



Shaping a sustainable future

The IUCN programme 2009–2012

A background image of a lush green field with tall stalks of grain in the foreground. A single tree stands in the middle ground, and a person carrying a basket on their head is visible on the right side.

**CHANGING THE
CLIMATE FORECAST
NATURALLY
ENERGIZING THE
FUTURE MANAGING
ECOSYSTEMS FOR
HUMAN WELL-BEING
GREENING THE
WORLD ECONOMY**

This document is the IUCN Programme 2009–2012 as adopted at the World Conservation Congress, Barcelona, Spain, 5–14 October 2008. It is part of a set of documents which, together, form the IUCN Intersessional Plan for 2009–2012:

- An Eye on Nature – A situation analysis for the IUCN 2009–2012 Programme;
- IUCN Operational Plan 2009–2012;
- Shaping a sustainable future – The IUCN Programme 2009–2012;
- Monitoring plan for the IUCN Programme 2009–2012.

Detailed work plans for all IUCN Component Programmes (Commissions, Regional Programmes, Global Thematic Programmes), as well as the Commission mandates adopted at the World Conservation Congress, can be found on the on the IUCN website: www.iucn.org.

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Shaping a sustainable future

The IUCN Programme 2009–2012

SHAPING A SUSTAINABLE FUTURE

The IUCN Programme 2009–2012

Adopted at the World Conservation Congress

Barcelona, Spain, 5–14 October 2008



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FOREWORD

This document describes the conservation results that IUCN aims to achieve globally between 2009 and 2012. It is a framework for the more detailed result-based plans of IUCN's Commissions and Secretariat working with and on behalf of members to deliver IUCN's mission. These Component Programme Plans (see www.iucn.org/programme) provide concrete entry points for members to engage in joint action with IUCN.

As Director General, I am committed to strengthening our heartland work on biodiversity conservation as the basis of the IUCN Programme 2009–2012, while enhancing the means by which IUCN members can engage in the implementation of that Programme. Together we will use IUCN's knowledge and networks to influence decision makers to secure a future for nature and better integrate biodiversity concerns into policies and practices of climate change, energy, development, human security, markets and trade. Details of how the Secretariat intends to better engage members and Commissions in the Programme can be found in IUCN's Operational Plan 2009–2012.

I am pleased to report that this Programme has been developed through the most extensive consultation process

ever and I am grateful for the thoughtful input provided by IUCN members, Commission members, donors and other partners. In addition to these consultations, the IUCN Programme 2009–2012 is guided by the Mission Statement and the objectives of the Union and has also taken into account the resolutions and recommendations approved at World Conservation Congresses, lessons learned in recent years about conservation and sustainability, and emerging issues and trends.

In this way, the IUCN Programme 2009–2012 indicates the practical ways in which IUCN pursues its vision of “A just world that values and conserves nature”. As our mission clearly states, IUCN will, “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.” I welcome your contributions toward achieving the results of the IUCN Programme 2009–2012.

Julia Marton-Lefèvre
Director General IUCN

EXECUTIVE SUMMARY

IUCN is first and foremost a union of members that cares deeply about biodiversity and whose fundamental expertise is on species, habitats and ecosystems. We recognize the intrinsic value of nature, and we have learned that biodiversity underpins the well-being of human societies and their economies. We have also learnt that conservation can only succeed if attention is given to the underlying causes of biodiversity loss, while actions are taken at the same time to mitigate the direct drivers of change. We have demonstrated that effectively managed natural resources are key to sustainable development, support peaceful communities and can help reduce poverty.

The IUCN Programme 2009–2012 – Shaping a sustainable future – will:

1. contribute directly to targets agreed internationally by governments to reduce the rate of loss of biodiversity, and
2. contribute an environmental perspective to the achievement of the Millennium Development Goals, the Plan of Implementation of the World Summit on Sustainable Development, and other relevant international commitments.

We recognize successful biodiversity conservation must link environmental health and human well-being and ensure that internationally agreed targets and goals are based on sound environmental principles.

IUCN, as a knowledge-based organization, provides knowledge and tools, builds capacity to use these tools, and helps others develop more effective policies and laws, instruments and institutions.

Building on this approach, and in view of the ever-growing threat to environmental health and the lack of progress towards sustainability, the IUCN Programme recognizes the continuing need to

support biodiversity conservation at all levels, with governments, civil society and the private sector. It strengthens the Union's heartland work on conserving biodiversity as the basis for developing more effective and strategic interventions linked to the global sustainability agenda in the areas of climate change, energy, poverty and security, and economy and markets. The Core Programme Area (**Conserving biodiversity**) of the IUCN Programme 2009–2012 remains the focus of IUCN's efforts, but the linkages between biodiversity loss and key underlying causes must also be addressed. These are identified in four thematic programme areas:

- **Changing the climate forecast**
Integrating biodiversity considerations and opportunities into climate change policy and practice
- **Naturally energising the future**
Implementing ecologically sustainable, equitable and efficient energy systems
- **Managing ecosystems for human well-being**
Improving livelihoods, reducing poverty and vulnerability, and enhancing environmental and human security through sustainable ecosystem management
- **Greening the world economy**
Integrating ecosystem conservation values into economic policy, finance and markets

Because conditions are constantly changing, conservation actions need to be monitored and adjusted (a process often called "adaptive management"), with the results leading to more effective subsequent action. IUCN will continue to adapt and innovate while also striving to deliver the Core Programme Area and the four Thematic Programme Areas of the IUCN Programme 2009–2012.

The IUCN Programme 2009–2012 provides the framework for planning,

implementing, monitoring, and evaluating the conservation work undertaken by the Commissions and the Secretariat with and on behalf of members. It is a result-based, demand-driven plan of action that

2009–2012 describes how IUCN will implement the programme and deliver on mid-term strategic objectives related to membership, communications, fundraising, etc.



addresses global issues, incorporates national level priorities, and provides a structure for detailed work plans for the Commissions and the Regional and Global Thematic Programmes of IUCN. The IUCN Programme 2009–2012 provides focus for the Union to take action and engage with members, partners and other stakeholders and deliver concrete results in our pursuit of a just world that values and conserves nature.

