based on per-capita carbon utilization, with a view toward convergence. It was asserted that this would facilitate an equitable transfer from fossil fuels to environmentally friendly non-carbon energy technologies. Overall, it was concluded that the private sector has indicated a willingness to participate in the implementation of the goals of the UNFCCC and the CBD, but clear rules of the game are needed to provide sufficient encouragement for broad private sector involvement.

Coordinating National Strategies and Action Plans Between the UNFCCC, the CBD, and the UNCCD

The participants of this workshop took note of the growing number of multilateral environmental agreements – the UNFCCC, the Convention on Biological Diversity, the Convention to Combat Desertification, the Ramsar Convention, and the World Heritage Convention to name just a few. It was observed that this proliferation of agreements has led to a more and more fragmented international environmental regime. The planning and implementing capacity of many countries has become stressed.

It was recommended that the international environmental regime be viewed in a more holistic manner, and that, at the national level, countries endeavor to do more to coordinate and build synergy in their efforts to implement these agreements. This would include exploring measures, such as watershed conservation which simultaneously mitigate climate change and prevent the loss of biodiversity. It was also stressed that the increasing number of agreements has created the risk that efforts

to implement one agreement may contradict the objectives of another, such as replacing native forested ecosystems with plantations in order to sequester carbon.

It was suggested that streamlining and coordinating between agreements at the national and international level would help to raise the importance of the international environmental regime within the international system and to bring it to an equal footing with other international regimes, such as the World Trade Organization. The workshop participants stressed the need to identify areas of common concern that can be pursued in the action plans under the three Rio Conventions. For instance, local actions to improve resilience of ecological and social system, for example, by promoting restoration and/or conservation of forested watersheds is one example where climate, desertification, and biodiversity goals can be reached.

Further, the workshop participants invited the Conference of the Parties of each of the Rio Conventions, the Convention Secretariats, and other stakeholders to promote guidelines and financial resources to develop and carry out projects and action plans that implement these agreements in a mutually supportive manner. Finally, as a means to promote synergy among the Conventions, effective communication mechanisms should be established between the different groups and stakeholders working with the three Rio Conventions at the global, national and local level.

Sustainable Use and Climate Change

In this workshop, evidence was presented that recent extreme events, such as the floods in Bangladesh and China and coral bleaching in the Indian Ocean and Caribbean, have led to a loss of biodiversity, and may be a signal of climate change. It was pointed out that resource-poor communities and communities heavily dependent on natural resources face tough choices in adapting to a climate changed world.

The participants suggested that the role of financial and legal instruments in facilitating adaptation needs to be further explored. Further, it was highlighted that, in spite of the complexity of the task, a concerted effort was necessary to assess the economic value on biodiversity goods and services in order for that value to be recognized by policy makers. The need to enhance the role of local communities and promote the active participation of groups, such as indigenous communities and women, in the climate change debate was

highlighted. The full participation of all stakeholders in the design of strategies and actions is the key to successfully mitigating and adapting to climate change.

EPILOGUE

The main Forum conclusion was the urgent need for further efforts to raise the profile of ecological and social concerns within the climate change agenda. In particular, participants recommended that protecting the ecological integrity of nature and sustaining the societies, which are supported by it, must be taken into account in addressing the climate change issue.

Immediately following the Forum, the co-convenors prepared a statement to be delivered to the plenary session of the fourth Conference of the Parties to the UNFCCC. The statement was delivered by Fernando Ardura of the IUCN National Committee for Argentina on behalf of the GBF co-convenors and participants. It is enclosed in Appendix 1.

In the early hours of Saturday morning, 14 November, delegates to UNFCCC COP 4 adopted the Buenos Aires Plan of Action. Under the Plan of Action, the Parties committed to strengthening the implementation of the Convention and to prepare for the future entry into force of the Kyoto Protocol. The Plan gives new guidance to the GEF and entrusts it the permanent financial mechanism of the Convention. It also calls for the Parties to make concrete progress on the development and transfer of technology as well as the identification of criteria to determine the adverse impacts of climate change (UNFCCC Articles 4.8 and 4.9). The Plan also establishes a process for making progress on the flexible mechanisms of the Kyoto Protocol.

Subsequent to GBF 11, a concerted effort has been initiated to establish an international network of governments, NGOs, international institutions, and private sector representatives. A website has been created to facilitate information exchange and further develop the network with a view toward pursuing joint activities on the many issues and themes highlighted by the Forum. For more information contact: <http://www.iucnus.org>



Box 3: Forthcoming Dates

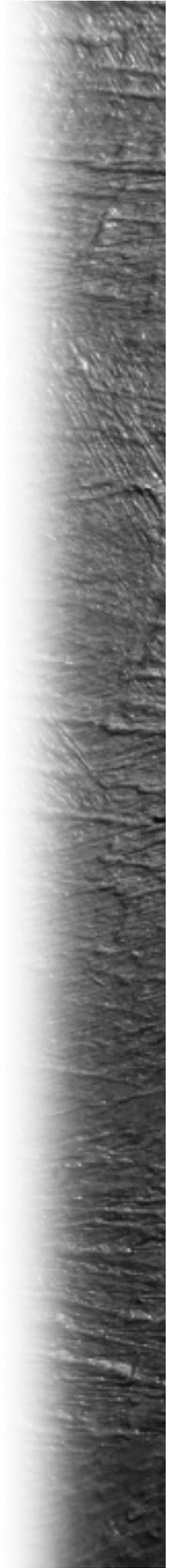
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| 2000 | CBD SBSTTA-5, Montreal, Canada. |
| 2000 | CBD COP-5, Nairobi, Kenya. |
| 2000 | Certified emissions reductions in non-Annex 1 countries may be credited under the Clean Development Mechanism. |
| 2000 | UNFCCC COP-6. |
| 2000 | IPCC scheduled to complete its Special Report on Land Use Change and Forestry. |
| 2001 | IPCC Third Assessment Report, which will describe the state of knowledge on the science and impacts of climate change as well as mitigation options. |
| 2005 | Industrialized (Annex 1) countries under the Kyoto Protocol should have made 'demonstrable progress' in meeting commitments. |
| 2008-12 | Compliance period during which emissions reductions targets under the Kyoto Protocol must be reached. |

END NOTES

- i. 1998 *Global Surface Temperature – Highest by a Wide Margin According to WMO*. Annual Statement on the Global Climate, World Meteorological Organization, Press Release, 17 December 1998.
- ii. Statement at the Fifteenth Session of the Intergovernmental Panel on Climate Change by Professor G.O.P. Obasi, Secretary-General, World Meteorological Organization, San Jose, Costa Rica, 15 April 1999.
- iii. *Common Questions about Climate Change*. United Nations Environment Programme and World Meteorological Organization. Available online at: <http://www.climatenetwork.org/USCAN/index.html>
- iv. Alan D. Hecht and Dennis Tirpak. 'Framework Agreement on Climate Change: A Scientific and Policy History'. *Climatic Change* 29 (April 1995) no. 4: 371.
- v. Intergovernmental Panel on Climate Change, Working Group 1. *Climate Change. The IPCC Scientific Assessment*. World Meteorological Organization and United Nations Environment Programme. J.T. Houghton, G. J. Jenkins, and J.J. Ephraums. eds. New York: Cambridge University Press 1990.
- vi. United Nations. *United Nations Framework Convention on Climate Change*. Available online at: <http://www.unfccc.de/fccc/conv/conv.htm>.
- vii. According to the UNFCCC, a 'sink' is any process, activity or mechanism that removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere. A 'source' is any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere. United Nations. *United Nations Framework Convention on Climate Change*. (United Nations, New York, 1992). Available online at: <http://www.unfccc.de/fccc/conv/conv.htm>.
- viii. Intergovernmental Panel on Climate Change. 'Summary for Policy Makers' in *Climate Change 1995: The Science of Climate Change*. eds. Bert Bolin, John Houghton, and L. Gylvan Meira Filho. (Rome: December 1995).
- ix. Japan received a lower target than the USA because it argued that as a relatively more energy-efficient nation, greater reductions would be more difficult. Australia argued that its dependence on coal would make reductions, or even stabilization, at 1990 levels too difficult.
- x. The six major greenhouse gases are carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).
- xi. Intergovernmental Panel on Climate Change. 'Summary for Policymakers', in *Climate Change 1995: The Science of Climate Change*. Scientific-Technical Analyses of Impacts, Adaptations and Mitigation of Climate Change. Contribution of Working Group II to the Second Assessment Report of the Intergovernmental Panel on Climate Change.
- xii. Joel D. Scheraga and Anne E. Grambsch, 'Risks, Opportunities, and Adaptation to Climate Change', *Climate Research* 10 (1998): 85-95.
- xiii. Intergovernmental Panel on Climate Change, Working Group II. *Technologies, Policies and Measures for Mitigating Climate Change*. R.T. Watson, M.C. Zinyowera and R.H. Moss eds. Technical Paper. (November: 1996).
- xiv. World Resources Institute et al., *World Resources 1996-1997* 326-29 (1996).
- xv. Paige Brown, *Climate, Biodiversity, and Forests: Issues and Opportunities Emerging From the Kyoto Protocol*. World Resources Institute and IUCN-The World Conservation Union, 1998.
- xvi. CBD Decision IV/7, Forest biological diversity. United Nations. *Convention on Biological Diversity*. Available online at: <http://www.biodiv.org/COPS.html>
- xvii. CBD Decision IV/5, Conservation and sustainable use of marine and coastal ecosystems, including a programme of work. United Nations. *Convention on Biological Diversity*. Available online at: <http://www.biodiv.org/COPS.html>
- xviii. United Nations. *United Nations Framework Convention on Climate Change*. United Nations, New York, 1992. Available online at: <http://www.unfccc.de/fccc/conv/conv.htm>.
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- xx. 'Financial Innovations for Biodiversity'. A Workshop at the 10th Global Biodiversity Forum (May 98), Bratislava, Slovakia. Organised by: IUCN Economics Service Unit, IUCN Washington Office, and the UNEP Financial Services Initiative. Available online at <http://economics.iucn.org/98-03-00.htm>

PART II

Forum Report





OPENING PLENARY

The plenary was opened and co-chaired by IUCN's head of delegation, **Alicia Barcena** and **Javier Garcia Fernandez** from the IUCN National Committee for Argentina. Ms Barcena noted that this GBF was a second attempt to connect climate change and biodiversity conservation issues, the first being GBF 9, held in Kyoto.

Jonathan Lash, President of The World Resources Institute (WRI) focused on interconnections between climate change and biodiversity loss. Both are global with increasing intensities of impacts and largely irreversible. Mr Lash pointed out that forests are both a reservoir of biological diversity and a site of carbon sequestration. He suggested that a holistic approach to forest conservation could be used as an example for future synergistic responses by parties to the two conventions.

Executive Secretary of the UNFCCC, **Michael Zammit Cutajar** indicated that synergies do not happen naturally between conventions. Leadership is needed to bring the two conventions together. Mr Cutajar saw forests as an obvious linkage between the UNFCCC, the CBD, the GEF, the United Nations Convention to Combat Desertification (UNCCD) and the Intergovernmental Forum on Forests. He called for the United Nations Environment Programme (UNEP) to assist in integrating scientific assessments, intervening in areas that affect aspects of more than one convention, and raising public awareness. He also stated that UNEP needs to provide capacity building in order to better integrate the conventions and to merge reporting responsibilities to assist developing countries.

Acting Executive Secretary of the CBD, **Hamdallah Zedan** also supported the need to coordinate activities under the UNFCCC, CBD as well as the UNCCD. Human actions disrupt the Earth's systems and processes through overpopulation and unchecked consumption. Tampering with the biological diversity of forests, wetlands, coastal areas has effects that are felt at the ecosystem, species and genetic levels. He stated the objectives of the CBD and stressed the need for humanity to appreciate ecological services provided by biological diversity, rather than simply valuing an ecosystem for its goods. He also stressed that forest systems must be regarded as more than just a sink for carbon – but also as reservoirs for biodiversity.

Maria Julia Alsogaray, President of the UNFCCC CoP 4 and Secretary of Natural Resources and Sustainable Development for the Government of Argentina, delivered the keynote address and spoke about Argentina's role in coordinating the various relevant conventions. She stated that Argentina recognizes that treating each convention in isolation will not lead to the satisfaction of any of the three Rio Conventions' objectives. She asserted that pursuing sustainable development is not a luxury, but rather a necessity – no one can afford to develop without it.

A Call to Action was presented by **Jorge Illueca**, Director, Division of Environmental Conventions, UNEP based on a recently completed study by the World Bank and UNEP on the inter-linkages between global environmental issues and human needs. He argued that the integration of the efforts under each convention would allow actions to address multiple treaties and obligations and prevent the inadvertent creation of new environmental problems from the solution of another. It would also promote national planning and the development of institutions. Research, training, monitoring, and information exchanges could all easily be coordinated by an integrated approach. He outlined a plan of action for effectively integrating the conventions, which included:

- creating a base of knowledge so that meaningful decisions can be made
- restructuring institutions to improve the capacity for national implementation of these conventions
- developing consistency in countries' environmental legal regimes
- increasing government coordination and NGO efforts in developing national strategies and action plans.

The opening plenary concluded with descriptions of each of the four workshops presented by Peter Frumhoff, Union of Concerned Scientists, USA (Forests); Atiq Rahmann, Vice Chair of IUCN Commission on Economic, Environment and Social Policy (Finance); Jakob Lau Holst, IUCN SUR (National Strategies); and Hans J.H. Verolme, BIONET, USA (Sustainable Use).

FORESTS IN THE CLIMATE CHANGE AGENDA

The workshop was organized by Union of Concerned Scientists, World Resources Institute, Tata Energy Research Institute, and The Nature Conservancy and was attended by about 40-50 participants.

Overview of presentations

The first session involved a general discussion of the role of land use change and forest activities in the climate change agenda.

Decisions on how to implement the forest provisions of the Kyoto Protocol will be informed by the IPCC's Special Report on land use change and forestry issues and the first presentation given by **Sandra Brown** discussed the content of this upcoming report. She presented an outline of the report which included – definitions of forest activities – possible additional activities – methodologies and reporting frameworks – implications of full carbon stock accounting and socio-economic impacts of forest-based measures.