This document is part of an integrated package, which together forms the IUCN Intersessional Plan 2009–2012. “Shaping a sustainable future” is IUCN’s response to the global environmental situation depicted in “An Eye on Nature” – the Situation Analysis for the IUCN Programme 2009–2012. The IUCN Operational Plan

The Programme was developed through an extensive consultation process involving IUCN members and partners worldwide. It has been informed by longer-term perspectives from discussion on the Future of Sustainability and in accordance with the IUCN Strategy.

Detailed plans for IUCN’s Component Programmes (Commissions, Regional Programmes, Global Thematic Programmes) can be found on the IUCN website: www.iucn.org/programme.

INTRODUCTION

In 1948, as the world was awakening from a long night of war and horror and designing a new international order for peace and security, a small group of committed conservationists had the vision that 18 governments, seven international organizations and 107 national organizations would be much stronger and achieve much more if they combined their efforts for the conservation of nature. Before the signing of the Fontainebleau Declaration that established IUCN on 4 October 1948, the famous writer, Aldous Huxley was writing to his brother, Julian, then Director General of UNESCO and one of the founders of IUCN:

"Meanwhile I come to feel more and more that no system of morals is adequate which does not include within the sphere of moral relationships, not only other human beings, but animals, plants and even things. We have done quite monstrously badly by the earth we live in, and now the earth we live in, with its soil eroded, its forests ravaged, its rivers polluted, its mineral resources reduced, is doing so badly by us that, unless we stop our insane fiddling at power politics and use all available knowledge, intelligence and good will to repair the harm we have done, the whole of mankind will be starving in a dust bowl within a century or two. People still seem to believe that there is poverty in the midst of plenty, when in fact there is only poverty in the midst of growing poverty – and all through our own fault, through not treating nature morally. [...]"

"If we don't do something about it pretty soon, we shall find that, even if we escape atomic warfare, we shall destroy our civilization by destroying the cosmic capital on which we live. Our relation to earth is not that of mutually beneficial symbiosis; we have become the kind of parasite that kills its host, even at the risk of killing itself."

STRENGTH IN NUMBERS AND DIVERSITY

The Union's strength arises from the number, diversity, expertise and actions of its members. Presently, IUCN has 1,104 members comprising 84 States, 111 Government Agencies, 874 National and International NGOs and 35 Affiliates. These members are present in 147 countries.

IUCN'S COMMISSIONS

*Commission on Ecosystem Management
Commission on Education and Communication
Commission on Environmental, Economic and Social Policy
Commission on Environmental Law
Species Survival Commission
World Commission on Protected Areas*

Today, IUCN unites more than 1000 States, government agencies, international and national non-governmental organizations working together towards sustainability. The spirit that inspired its founders to sign the Fontainebleau Declaration has kept all its relevance: environmental health underpins human well-being. IUCN's unique structure enables democratic and open dialogues between civil society and governments; the steady growth of its knowledge and expertise, and the pooling of knowledge and resources in integrated approaches to conservation for sustainable development are having a positive impact throughout the world.

This Programme is the result of extensive consultations with and within IUCN members, Commissions, donors and other partners. It shows the practical ways in which the Union of 84 governments, 111 government agencies, 874 international and national non-governmental organizations and 35 affiliates plans to shape sustainable solutions for the future. It describes how IUCN's value added and competencies in providing credible knowledge, convening stakeholders and ensuring the policy-practice loop is maintained from local to global levels will be employed in practice. It specifies what we will deliver for conservation from the heartland work of IUCN on conserving biodiversity and strategically intervening in four thematic programme areas from 2009 to 2012.

CONSERVATION AND SUSTAINABILITY

The processes threatening the health and future of our planet – climate change, species extinction, degradation of ecosystems, growing social inequalities

it needs to articulate the relevance of its ‘heartland work’ to a new era of sustainable development thinking. Our objective is not to react to doom-and-gloom scenarios through fortress conservation, but rather to identify the biological and environmental building blocks for sustainability and to catalyse urgent collaborative innovation and action.

While we should celebrate past achievements, the international community’s response to environmental challenges over the last two decades has often been too slow and at a scale that fails to respond to the magnitude of the challenges.

The good news is that viable options for a more sustainable future exist, if we choose to implement them. Environmental issues, once regarded as irrelevant to economic activity, today are dramatically rewriting the rules for business, investors and consumers. The development of environmental economics, the emergence of environmental markets (e.g. the carbon market), new statistics and metrics (e.g. beyond GDP; footprint calculators; sustainability indices), the rise of renewable energy technologies, the conception of eco-technologies for the next industrial revolution (e.g. bio and eco-mimicry), and the emergence of new action networks for sustainability are offering us the building blocks to forge a sustainable future.

A new generation of communications, if well used, can help highlight the positive linkages between biodiversity, livelihoods, lifestyles, prosperity, tolerance and peace. The environmental and social justice movement now encompasses one million NGOs embracing more than 100 million people worldwide – the world’s largest single movement, linking sustainability, social justice and equity. The environmental community is beginning to take better



and the challenge of feeding a growing population – are extremely complex and can lead to irreversible environmental damage reducing the ability of species, ecosystems and people to respond to change. They demand new policy approaches and urgent action.

While IUCN’s Vision and Mission are more relevant than ever, the Union needs to adapt its strategies and tactics to rise to the new challenges generated by the social, economic and political changes.

IUCN works within a sustainable development paradigm, but is not a sustainability organization. Nevertheless,

advantage of these new outreach opportunities, through Web 2.0 and mobile phone technologies for example, to engage new partners in strengthening the growing social movement for sustainability.

We cannot ignore the fact that tackling the underlying causes of unsustainable development will affect the vested interests of powerful groups that shape and determine policy decisions. We therefore believe that the principal way to address these powers is by continuing to broaden the new awareness of a sustainable environment for development, not development to the detriment of our environment.

The problems we face are grave, complex and urgent, but they are not insurmountable. Our challenge now is to translate the growing awareness of environmental urgency and the gathering social movement for a sustainable future into an effective campaign for political change that will deliver positive and meaningful results for conservation and sustainability.

With our reputation for generating and disseminating sound scientific knowledge, our diverse structure and credibility that allows us to convene a range of stakeholders around key problems, and our local to global reach, IUCN can play a catalytic role in this renewed global effort.

IUCN believes that the environmental constraints within which our societies and economies must operate are real and will result in unsustainability and declines in human well-being if not addressed urgently. The continuing lack of progress toward sustainability and the ever-growing threat to environmental health has prompted IUCN to develop a programme that will simultaneously

strengthen the Union's heartland work on conserving the diversity of life, while developing more effective and strategic interventions to ensure that the global agenda for sustainability supports IUCN's conservation objectives.

IUCN's 2009–2012 Programme is based on the principle that IUCN's core business, conserving biodiversity, will provide the base for IUCN to influence a focused set of programmatic priorities: climate change; energy; poverty and security; and markets and economy – which are fundamental to sustainable development. In this way, IUCN can contribute effectively both to furthering the work of biodiversity conservation as well as to the achievement of global policy goals and targets included in the Millennium Development Goals, the Johannesburg Plan of Action for Sustainable Development, and the 2010 Biodiversity Target.

TODAY'S WORLD THROUGH AN ENVIRONMENTAL LENS

INTRODUCTION

IUCN recognizes the intrinsic value of nature and the importance of enabling natural processes to proceed. IUCN also recognizes that ecosystem health underpins human well-being, and the future of humanity is inextricably linked to the planet's life support systems, through the provision of environmental goods and services.

Human well-being has been defined by the Millennium Ecosystem Assessment as people being able to live the kind of lives they may have reason to value in terms of:

1. access to basic materials for living (food, shelter, clothing),
2. physical and mental health,
3. security in all its dimensions,
4. social/cultural interactions, and
5. the ability to choose how to achieve these components according to each individual's needs and wishes.

The 2005 Millennium Ecosystem Assessment, however, concluded that over the past five decades, humans

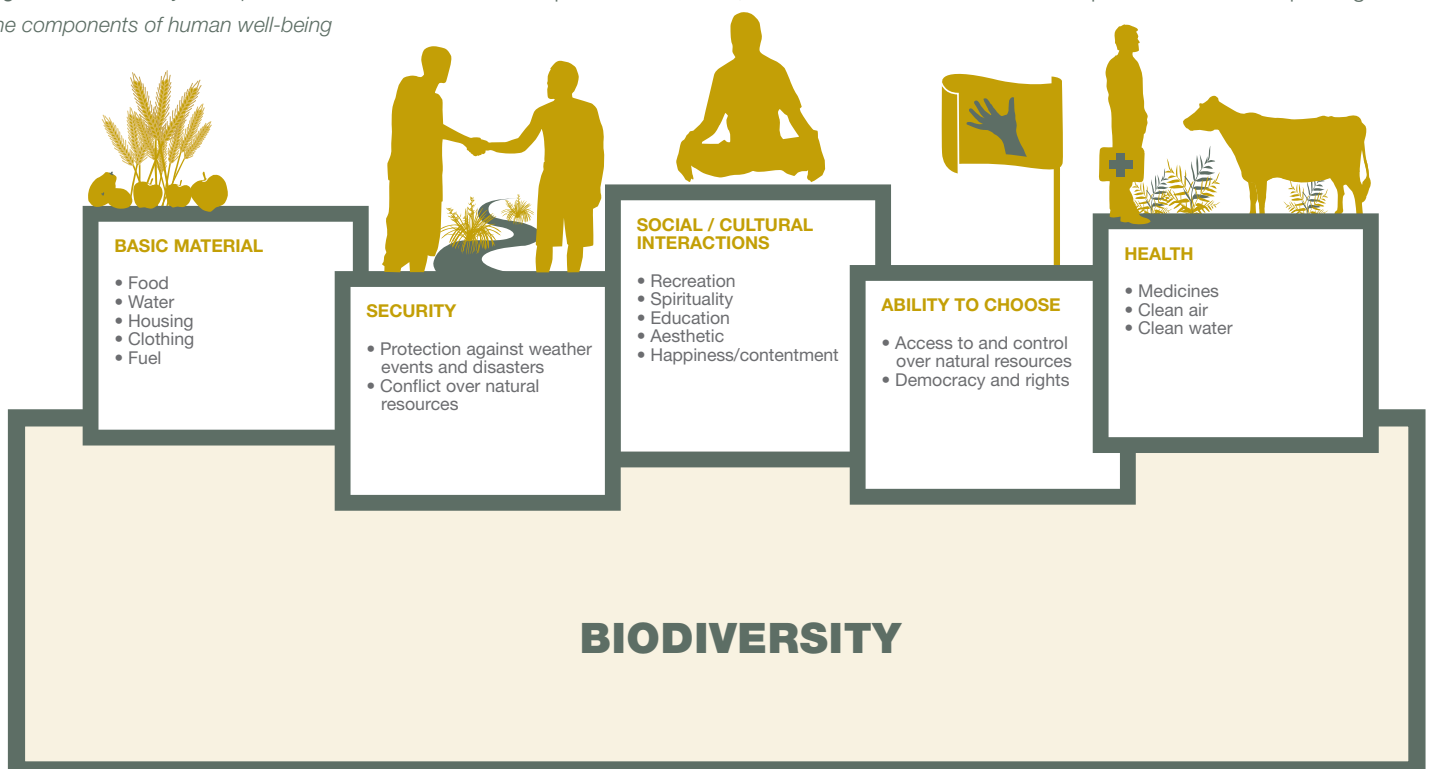
have changed ecosystems more rapidly and extensively than ever before, largely to meet growing demands for food, freshwater, timber, fibre and fuel. The result has been a substantial and largely irreversible loss in the diversity of life on earth. These destructive trends need to be reversed.