Paige Brown of World Resources Institute (WRI) discussed issues and opportunities for forests associated with the Kyoto Protocol and its market-based mechanisms. Although the Kyoto Protocol significantly advanced the cause of climate protection, it left many questions unanswered, including the role of forests and land use change in meeting obligations to global warming. Concerns were raised over the possible negative environmental impacts, such as converting natural forests to fast growing plantation in order to claim carbon reduction credits. The consideration of social and environmental screening of projects to help prevent such practices and project screening to ensure property and usage rights and needs of local users are taken into account was discussed.

A third presentation was given by **Dan Lashof** of the Natural Resources Defense Council regarding the potential of biotic carbon stocks to help stabilize greenhouse gas emissions. In order to achieve the objectives of the Kyoto Protocol, tight limits on fossil fuel consumption along with accurate accounting and secure management of biotic carbon stocks will be necessary. In addition the need to design appropriate policies to create incentives for technological innovation in the energy sector was raised.

The final presentation by **Marcelo Mautone**, from Asociación para la Acción Climática, Uruguay looked at limitations of greenhouse gas inventory methods for emissions from land use change under the UNFCCC. The methodological challenges to determining such inventories can be addressed by evaluating the accuracy of data produced within the country, consulting with experts and evaluating uncertainties to improve monitoring at the national and international levels.

The second session addressed regional experiences and opportunities for project-based measures to link forest conservation and climate change mitigation.

Hermes Justiniano, from Fundación Amigos de la Naturaleza, Bolivia gave a presentation on the Noel Kempff Climate Action Project, situated in a 4 million acre national park in Bolivia. The project attempts to demonstrate that forest conservation projects are credible, measurable and verifiable as greenhouse gas emissions avoidance strategies. The project implements a carbon monitoring program to quantify greenhouse gas emission avoided as a result of retiring logging rights on 1.6 million acres of land and permanently protects these lands as part of the national park. Long term funding for park protection has been established and sustainable development initiatives for local peoples are supported. With an increase in park size, the genetic continuity of numerous species is assured.

Rodel Lasco, Director of the Environmental Forestry Programme, Philippines, discussed the opportunities available for forest and biodiversity conservation as a result of the climate change agenda in the Philippines. These include a greater appreciation of the value of standing forests due to their importance as carbon sinks, the potential for enhanced forest conservation and increase in tree farming, the potential for addressing poverty in upland areas and the opportunities for fund sourcing. However, there was concern that the

attractiveness of tropical forests as a carbon sink could lead to an emphasis on fast-growing, non-native monoculture tree plantations.

Tim Afful-Koomson of WRI, discussed forestry mitigation options in Africa. It was pointed out that sustainable development is closely tied to the forestry sector in Africa but that African countries at present are not proactive in making forestry projects eligible under the Clean Development Mechanism. Skepticism towards the inclusion of forestry projects in the CDM may be due to misunderstanding of possible contributions that forest projects under the CDM could make to sustainable development in Africa. Also, it may also be due to experience with previous project-based mechanisms – particularly with AIJ (Activities Implemented Jointly) where Africa received only two out of 72 projects. It was suggested that pricing carbon sequestration based on ecological diversity of the forestry projects and its significance in meeting rural development needs was appropriate to Africa.

The final presentation by **Alberto Salas** of IUCN, Oficina Regional Para Mesoamérica (ORMA) focused on the feasibility of establishing a Meso-American Biological Corridor for climate change mitigation and biodiversity conservation.

The third session discussed technical and policy issues unique to forest-based measures under the Clean Development Mechanism.

Geraldo Alatorre of the Grupo de Estudios Ambientales Xalapa, Mexico discussed the use of Latin American forests as carbon sinks to prevent climate change. Options for forestry emissions reductions which would lead to maximizing stocks and sequestration of carbon, and avoid environmental and social risks could include sustainable silviculture and conservation, allowing communities to become stewards of their own forests, establishing firewood plantations, low impact harvesting, agriculture and agro-forestry. Middle scale rather than large scale projects would allow local institutions and organizations to participate in project design and implementation.

Suzi Kerr, Motu Economic Research, presented research on carbon sequestration and land use in Costa Rica. The CDM could potentially fund forest projects in the tropics to sequester carbon to offset fossil fuel carbon emissions.

It was pointed out however, that before this potential can be realized the rules for measuring certified emission reductions (CERs) from carbon sequestration must be defined. A methodology was proposed that would estimate the potential supply of CERs from tropical sinks and assess the tradeoff between accuracy of CER measurement and value from CERs. The model proposed would estimate a deforestation threat and reforestation probability for each piece of land as a function of physical and economic characteristics.

Though ambiguously defined, the Kyoto Protocol limits the calculation of carbon stocks in natural ecosystems to reforestation, afforestation and deforestation. **Anne Hambleton** of the Center for Sustainable Development in the Americas, discussed a number of activities that could provide net climate benefits not currently included in these categories, such as increasing biomass in existing forests, reduced impact logging and increased soils carbon in agriculture or forestry.

Emerging issues

The following points summarize the general issues emerging from workshop discussions. They reflect the diverse perspectives of the presenters and discussants at the workshop.

General

- Forests are an important part of the problem and potentially an important part of the solution to both biodiversity loss and climate change.
- Forest-based measures to mitigate climate change should complement fossil-fuel based measures to reduce emissions.
- There is a need to improve greenhouse gas inventory methods to measure changes in all forest carbon stocks and land use change dynamics.
- Forest-based measures to reduce emissions can promote increases in technical capacity to monitor and understand forest ecosystems.
- The IPCC special report on land-use change and forestry should assess the biodiversity consequences of forest-based options for mitigating climate change under the Kyoto Protocol.

Forests, Biodiversity and the Kyoto Protocol

- Decisions taken by the UNFCCC Conference of the Parties regarding the role of land use change and forestry should take both climate and biodiversity issues into account.
- Decisions regarding land use change and forestry and their implementation should explicitly incorporate traditional knowledge, perspectives, and rights of indigenous peoples who live in forest regions.
- Parties to the Convention should develop clear guidelines to avoid adverse impacts of forest-based measures on biodiversity and the climate system.
- In particular, there is a need to avoid measures that replace natural forests with plantations, even if doing so produces a net reduction in greenhouse gas emissions.

Clean Development Mechanism

- The Clean Development Mechanism (CDM) has the potential to facilitate forest-based projects that contribute to climate mitigation, biodiversity conservation and sustainable development.
- The CDM also has the potential to create incentives for land-use change that undermine achievement of these objectives, including the replacement of natural forests with plantations.
- Some current forest carbon offset projects can serve as important models to improve methods and build capacity to contribute to biodiversity and climate change solutions.
- Plantations as carbon offset projects should be designed to, at minimum, avoid negative impacts to biodiversity and support sustainable development.
- If a market for forest-based CDM projects develops, specific policies and incentives may be necessary to motivate projects that provide biodiversity and socio-economic co-benefits.