Figure 1 gives a representation of the fundamental role of biodiversity underpinning human well-being.

WHERE ARE WE TODAY ?

We are losing biodiversity with each passing year. Both the *IUCN Red List of Threatened Species* and the Millennium Ecosystem Assessment documented declines in all biomes and across all taxa, with the most serious declines in islands, dry forests, polar regions and marine environments. The Millennium Ecosystem Assessment further reported that 60% of ecosystem services (see Figure 2) are degraded and 30% of species globally are under threat because of climate change. At the same time, trends in the UNDP Human Development Index are improving

Figure 1: Biodiversity underpins the components of human well-being



in all regions except sub-Saharan Africa. Life is improving for many people, but at what cost and for how long?

The main threats to biodiversity continue to be the loss and degradation of habitat, invasive species, overexploitation and pollution. More recently, climate change has been added to the mix. The impacts of climate change, on both biodiversity and economies, are emerging as an overarching issue that compounds the effects of the other threats. Growing political attention to climate change has focused primarily on potential economic

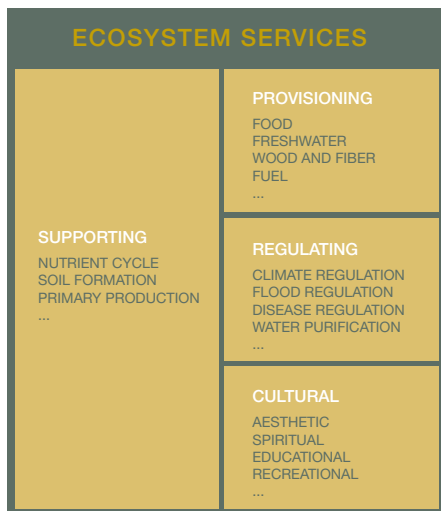


Figure 2: Ecosystem services (adapted from the Millennium Ecosystem Assessment)

impacts. Despite the evident relationship of biodiversity as an economic cornerstone, little attention is being given to the effects of climate change on biodiversity, or the need to adapt to climate change.

Many drivers of change underlie the threats to biodiversity. The global economy is a particularly potent driver. Consumption patterns and levels in OECD countries show no signs of declining and continue to contribute disproportionately to impacts on the environment. Emerging economies, especially China, India, Brazil, Russia and South Africa, are increasing use of domestic and global natural resources to fuel their development. Impacts of growth on forests, minerals, crops, wildlife, air quality and water have already been felt in emerging economies which are now rapidly expanding trade relationships in an effort to secure long-term supplies of critical resources that have been over-exploited domestically.

Significant gaps in knowledge and capacity remain in linking a healthy environment with sustainability, public health and poverty reduction. These gaps constrain the support that environmental conservation can deliver to poverty reduction. The role of biodiversity has not yet been fully articulated and integrated into global sustainable development models. When speaking of ecosystem services, knowledge of status and trends in key species and ecosystems that supply those services remains patchy – in particular relating to the status of plants, micro-organisms and marine species. Conservation knowledge that has been developed and passed down over generations by indigenous peoples and women is also not being fully recognized or harnessed. Decreasing financial resources and technical capacity in the countries and regions that most need to address conservation as a means to support improved human well-being, especially sub-Saharan Africa, are compounding the problem.

Meanwhile, the number and type of stakeholders involved in environment and sustainability issues are expanding. Besides the role of indigenous peoples and social movements, the role of many parts of the private sector in conservation is growing substantially. Building a broader constituency for conservation will be the key to success of the IUCN Programme 2009–2012 and conservation generally.

The 21st century needs urgent, new and more durable approaches to conserving our natural assets, building on the principles of renewability and resilience, recognizing the intrinsic value of nature, and employing the broader suite of stakeholders in sustainable development. These approaches should embrace traditional and local knowledge and the role of indigenous peoples, rural and urban communities and women. Improving human well-being will depend on

addressing shortages of natural resources, many driven by climate change, and will force the need to address sustainability more seriously.

More detail on the state of the world today can be found in IUCN's situation analysis for the IUCN Programme 2009–2012 (http://www.iucn.org/programme/2009_2012/situation_analysis.htm).

CHANGES IN ECOSYSTEM SERVICES AND HUMAN WELL-BEING

Changes in ecosystem goods and services – and consequently in human well-being – are being caused by land use change, overuse of natural resources, external inputs to the environment such as agrochemicals and pollution, and introduction of native or non-native species. Human population dynamics, the global economy, politics and institutions, and cultural values, which indirectly influence resource distribution and local ecosystem management, are also threatening biodiversity. Now, climate change is posing new challenges to biodiversity and human well-being.

All of the above drivers may work over time as pervasive slow-onset changes. They could be intermittent or linked to sudden, often catastrophic, events. They will also interact across spatial, temporal and organizational scales. For example, while climate change may bring increases in rainfall and runoff to some regions, others will face cyclical drought and more intense weather events. Most regions will witness changes in species composition and distribution, which will have impacts at the landscape and ecosystem scale thus affecting the provision of ecosystem goods and services, with direct implications for human well-being. Addressing this complex interaction of factors that adversely affect

biodiversity is more challenging than the individual threats themselves.

This section also reviews specific underlying causes leading to biodiversity loss and changes in the delivery of environmental goods and services, as they affect human well-being. The identification of these drivers is based on the analysis of past experience in IUCN, as well as internal and external on-going processes like the Global Situation Analysis for the IUCN Programme 2009–2012 and the e-discussions on the Future of Sustainability.