Presentations given during the workshop

Session 1: Forests, climate and Kyoto Protocol: cross-cutting issues (Moderator: Peter Frumhoff)

- The Intergovernmental Panel on Climate Change (IPCC) Special Report on Land Use Change and Forestry Issues – **Sandra Brown**
- Issues and Opportunities for Forest Biodiversity Emerging from the Kyoto Protocol – **Paige Brown**
- The Role of Biotic Carbon Stocks in Stabilizing Greenhouse Gas Emissions – **Dan Lashof**
- Overview of Greenhouse Gas Emissions Inventories and their Limitations under the UNFCCC – **Marcelo Mautone**

Session 2: Regional experiences and opportunities (Moderator: Eric Firstenberg)

- Noel Kempff Climate Action Project in Bolivia – **Hermes Justiniano**
- Philippine Tropical Forests in the Climate Change Agenda – **Rodel Lasco**
- The Clean Development Mechanism and Forestry Mitigation Options in Africa – **Timothy Afful-Koomson**
- The Meso-American Biological Corridor: Climate Change and Biodiversity Issues – **Alberto Salas**

Session 3: Technical and policy challenges (Moderator: Paige Brown)

- The Use of Latin American Forests as Sinks to Prevent Climate Change: Potentials and Risks – **Gerardo Alatorre**
- Methods for Assessing Carbon Sequestration and Biodiversity Potential for CDM Projects: Costa Rica study – **Suzi Kerr**
- Eligibility of LUCF Projects under the Kyoto Protocol – **Anne Hambleton**
- Linking Solutions to Climate Change and Biodiversity loss through the Clean Development Mechanism – **Peter Frumhoff**

BIODIVERSITY, CLIMATE CHANGE AND FINANCE

The workshop was organized by IUCN Economics Service Unit, Trexler and Associates, and the IUCN Commission on Environmental, Economic and Social Policy. It was attended by 22 experts, representing multilateral organizations, NGOs, private sector utilities, financial services, academic and research institutions.

Overview of presentations

The first session focused on a broad overview of the linkages between energy sector finance and finance for conservation.

Bill Powers of IUCN Washington Office, presented on the role of the Global Environment Facility (GEF) for linking biodiversity and climate. He suggested that the GEF, as the only instrument that formally joins the two conventions, could play a unique role in facilitating greater synergy in the implementation of the UNFCCC and the CBD. Ecological, political and institutional interlinkages between climate and biodiversity were addressed and three areas for synergy were discussed: assessment of impacts, adaptation and mitigation.

Ross Gelbspan presented a proposal for a World Energy Modernization Plan. The main elements to the plan included: elimination of fossil fuel subsidies (globally around \$300 billion) and the establishment of equivalent subsidies for renewable energy sources. In addition, more stringent efficiency and renewable standards need to be established in tandem with the elimination of unnecessary barriers to energy competition. Finally it was proposed that a fund sufficient to finance the transfer of climate-friendly energy technology and expertise to developing nations be created. This would be created via a tax on international currency transactions. A quarter of a penny tax per US dollar on transactions would yield \$100 – \$200 billion to developing nations.

The second session addressed the potential role of the private sector.

Richard Sykes from Shell International gave a presentation on the actions Shell had taken to address climate change and biodiversity loss. By 1998, Shell had met the Kyoto target across worldwide operations and

aimed to reduce its greenhouse gas emissions by more than 10 per cent in 2002 and was aiming to continue to exceed the Kyoto target by 2010. This will be achieved by reducing greenhouse emissions from its own operations and support customers to reduce theirs by providing fuels with a lower carbon content and by offering renewable energy choices.

Dana Younger of the International Finance Corporation (IFC) gave a presentation regarding private sector involvement in the biodiversity and climate change agendas. More specifically, financing mechanisms were discussed for engaging the private sector, such as the Small and Medium Scale Enterprise Program and the Terra Capital Fund (a US \$15 million investment fund for biodiversity projects in Latin America).

Phil Cottle and **Justin Mundy** from Agricultural Risk Management, UK presented on the potential role of insurance in forestry and agricultural activities for climate change mitigation. There is already a specialist insurance market for commercial forestry world wide which provides protection against conventional risks related to operational and catastrophic losses due to natural hazards. However, risk profiles under the Kyoto Protocol will introduce new exposures for project managers, corporations and governments. It was proposed that some aspects of these risks may be mitigated through cost-effective insurance or financial products. Such insurance could assist in achieving a rapid and cost effective implementation of the Protocol and well as supporting broader goals of economically and environmentally sustainable development.

Guillermo Jimenez presented a perspective from UNIDO, specifically looking at the effect of climate change on biodiversity in the Gulf of Guinea, West and Central Africa. The socio-economic implications of the effect climate change will have on biodiversity was discussed. For example, mangroves have vast socio-economic significance, in the form of fish, oysters, fuel, wood, charcoal and construction materials for the communities living in the coastal areas. These materials will be lost in the event of accelerated rise in sea level. The loss of this ecosystem will also affect coastal fisheries as mangroves constitute the spawning and nursery grounds for the fishery. Other effects of climate change on the region will include changes in agricultural and livestock production,

increased incidence of flooding in some areas and the composition of the coast vegetation.

The third session focused on the potential private sector impact on biodiversity and climate change initiatives.

Kalipada Chatterjee from Development Alternatives, India discussed the Clean Development Mechanism (CDM) of the Kyoto Protocol from an Asian perspective. He suggested that the CDM may help in resolving some of the socio-economic and environmental problems in Asia. In general four environmental problems in Asian cities need to be addressed on a priority basis: water pollution, air pollution, solid waste management, inappropriate land use. It was proposed that by carefully structuring CDM projects to address such issues the pressure on the Asian environment may be reduced.

Various provisions of Kyoto were discussed including certification of emission reduction, monitoring, verification and the question of additionality. Finally, the need for a cap on all the three cooperative mechanisms of Kyoto for a strong domestic action for reduction of emissions by the Annex I countries was raised.

Stephen Mutimba from the African Centre for Technology Studies, Kenya presented on the potential for the Clean Development Mechanism (CDM) to facilitate technology transfer leading to sustainable development in Africa, while at the same time fulfilling the ultimate objective of the UNFCCC. It was proposed that a CDM that will enable African countries to achieve sustainable development is one that will facilitate relevant environmentally sustainable technology transfer through licensing, technological capacity building, purchasing of property rights patents and ensuring the adoption of such technologies.

Anil Agarwal from the Centre for Science and Environment, India gave a presentation regarding sustainability and equity within the climate negotiations. He raised concern as to how far the principle of equity will be applied when considering how the emission rights and entitlements of developed countries will be determined and created for trading emissions under the Kyoto Protocol. Further he argued that developing countries must insist on equal per capita entitlements and that mechanisms such as joint implementation, emissions trading and the clean development mechanism should be rejected until these entitlements are accepted.

Emerging issues

The following points summarize the general issues emerging from workshop discussions. They reflect the diverse perspectives of the presenters and discussants at the workshop.

Discussions covered three general areas:

- Energy sector and conservation linkages
- The Kyoto Protocol's Clean Development Mechanism (CDM): issues and problems
- Potential private sector impact on biodiversity and climate change initiatives

Energy and Conservation Linkages

Discussion centered on refining the linkage between climate change and biodiversity with regards to institutional, financial, economic and legal issues. It was agreed that the most critical linkages to ensure coordination and synergy between the biodiversity and climate change agendas were the provision of appropriate legal frameworks, institutional capacity, and economic incentives. Moreover, the adequacy of the Kyoto Protocol's current emission reduction targets was debated. Specifically, doubts were raised about the ability of the Kyoto Protocol's flexible mechanisms to generate sufficient funds to ensure government compliance and technology transfer. Two alternative modalities were presented to meet these concerns:

- An international currency transactions tax of .25% might be levied in order to generate capital of approximately \$100-200 billion per year, which could be accessed by developing country economies. The funds generated would be used for projects measured against an energy efficiency standard, renewable energy projects, and stimulation of markets. It was suggested that initial research indicated openness on the part of some members of the financial markets sector to such a move. Mechanisms for disbursement were left open for further discussion.
- A second suggestion was that consideration be given to equitable participation by developing countries by the allocation of entitlements within the framework of the Kyoto Protocol. These entitlements would be available to all countries according to current per-capita carbon utilization, with the clear objective of

convergence and the switch from carbon based to environmentally friendly non-carbon based energy sectors.