The IUCN Programme 2009–2012 focuses on mitigating the negative impacts of drivers of change while noting some of these same drivers can also have positive impacts. Successful efforts at forest restoration have resulted not only in increased forest cover, but also improved water quality and livelihood opportunities for people in those areas. Conservation action, using these drivers in a positive sense, has doubled the numbers of white-tailed eagles (*Haliaeetus albicilla*) and the seabird Abbott's booby (*Papasula abbotti*). The 2006 IUCN Red list of Threatened Species reports that 139 reassessed species have improved in status in the past decade. The development of protected areas around the world has resulted in over 11% of the terrestrial surface of the planet under some form of protection.

DIRECT DRIVERS OF CHANGES IN BIODIVERSITY

HABITAT CHANGE

Despite some positive effects, for example through the establishment of protected areas, habitat change and degradation continues to cause biodiversity loss and is increasingly compounded by other direct drivers, namely climate change, extreme natural events (floods, severe droughts, earthquakes), pollution and invasive species.

WHEN PROTECTION IS NOT ENOUGH...

While 22% of tropical forests are now under some form of decentralized, community-based management which holds real promise for addressing issues such as illegal logging and deforestation which threaten biodiversity, habitat change is not limited to unprotected ecosystems, and a large proportion of protected areas are also facing habitat change and degradation problems. According to UNEP, 37 of the 41 National Parks hosting the orang-utan in Indonesia are threatened by illegal logging while most protected areas in Africa have at least one problematic invasive species causing significant ecosystem change – even though these are not always recognized or seen as threatening to the integrity of the protected area system

The Millennium Ecosystem Assessment documented the dominant negative impacts of agriculture on land and freshwater use. Agriculture fragments the landscape and breaks formerly-contiguous wild species populations into vulnerable smaller units. Global demand for agricultural products is projected to rise over the coming decades. On the other hand, agricultural landscapes are critically important in providing products for human sustenance, supporting wild species diversity and maintaining ecosystem services. The need to reconcile agricultural production and production-dependent rural livelihoods with healthy ecosystems has already prompted widespread innovation to coordinate landscape and policy action.

Freshwater ecosystems are threatened by dam construction, dredging and canalization, lack of sanitation and sewage, drainage of wetlands and deforestation.

Increasing oil prices and concerns about the limits of fossil fuels are projected to increase the production and use of biofuels (ethanol and bio-diesel) almost fivefold. Today, they are produced on 1% of arable land globally and support 1% of road transport demand. By 2030, it is projected to increase to 4% or more with the biggest increase in the USA and Europe. Growing energy needs are likely to increase the conversion of arable land from crops to biofuel production, potentially leading to the creation of vast areas of biodiversity-poor monocultures, replacing agricultural areas of high biodiversity value and increasing pressure on already scarce water resources.

CLIMATE CHANGE AND EXTREME WEATHER EVENTS

Climate change has become a front-page issue throughout the world. Changing temperatures and rainfall patterns could in the medium- and long-term become the main drivers of biodiversity loss,

accelerating current factors such as habitat loss and fragmentation. Climate change is happening much faster than natural systems can adapt, which may lead to a massive loss of biodiversity.

Species ranges and behaviours, patterns of subsistence, water availability and human disease distribution are already changing, and opportunities for invasive species are increasing. Even though climate change impacts will be different for each species and region, it is clear that vulnerable species will include already rare or threatened species, migratory species, polar communities, peripheral populations, genetically impoverished species, and specialized species including alpine and island endemics.

Climate change is also having impacts at ecosystem levels and it is projected that polar ecosystems and the ecosystems of the Mediterranean basin, California, Chile, South Africa and Western Australia will be especially strongly affected by climate change. The World Heritage Convention and the Convention on Biological Diversity have recognized that climate change is already affecting many of the world's protected areas and is likely to affect many more in the years to come while, at the same time, systems of linked protected area systems will be one of the most important options to maintain landscape connectivity and allow species to move in response to climate change.

The direct impacts of climate change on national and global economies are also becoming evident. In late 2006, the Stern Review highlighted the high economic cost of inaction. It identified forest conservation as a highly cost-effective way to slow climate change and made the case for maintaining forest cover for both climate and conservation reasons. Growing political acceptance that climate change threats can be cost-effectively addressed can be an important vehicle

to generate support for biodiversity conservation. However, some responses to climate change, such as poorly-planned biofuel plantations, can have negative impacts on biodiversity and equity.

Increasing extreme weather events due to climate change can lead to massive suffering for people and increased environmental impacts. Intact ecosystems can improve resilience to and recovery from extreme weather events, and also increase the capacity to adapt to climate change more generally. Empowerment of poor communities and particularly women in disaster mitigation has also proved effective to save lives and reduce the impact on environmental resources.

NATURAL RESOURCE USE

Natural resources provide the basic materials for human subsistence and well-being. However, over-exploitation of natural resources such as marine resources, tropical timber, water resources, medicinal plants and bush meat is widespread. Over-exploitation affects about one-third of the species that have been assessed. Unsustainable levels of exploitation clearly have significant consequences for the survival of many species and subsequently for longer-term human security.

Marine fish and invertebrates, trees, animals hunted for meat, and plants and animals harvested for the medicinal and pet trade are commonly over-exploited. It is more and more accepted that marine species are just as susceptible to extinction as terrestrial ones, yet most industrial fisheries are either fully or over-exploited. The collapse of the Canadian cod fishery demonstrates that even well-studied fish stocks can be subject to over-exploitation. Most fisheries have huge by-catches and the high value of some individual species such as tuna, groupers and wrasses result in persistent fishing and imminent biological, or at least commercial, extinction.

Although sustainable use of many species should be achievable in theory, many factors conspire to make it hard to achieve in practice. Over-exploitation remains a serious threat to many species and populations. Development of common approaches to managing these shared resources is often complicated by differences between countries and cultures in resource-use philosophy.

SPECIES INTRODUCTIONS AND REMOVALS

Species introductions have been important in human history to produce food and materials. Our food is largely based on species that are not native to where we live (rice and water buffalo in Asia being notable exceptions). The pollination of crops sometimes is dependent on the introduction of pollinating species. For many years, agricultural management programmes have included the introduction of species for biological pest control. In most cases, these are successful tools to increase productivity and improve our lives. However, in some cases, these introduced species become invasive and harm native ecosystems.

Invasive species are defined as non-native species that become established in a new environment, then proliferate and spread in ways that damage human interests. They are now recognized as one of the most significant threats to environmental and economic well-being. Most countries are already grappling with complex and costly invasive species problems, even in protected areas established to conserve native ecosystems. The problem is especially acute on islands, where unique species and ecosystems have evolved in isolation over millions of years, which makes them vulnerable to introduced predators, pathogens and parasites.

Transport technologies have overcome natural bio-geographic barriers and allow species to travel vast distances to new

habitats and become invasive. The growth of international trade and tourism provides more opportunities than ever for species to be spread accidentally or deliberately.

Invasive species have contributed to the demise of almost 40% of the species that have become extinct since 1600 AD.

pollution that has impacts on ecosystems and livelihoods.

Water and air pollution are the result of waste from human activities. Pollution includes numerous substances, including greenhouse gas emissions that lead to climate change, medications (e.g.



Invasive species also are vectors for deadly disease organisms such as malaria and the virus causing West Nile fever. Dealing with invasive species and their growing threat is urgent for both developed and developing countries. The environmental impacts are severe, and the economic damages amount to hundreds of billions of dollars annually worldwide.

EXTERNAL INPUTS

Humankind has developed technologies and materials to maximize the productivity of ecosystems with a mixture of positive and negative consequences. Fertilizers and pesticides, controlled fires and floods, and genetically modified organisms have all been developed to improve productivity, but also have resulted, for instance, in

hormones, antibiotics, analgesics, pest control agents) for livestock management, and chemical by-products of manufacturing. One notable example of their environmental impact is the recent near-extinction of vultures in India because of Diclofenac, an anti-inflammatory drug used on cattle that are consumed by the vultures when they die. Persistent organic pollutants (POPs) can mimic natural mammal hormones and cause hormone-related diseases; beluga whales in the St Lawrence River have suffered from polychlorinated biphenyl accumulation.

Heavy metals such as arsenic, lead and mercury have been repeatedly associated with adverse health effects following exposure through drinking water.

Methyl mercury can reach toxic levels in predatory fish through accumulation in the freshwater food chain. Five Canadian provinces and over 35 USA states have issued health advisories to reduce the consumption of certain freshwater fish with excessive levels of mercury; top predatory marine fish such as tuna and swordfish have also been implicated.

While pollution does not discriminate in general, differences in access to health services, clean-air technology and real estate between the rich and poor cause distributive effects. Women in some developing countries are exposed to higher emissions of particulates from cooking and cleaning and therefore are twice as likely as men to have acute respiratory infections.

Genetically modified organisms (GMOs) are a particularly controversial recent technology, yet they are becoming more and more used in many countries and sectors, from agriculture to health and energy supplies. They may reduce

biodiversity, have social impacts, or have unexpected consequences through gene transfers between plants or animals, and by creating pests or weeds that are resistant to controls. In addition to considering the scientific evidence of the impact of GMOs, other ethical issues need to be considered, including the fact that the benefits of GMOs are currently accruing primarily to the private sector and higher income countries or social groups, while poor countries and farmers are being left behind.

UNDERLYING CAUSES OF BIODIVERSITY CHANGE

DEMOGRAPHICS

Human population growth in this new millennium is continuing and is expected to continue at least until 2050 (Figure 3). The United Nations projects the world's population to increase to more than 9 billion people by 2050. Rapid population growth continues in many of the least-developed countries, where a significant proportion of people depend



heavily on subsistence agriculture and the direct harvest of natural resources for their livelihoods. Population pressure can lead to rapid migration, such as the mass movement of refugees from human conflict or sustained migration for economic reasons or to escape the effects of climate change. This in turn can increase pressures on the environment and lead to permanent changes in land use.

However, total population is not the sole predictor of human impact on the natural environment. Consumption patterns, population age structure, ethnic composition, household size and location, gender, health, income and education play roles too. For example, the needs of the growing elderly segments of the population may require increasing public-sector spending on healthcare and family support while reducing investments in other public goods such as environmental management. The HIV/AIDS epidemic in Africa has resulted in gender and age imbalances in many rural areas, with profound impacts on ecosystems, livelihoods and equity.

In addition, population growth is not uniformly distributed, but includes a significant migration from rural to urban centres in all regions. The impacts of

urbanization on biodiversity are likely to be mixed; while population pressures in rural areas may decline as people move to cities, urban populations tend to consume more resources.

GLOBAL ECONOMY

Relative human well-being is determined by differential access to the goods and services generated through economic activity and to the various types of capital used for production of those goods and services (see Box 1). Today's global economy has produced both the greatest concentration of wealth and the largest number of poor people in human history. The World Trade Organization reports that on average, per capita income was 2.5 times higher in 1998 than in 1948, with world Gross Domestic Product growing at about 4% a year. Yet the UN estimates that over 800 million people remain undernourished.