The potential for existing institutional structures to facilitate linkages between climate change and biodiversity in policy development and financing was presented. It was recognized that the Global Environment Facility (GEF), as the interim financial mechanism for both the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), had a comparative advantage in furthering the policy debate on this topic by helping to identify: (1) effective governance mechanisms; (2) benefits from current projects; and (3) lessons for future financing.

CDM Issues

Several presentations addressed the CDM, the instrument for developed and developing country cooperation under the UNFCCC's Kyoto Protocol. Many talks illustrated the weakness of the CDM with respect to equity, technology transfers and biodiversity conservation, with particular relevance to developing countries. The potential for certain developing countries to be marginalized in the CDM, and hence in the implementation of the Kyoto Protocol, was pointed out. In general, it was felt that the CDM could be used by developed countries as a way of avoiding the responsibility of cutting emissions at home. It was suggested that the two modalities presented above may represent ways of dealing with this problem.

Implications for the Private Sector

First, the private sector's role in implementing the Kyoto Protocol was recognized. Presentations by the private sector demonstrated their willingness to participate in flexible mechanisms if given the opportunity for early action. However, it was suggested that the current incentive system was inadequate to provide sufficient encouragement for broad private sector participation, and that those that do take early action could be penalized for doing so.

Second, it was accepted that risk mitigation measures (e.g. insurance) might provide a way of increasing financial flows, generate equity and provide a mechanism for linking inter-sector policy implementation and compliance. The use of risk management tools could help implement the objectives of the CBD and UNFCCC, and

national sustainable development plans. Critical areas that risk management strategies could address included political and institutional risk, project performance risk and trading risk.

Presentations given during the workshop

Session 1: The energy sector and conservation: are they related? (Moderator: Atiq Rahmann and Mark Trexler)

- Overview of the Links between Energy and Conservation – **Mark Trexler**
- Linking Biodiversity and Climate: A Role for the Global Environment Facility – **Bill Powers/Hutton Archer**
- The World Energy Modernization Plan – **Ross Gelbspan**

Session 2: Potential role of the private sector (Moderator: Bill Powers)

- Action on Sustainable Development: Climate Change – **Richard Sykes**
- Linking Biodiversity and Climate Change: Issues for the International Finance Corporation – **Dana Younger**
- Energy, Forestry and Agriculture: A Role for the Insurance – **Phil Cottle/Justin Mundy**
- A Perspective for the Energy Sector – **Simon Worthington**
- A Perspective from UNIDO – **Guillermo Jimenez**

Session 3: Innovative financing for climate change and biodiversity (Moderator: Bill Powers)

- Clean Development Mechanism: A Perspective from Asia – **Kalipada Chatterjee**
- Clean Development Mechanism as a Conduit for Technology Transfer for Sustainable Development in Africa – **Stephen Mutimba**
- Rights to the Atmosphere: Sustainability, Equity and Climate Negotiations – **Anil Agarwal**

NATIONAL STRATEGIES AND ACTION PLANS

The workshop was organized by UN Institute for Training and Research, Africa Centre for Technology Studies, IUCN National Committee for Argentina, IUCN Regional Office for South America, and UN Environment Programme. It was attended by 12 participants from nearly every major region of the globe.

Overview of presentations

The first session addressed early experiences with the process of preparing national strategies for each of the conventions.

Gao Pronove from UNITAR presented on CC:TRAIN, a capacity building program managed by UNITAR. The workshop participants discussed the extent to which the program adopted a top-down approach to national climate change strategies and suggested that a more inclusive approach in the preparation of national strategies may be more appropriate.

Sitanon Jesdapipat, from Thailand Environment Institute, gave a presentation regarding the national climate action plan for Thailand. It was argued that a holistic view was necessary in implementing climate change action plans. Such a view would identify and integrate existing synergy among various concerns of other conventions such as the CBD, the Convention on Desertification and Ramsar Convention. To do this, a change in the conceptual paradigm was necessary as there was currently no appreciable understanding of the cross-cutting issues of climate change and other environmental concerns. Cross-sectoral issues must be identified, explored and debated and training required for key individuals in order to be able to do this.

Javier Garcia Fernandez from the IUCN Argentine National Committee, having led the technical team for developing the national strategy on biodiversity, presented on the recent experiences of Argentina on its national biodiversity planning, a project supported by the GEF. During 1997 and 1998 Argentina ended the first cycle of two national planning exercises – the first on desertification and the second on biodiversity. At the same time a national project on climate change was executed. Discussions centered around the need to link the different

environmental planning processes and ways to improve each planning process cycle. Focus was given on the need for wide participation of all relevant stakeholders in national environmental planning and the funding and time constraints of GEF-supported planning projects.

The second session discussed concrete examples of national strategies and action plans.

Stephen Mutimba from the African Centre for Technology Studies, Kenya talked about the efforts by Kenya to adapt to climate change. He pointed out that Kenya has few explicit adaptation policies and in this absence some responses at the local level contribute to adaptation. A case study of a dryland area in Kenya was presented which illustrated how a climatic event, such as drought, impacts on rural households and the mechanisms employed at this level to respond to such an event. It was suggested that climate change policies should focus on the household capacity to adapt and especially those adaptation options that are based on local resources and which are not investment or labor intensive. In this way strategies can be formulated which will meet the immediate development needs of the poor and at the same time satisfy longer term adaptive goals to mitigate the impact of climate change.

The third session discussed early experiences with coordinating national strategies between the Rio agreements.

Néstor Oscar Maceira, from the National Institute of Agricultural Technology of Argentina (INTA) gave a presentation on biodiversity conservation and the prevention of desertification in the agricultural sector of Argentina. INTA, a national agency whose focus is to provide technological support to agricultural development, had an active participation in the development of the project for the National Biodiversity Strategy and in the National Action Plan for the Prevention of Desertification. Both were presented for discussion. In addition, various institutional projects, such as the evaluation and monitoring of desertification in semi-arid and arid regions and the evaluation of the impact of different management practices on soil conservation and biodiversity were discussed.

Emerging issues

The following points summarize the general issues emerging from workshop discussions. They reflect the diverse perspectives of the presenters and discussants at the workshop.

It is necessary to view the international environmental regime in a holistic manner. Otherwise, there is a risk that efforts to implement one agreement may contradict the objectives of another.

At the national level, countries should endeavor to do more to coordinate and integrate efforts to implement the various National Strategies and Action Plans under the Rio Conventions. Inter alia, it was recommended that the implementation of all three of the Rio Conventions (and all other relevant conventions) would be greatly enhanced if the responsibility for implementation and compliance resides within the same institution of government. It should also be ensured that this institution has strong links of communication to the rest of government and society.

The participants of this workshop also recommended that the Conference of the Parties of each of the three Rio Conventions endeavor to streamline and coordinate the agreements. As part of this process, a concerted effort should be undertaken to raise the importance of the international environmental regime within the international system and to bring it to an equal footing with other international regimes, such as the World Trade Organization.