Economic growth requires an expansion of manufactured and social capital, especially the physical and institutional infrastructure. Such growth can have large impacts on ecosystems through waste generation, water pollution and greenhouse gas emissions – to name just a few. Global production requires inputs of materials and energy – both of

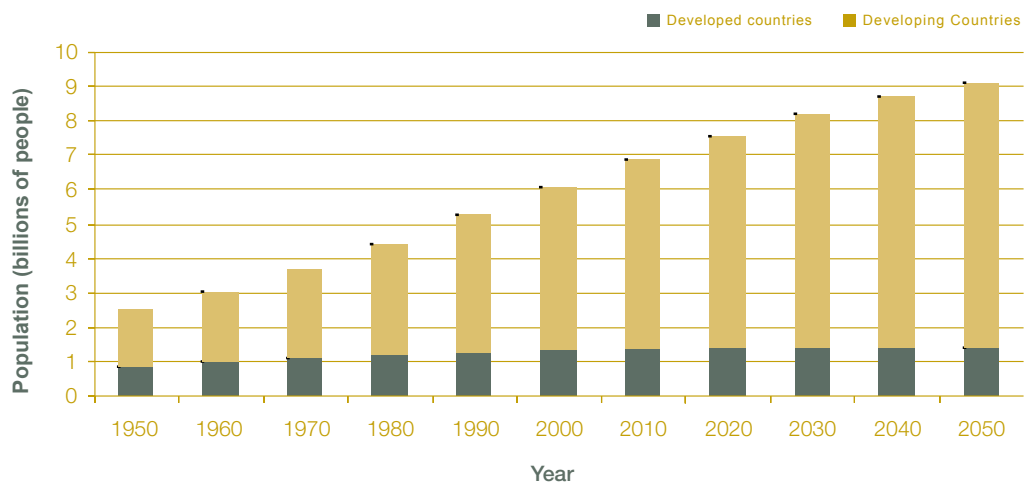


Figure 3: Population growth (Source: UNDESA)

CAPITAL FOR PRODUCTION**Natural capital***available natural resources,
including ecosystem services***Human capital***the number and skills of the workforce***Manufactured capital***the stock of built resources***Social capital***the institutions within which we work,
both formal and informal***Financial capital***the savings available for investment*

which also affect the environment. While the efficiency of converting those inputs into products and services is steadily increasing in industrialized countries with access to new technologies, their overall consumption rates are increasing. On the other hand, the poorest countries still have heavy ecological impacts through their reliance on traditional energy sources such as fuel wood.

International trade is a key component of the global economy, increasing faster than growth of the world Gross Domestic Product. International trade seems likely to increase in the years to come, with both benefits and costs for the environment.

Human well-being is also conditioned by income distribution and consumption patterns. As per capita income grows, the nature of consumption shifts from basic needs to goods and services that improve the perceived quality of life, with resulting changes in the resources and capital required to produce those goods and services. Hidden gender disparities within households may affect individual well-being and resource use patterns, and women are excluded from income generation opportunities in some countries. As human populations grow and economic activities intensify, we can expect a significant growth in waste, although technologies to mitigate its impacts are also being developed.

Finally, increased global interconnectedness through telecommunications and globally-integrated supply chains is leading to better lifestyles for many people. However, it is also leading to increased consumption of natural resources and associated impacts on biodiversity. The potential for overexploitation of many resources is now being recognized and strong approaches to address this threat, such as payments for ecosystem services or biodiversity offset schemes, are becoming more common.

POLITICS AND INSTITUTIONS

Today's international political agenda is largely focused on peace and security, including the threats of terrorism and arms proliferation. Civil unrest and armed conflict become environmental issues when they lead to the destruction of rural infrastructures, deforestation, mass movements of people, widespread use of land-mines, and a cascade of conflicts between refugees and resident peoples.

Climate change has also emerged as a major global geopolitical issue and has captured the public's attention. The release of the Stern Review in the UK brought the economic dimension of climate change into focus and generated new attention from the private sector, many governments and civil society.

The United Nations has focused on achieving the Millennium Development Goals since their adoption in 2000, but the progress reports of 2005 suggest that we are far from reaching them by the 2015 targets in many parts of the world, especially sub-Saharan Africa. The MDGs are just one of many sets of goals and targets that have been set for the international community. To accurately assess the effectiveness of conservation and its subsequent impact on human well-being, as well as the cultural dimensions that guarantee sustainable development, indicators need to be developed, agreed and applied to monitor progress.

In recent years, the G8 countries have reinforced Africa in general and development in particular as central issues on the geopolitical agenda. On the other hand, the World Trade Organization Doha round talks, which were intended to be 'the development round' and deal with agricultural subsidies that harmed developing country farmers, have collapsed with no easy solution in sight.

Institutions relevant to environmental governance and management are also changing. For the environmental community, new approaches to development and aid indicate that attention must be paid to including the environment into poverty reduction plans. In terms of the international biodiversity and development agenda, most multilateral environmental agreements and processes are focusing on implementation of existing commitments and work programmes. Some new challenges ahead include the Cartagena Protocol on Biosafety, ongoing negotiation of an international regime on access and benefit sharing, forest governance and high seas governance beyond national jurisdiction in the context of the UN General Assembly. Effective governance underpins sustainable development and institutions play an essential role in supporting the basic conditions for the sustainable use of ecosystems. IUCN has a major role to play in global environmental governance, for example, with the implementation of the Convention on Biological Diversity's Programme of Work on Protected Areas.

CULTURAL AND ETHICAL VALUES

Cultural values and ethics are important foundations of human behaviour, particularly in relation to nature. In a globalized world that tends to homogenize cultures, cultural diversity provides an important safeguard for both ecosystems and social systems. It embodies the human experience of interacting with nature throughout history, civilizations and landscapes, and therefore represents the cumulative wisdom and skills of humanity to manage nature and natural resources.

The significant overlap seen in the world between biological and linguistic diversities, as exemplified in Oceania or Mesoamerica, is a case in point. This geographic overlap speaks of interlinked processes of diversification, resulting in thousands of different cultures living in

diverse environments that they contribute to shape. The cultures of indigenous and traditional peoples are vivid examples of the profound and lasting connections between cultural and biological diversity.

Beyond traditional societies, cultural background and behaviour affect the drivers of biodiversity loss. These behaviours, and the resulting impact on biodiversity, can change, especially now that formal and informal networks for information exchange and learning have emerged worldwide on a range of issues, including on the valuation of nature and ecosystem services, sometimes leading to the designation of cultural land/seascapes.