The workshop participants stressed the need to identify areas of common concern that can be pursued in the action plans under the three Rio Conventions. For instance, local actions to counter the adverse effects of climatic variability and micro-climate instability is one example where climate, desertification, and biodiversity goals can be reached, for example, by promoting restoration and/or conservation of forested watersheds.

Further, the workshop participants invited the Conference of the Parties of each of the Rio Conventions, the Convention Secretariats, and other stakeholders to promote guidelines and financial resources to develop and carry out projects and action plans that implement these agreements in a mutually supportive manner.



It should be recognized that all three Rio Conventions have individual importance, and it is therefore, equally necessary to maintain mechanisms that address the specific dynamics of each convention. The potential for synergy among the three conventions is most apparent at the national level, where sustainable development is a common objective. To the extent possible, the international fora mechanisms should support this coordinated approach.

Presentations given during the workshop

Session 1: Preparing national strategies: early experiences with the process

- CC: TRAIN: Support for Countries in Preparing Climate Change Implementation Strategies – **Gao Pronove**
- National Climate Change Action Plan for Thailand – **Sitanon Jesdapipat**
- Reflections on National Biodiversity Planning Processes, based on Recent Experiences under the GEF-supported Enabling Activities – **Javier Garcia Fernandez**

Session 2: Case studies of national strategies and action plans

- Climate Change Adaptation in Kenya – **Stephen Mutimba**
- National Climate change Action Plan for Zimbabwe – **Todd Ngara**

Session 3: Early experience with coordinating national strategies

- Biodiversity Conservation and Prevention of Desertification in the Agricultural Sector of Argentina – **Néstor Oscar Maceira**
- Coordinating National Strategies: A Role for UNEP – **Kalemani Mulongoy**

SUSTAINABLE USE AND CLIMATE CHANGE

The workshop was organized by Biodiversity Action Network (BIONET), IUCN Social Policy Group, Argentine National Institute of Agricultural Technology, and the Indigenous People's Biodiversity Network. It was attended by a diverse group of about 10 professionals from five continents.

Overview of presentations

The group focused its work on linking on-the-ground experiences of impacts of climate change with policy development. The sessions were chaired by Hans J.H. Verolme, coordinator of the Biodiversity Action Network (BIONET) based in Washington, DC, USA.

The first session provided an overview of the impacts of climate change on wildlife and habitats.

Merylyn McKenzie Hedger of the UK Climate Impacts Programme discussed the need for new dialogues on conservation to take into account climate change. Several gaps can be identified in current disclosures in the biodiversity and climate change worlds. There is a 'Political Gap' of action on reducing greenhouse gas emissions, an 'Understanding Gap' about what will happen in specific sites with climate change and a 'Will to Act Gap' about what to do on biodiversity conservation. Practical measures can be taken immediately by starting in the here and now to switch research priorities and change agendas. She proposed to focus efforts more on the vulnerability of ecosystems and to make appraisals more rapid and participatory.

Krishna Dulal Debnath from Friends of the Earth – Bangladesh gave an account of the huge impact recent floods have had on his country, both on biodiversity and people. Flood intensity resulting from climate change seems to be increasing and countries, such as Bangladesh with poor infrastructure and a large population living below the poverty level carry the burden of such extreme events. In such a poor economic and social scenario, any damage caused by natural disaster becomes almost irreparable.

John Lanchbery of BirdLife International UK presented compelling evidence of the impact of climate change on

wildlife habitat in the UK. Breeding and migratory behavior may change, species may move, decline or disappear altogether in line with changing temperature, precipitation or both. The difficulties of managing protected areas and in finding alternative conservation areas for vulnerable species which need new habitats due to ecosystem changes was raised.

The second session addressed ecological and social issues related to climate change adaptation in various regions, including Central Asia, Southern Africa, and East Africa.

Charles Oyaya presented on behalf of Professor Okoth-Ogendo of ACTS, Nariobi, on the institutional changes needed for adaptation to work. The example of Kenya's experience in land policy reform was used to highlight the need for security of tenure, participation by local users in land-use decision making and new technologies enabling change.

Another presentation by **V A Selvam Daniel** also focused on adaptation strategies for climate change in areas under severe ecological constraints. Effective strategies for these regions include formulation of effective well represented conservation management groups, continuous collection of relevant ecological and climatic data, assessing and prioritizing needs through community participation, searching and selecting for management options and implementation through community initiatives. Ways in which women could be key animators in adopting these strategies based on adaptation policies in conservation management were discussed. The presentation was enriched by vivid examples of adaptive livelihood strategies of the poor. Most live in semi-arid regions, which are marginal to rain-fed agriculture.

Ruud Jansen of IUCN's Southern Africa office explained how for Southern Africa, an area familiar with climatic variability and its impact on livelihoods, climate change is a regional problem requiring regional cooperation. Shifts in the distribution of natural resources, such as water, wildlife, and arable land for agriculture, may create environmental refugees and conflict. He described trans-boundary initiatives in which countries of the Southern Africa Development Community (SADC) work together and explore win-win situations and projects that can harness biodiversity, combat desertification as well as mitigate climate change. Community-based resource management approaches, recognition of the role of

indigenous knowledge in sustainable agriculture and making equity an important part of the environmental agenda were elements identified that contribute to new regional policies.

The third session addressed whether climate change mitigation strategies could be used to further sustainable use initiatives.

Hans Verweij of FACE Foundation, The Netherlands, presented the workshop with the example of an AIJ- reforestation project in Ecuador. He highlighted the tension between the need for short-term financial benefits local communities demanded and the criteria of supplementary cost effectiveness and sustainability FACE imposes. In this case, additional research is needed on the market viability of native species.

Mary Vasquez of Programme for Belize/The Nature Conservancy reported on another project which aims to address biodiversity concerns in the context of a climate mitigation project in the Rio Bravo region of Belize. The project combines protected area management with sustainable use of timber and non-timber resources. However, because indigenous communities were not residing in the project core area prior to establishment, this unique project may be difficult to replicate.

In addition to the presentations highlighted above, many participants emphasized the importance of cultural and esthetic values along with the value of biodiversity. For example, while some promote reforestation projects others prefer to focus on ecological restoration. The recognition of multiple values of forest ecosystems should result in projects with multiple objectives that fit local conditions and account for local priorities. Finally, it was pointed out that in the context of the UNFCCC compensation to countries heavily impacted by climate change has only been discussed in the context of the CDM, and this concept requires application to other mechanisms.

Emerging issues

The following points summarize the general issues emerging from workshop discussions. They reflect the diverse perspectives of the presenters and discussants at the workshop.

The workshop on sustainable use and climate change was presented with clear examples of current impacts of climatic change on specific ecosystems, regions and communities. Evidence was shown that recent extreme events, such as the floods in Bangladesh, have led to a loss of biodiversity, and may be a signal of climate change. Next, examples of adaptation initiatives and projects with both climate and biodiversity objectives were presented.

Current difficulties

There still are gaps in the data available, in particular in developing countries. In other cases though, knowledge and awareness is insufficiently translated into policies and action. Certain actions need to be taken **now** and resources need to be allocated for those. There is a real risk of international conflicts over natural resources, such as water, environmental refugees, and food insecurity. Resource-poor communities and communities heavily dependent on natural resources face tough choices in adapting to a climate changed world. Compensation for countries heavily impacted by climatic change was called for by several participants. Also, there is a need for the further development of alternative energy sources.

What do we need?

- Research needs to be firmly embedded in a policy development process. Successful examples were presented of integrated research as part of the awareness raising process in community-driven adaptation projects.
- The role of financial and legal instruments in facilitating adaptation needs to be further explored. The compartmentalization of government policy and legal frameworks was seen to inhibit effective action. The integration of issues by the development of a common framework with a clear objective is considered imperative.
- We need to enhance the role of local communities, especially promoting active participation by groups such as indigenous communities and women. In general, full participation of all stakeholders in both design and execution of projects is key to their success. Strategies devised to cope with climatic change need to be carefully crafted to fit local conditions. Successful strategies, while available to some, may not work for others. The equitable sharing of benefits with local communities is essential.

- Still, more dialogues and workshops with the aim to educate the public, provide training, and disseminate information are required.
- Despite the complexity and risks involved, the group shared the opinion that putting economic value on biodiversity goods and services was necessary in order for that value to be recognized by policy makers.
- Governments can recognize multiple values in their national communications and reports to the climate and biodiversity conventions and by cross-referencing biodiversity and climate initiatives in national action plans.

Presentations given during the workshop

Session 1: Impacts of climate change on wildlife and habitats

- Reality of Climate Change: New Dialogues needed on Conservation – **Merylyn McKenzie Hedger**
- Recent Floods in Bangladesh and Climate Changes: Ecological and Socio-economic Impact – **Krishna Dulal Debnath**
- Early Indications of the Effects of Climate Change on Wild Fauna – **John Lanchbery**

Session 2: Adapting to a climate changed world: ecological and socio-economic issues

- Biodiversity Conservation Strategies for Areas under Ecological Constraints – **V A Selvam Daniel**
- Climate Changes, Changes for Whom? A Glance at Socio-economic and Human Impacts in the Southern African Region – **Ruud Jansen**
- Climate Change Adaptation: Exploring the Role of Land Policy Reforms – **Charles Oyaya**

Session 3: Climate mitigation as a tool for sustainable use?

- Biodiversity and Socio-economic Development in Climate Mitigation: An Example from Ecuador – **Hans Verweij**
- Forest Conservation and Management for Climate, Biodiversity and People: the Rio Bravo Carbon Sequestration Pilot Project – **Mary Vasquez**

Possible solutions

A call for a change in attitude and the creative development of plans was made. In particular, legal instruments are needed that coordinate policies designed to build an environmentally and socially sustainable future.

Projects with multiple objectives as in the case of climate mitigation/biodiversity conversation projects face challenges beyond those of single sector projects. However, such projects present us with win-win situations that need to be embraced.

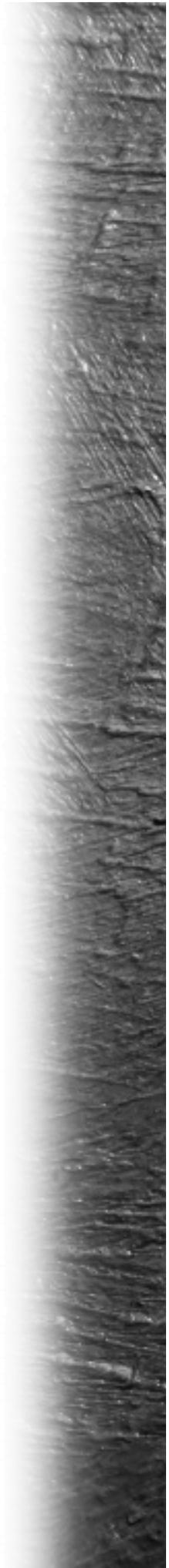
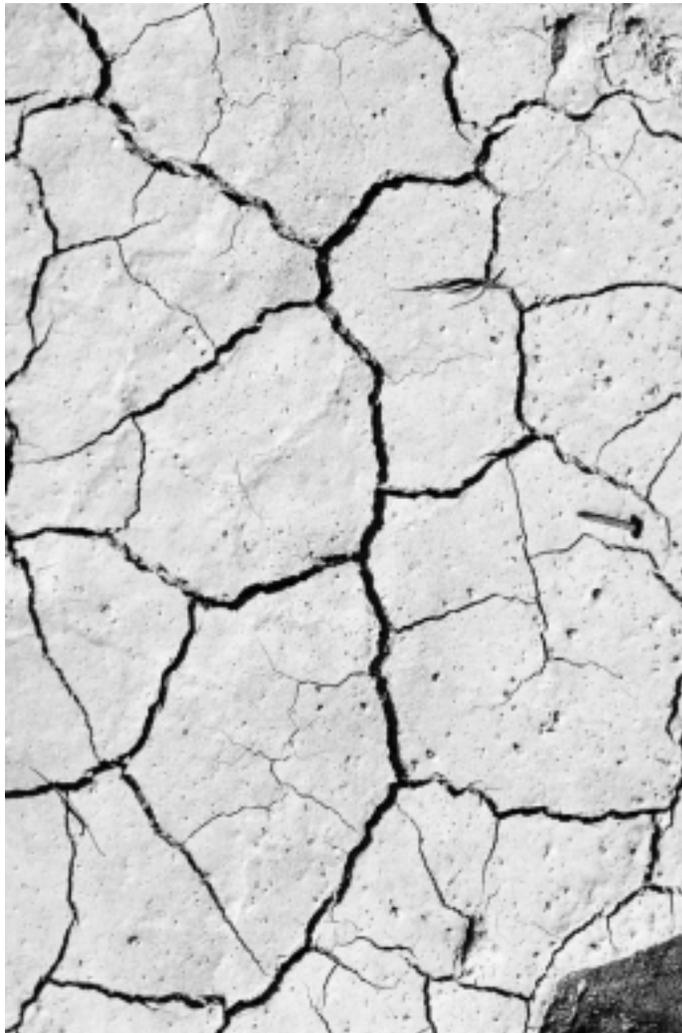
CLOSING PLENARY

Alicia Barcena and **Javier Garcia Fernandez** co-chaired the closing plenary. The participants were presented with the statements from the four workshops. In addition, a representative from the Indigenous Association of Argentina made a brief presentation on the role of native traditions and knowledge in environmental protection. He stressed the need to integrate the perspectives of the biodiversity community on the issue of forests and land use change into the climate change debate. He also noted the importance of environmental education for the general public in order for improvements in environmental protection to be made. The statements were adopted and the forum was closed.



PART III

Appendices





APPENDIX 1

Statement of IUCN – The World Conservation Union on the 11th Session of the Global Biodiversity Forum presented to the Plenary of the 4th Conference of Parties of the UNFCCC

Madame President, Distinguished Delegates, Ladies and Gentlemen, I am speaking on behalf of IUCN – The World Conservation Union as coordinator of the IUCN National Committee of Argentina. It is an honor to have with us in this session the presence of our President, Minister of Environment of Ecuador, Yolanda Kakabadse, and three councilors: Juan Mayr, Minister of Environment of Colombia, Akiko Domoto, Parliamentarian in the Japanese Diet, and our Head of Delegation, Alicia Barcena, Chief Advisor to UNDP. It is my pleasure to address you today to report on the Global Biodiversity Forum. The Global Biodiversity Forum, or GBF, provides an independent and strategic arena for all stakeholders, including governments, NGOs, the private sector, local and indigenous communities to discuss and debate important ecological, economic, and social issues relevant to the conservation and sustainable use of biodiversity.

On 6–8 November, a number of institutions, including UNEP, the World Resources Institute, African Centre for Technology Studies, Climate Action Network-Latin America, UNITAR, the Biodiversity Action Network, the Indigenous People's Biodiversity Network, and IUCN hosted the eleventh session of the Global Biodiversity Forum. This was the second session devoted to exploring the linkages between the UNFCCC and the Convention on Biological Diversity, the first one being held last year in Kyoto at the time of the negotiations of the Kyoto Protocol.

As is recognised in Article 2 of the United Nations Framework Convention on Climate Change, Parties are called upon to address the problem of climate change in a manner that ensures that ecosystems and societies are not threatened. Further, Article 4.1 (d) of the Convention commits Parties to promoting the sustainable management, conservation, and enhancement of sinks and reservoirs of greenhouse gases. It is these same sinks and reservoirs, such as forests and oceans that serve as a harbour for much of the world's biodiversity.

In this session of the GBF, 150 participants from 40 countries addressed four critical issues of concern to the biodiversity community with respect to the climate change agenda: National Strategies, Sustainable Use, Finance, and Forests.

In the workshop on National Strategies, the participants took note of the growing number of multilateral environmental agreements – the UNFCCC, the convention on biological Diversity, the Convention to Combat Desertification, the Ramsar convention, and the World Heritage Convention to name just a few. It was observed that this proliferation of agreements has led to a more and more fragmented international environmental regime. The planning and implementing capacity of many countries has become stressed. It was recommended that the international environmental regime be viewed in a more holistic manner, and that on the national level countries should endeavour to do more to coordinate and build synergy in their efforts to implement these agreements, including exploring measures, such as watershed conservation which simultaneously mitigate climate change and prevent the loss of biodiversity. It was also stressed that the increasing number of agreements has created the risk that efforts to implement one agreement may contradict the objectives of another, such as replacing native forested ecosystems with plantations in order to sequester carbon.

In the workshop on Sustainable Use and Climate Change, evidence was presented that recent extreme events, such as the floods in Bangladesh and China coral bleaching in the Indian Ocean and Caribbean, have led to a loss of biodiversity, and may be a signal of climate change. It was pointed out that resource-poor communities and communities heavily dependent on natural resources face tough choices in adapting to a climate changed world. We need to enhance the role of local communities and promote the active participation of groups, such as

indigenous communities and women, in the climate change debate. The full participation of all stakeholders in the design of strategies and actions is the key to successfully mitigating and adapting to climate change.

The role of Financial and Economic Incentives in promoting the coordination of climate change and biodiversity issues was also discussed. It was recognised that the Global Environment Facility has an important and clearly defined role to play in financing the implementation of the UNFCCC and the Convention on Biological Diversity. It was also noted that the GEF may be in a unique position to further the debate on how to implement the two conventions in a mutually supportive manner. The private sector has indicated a willingness to participate in the implementation of the goals of the UNFCCC and the CBD, but clear rules of the game are needed to provide sufficient encouragement for broad private sector involvement.

In the workshop Forests in the Climate Change Agenda, the participants recognised that the destruction and conversion of forests and other natural ecosystems worldwide is a significant contributor to the loss of biodiversity and also a part of the problem of climate change. Forest-based measures intended to mitigate climate change could provide significant biodiversity and socio-economic benefits. However, this outcome is not assured. Done incorrectly, the forest-based measures to address climate change through the UNFCCC and its Kyoto Protocol could result in negative impacts on forests and other natural ecosystems, communities and the climate system. It is essential that the implementation of the mechanisms of the UNFCCC and its Kyoto Protocol at the very least do no harm to biodiversity conservation.

Finally, the participants to the 11th session of the GBF stressed the need for further efforts to raise the profile of biodiversity concerns within the climate change agenda. In particular, participants recommended that protecting the ecological integrity of nature and sustaining the societies, which are supported by it, is vital to addressing the climate change issue.

IUCN-The World Conservation Union is one of the world's oldest international conservation organisations. It was established in 1948, and last week we celebrated our 50th anniversary in our birthplace, Fontainebleau, France. As a conservation organisation, IUCN is unique in that it is a

union of other organisations. It brings together 74 governments, including many in this room, 105 government agencies and more than 700 non-governmental organisations, drawn from 138 countries. Altogether the members of IUCN make up a global network of 900 institutions and some 8,000 scientists and experts in six commissions from 139 countries. Our mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature, and ensure that any use of natural resources is equitable and ecologically sustainable.

Our work has indicated that addressing the problem of climate change is directly related to this mission. Progress since the 1992 Rio Earth Summit has been good but slow. The global climate is still very much threatened and we continue to see a net loss in quality of life and environmental degradation in parts of the world.

Pollution and unsustainable management practices already threaten the life support systems upon which humanity depends. Climate change is an important additional stress. In the face of climate change, the loss of species and ecosystems will likely accelerate. Many species will be made more vulnerable to extinction, and important ecosystems, such as wetlands and coral reefs, could be eliminated in some places. Communities that are currently struggling to improve their livelihoods will be made even more vulnerable by climate change. Measures to protect the species, ecosystems and the goods and services they provide to society may be rendered ineffective by climate change.

Future generations will judge us on our timidity in the global struggles to combat climate change, to avoid biodiversity loss, and to halt desertification. Without a much stronger commitment to solving these global problems, we will bequeath to our children and grandchildren an irretrievably impoverished world. Such a fate can be avoided, but it requires a strong international commitment and concerned action.

Madam President, Honourable delegates, we look forward to working with Conference of the parties in the coming years and appreciate the opportunity to make this statement. Thank you.

Fernando Ardura,
IUCN National Committee for Argentina

APPENDIX 2

Participants list

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- African Centre for Technology Studies (ACTS)
- United Nations Environment Programme (UNEP)
- IUCN National Committee for Argentina
- Climate Action Network – Latin America
- United Nations Institute for Training and Research (UNITAR)
- Biodiversity Action Network (BIONET)
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The Global Biodiversity Forum (GBF) was conceived in 1992 by the partners of the Global Biodiversity Strategy – the World Resources Institute, IUCN-The World Conservation Union, and the UN Environment Programme. The Forum is designed to contribute to the further development and implementation of the Convention on Biological Diversity (CBD) and other biodiversity-related instruments at the international, regional and national level.

The eleventh session of the Global Biodiversity Forum, held in Buenos Aires, Argentina at the Fourth Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) in November 1998, aimed to explore synergy between the UNFCCC and the Convention on Biological Diversity. The Forum addressed four themes: (1) Forests in the Climate Change Agenda; (2) Biodiversity, Climate Change and Finance; (3) National Strategies and Action Plans; and (4) Sustainable Use and Climate Change.

Following two days of discussion, the participants concluded that the goals of ecosystem conservation and of the equitable and sustainable use of natural resources need to be taken into account when addressing climate change. Subsequent to the Forum, a network of governments, NGOs, international institutions, and private sector representatives has been established to raise the profile of ecological and social concerns within the climate change agenda. Part I of this report examines the linkages between the climate change and biodiversity agendas and summarizes the discussions and emerging issues from the Forum. Part II contains an in-depth summary of the presentations and discussions from the four workshop sessions as well as the opening and closing plenaries.

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