GENDER DIFFERENCES AND INEQUITIES

Gender differences in resource use also affect how humans value, or do not value, nature. For example, in many developing countries, women and men value and use natural resources differently and often have different knowledge and perceptions about biodiversity. Inequitable social structures also distribute benefits differentially, usually putting women at a disadvantage. Thus the equitable and explicit valuing of both women's and men's uses of natural resources, and improvement in the equity of distributing the related benefits, are a prerequisite for conserving ecosystems. Conservationists have yet to fully adopt gender equity in a comprehensive manner. Women's empowerment improves their access to resources, enhances decision-making, and leads to cumulative benefits of improved environmental management and poverty reduction for communities.

ADDITIONAL CONSIDERATIONS TO ACHIEVE CHANGE

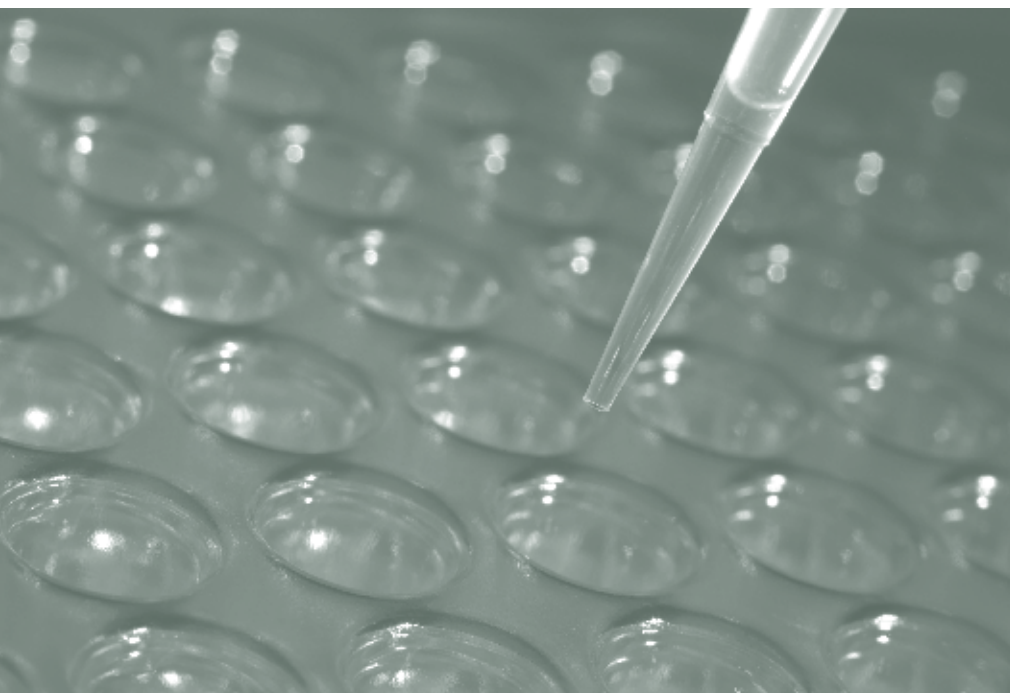
The IUCN Programme 2009–2012 seeks to address both the direct drivers and underlying causes of environmental change

to sustain the functions of ecosystems for their intrinsic value as well as for the ecosystem services they provide. In addition, we must consider some additional factors that affect how efficiently and effectively we can act. These factors include issues such as the impact of new technologies, gaps in current knowledge, and the need to address human rights, ethics and equity (especially gender equity).

Science and Technology is both a concern and an opportunity for the Programme. The concerns relate to the potential impact on biodiversity of new technologies, such as biotechnology and

Many knowledge gaps remain to be filled. We still have incomplete knowledge on the status of large groups such as plants, invertebrates and marine species; the contribution of biodiversity to human well-being, particularly with regards to the poor; how to achieve sustainability in the use of many resources; how to manage ecosystems in the face of climate change; how to link impacts on one level of the ecosystem to impacts in other parts of the systems; and more. These knowledge gaps are impeding the development of sound intervention strategies and the setting of conservation priorities.

Environmental issues are inextricably linked to **human rights** (the rights of present and future generations to enjoy a healthy life in a healthy environment). Vulnerable communities often suffer the greatest burden of environmental degradation, and, at the same time, are least able to mobilize against abuses. Linking poverty reduction with environmental objectives is at the core of a rights-based approach to conservation.



nanotechnology, and the opportunities that result from their potential to contribute to solutions. The application of scientific knowledge on species and ecosystems, technological advances in information technologies, innovative approaches to applied ecology in industry, land use planning and other areas of development can have positive impacts on bio-cultural diversity and socio-environmental well-being.

THE UNION'S UNIQUE ROLE

In past decades humanity's search for economic growth and development has resulted in an increasingly harmful footprint on biodiversity and the earth's natural resources, threatening the very life support systems that nature provides. At the same time, almost weekly discoveries demonstrate the richness and potential of nature's contribution to more sustainable industrial production, medical innovations and food security. The threats and opportunities associated with nature call for urgent, sustained and vastly expanded action if we are to realize IUCN's vision of 'a just world that values and conserves nature'.

Fundamentally, IUCN's programmatic approach starts with the assumption that nature conservation is important both in its own right and because it underpins human well-being now and in the future. To achieve its mission, IUCN has to engage with its members and with constituencies beyond the nature conservation community, including those engaged in development, politics and the private sector.

IUCN's assets include its members, its networks of experts organized through its Commissions, and its highly motivated and competent staff within its worldwide Secretariat. To achieve the changes necessary for a more sustainable world, IUCN recognizes it must apply its assets more effectively to deliver results at a scale and level of influence far greater than ever before. The way in which an organization uses its assets to deliver value added through its products and services is called a value proposition. IUCN's value proposition includes the following.

1. IUCN PROVIDES CREDIBLE, TRUSTED KNOWLEDGE

Credible knowledge on the status of the earth's natural resources, including species and changes in ecosystem goods

and services, is essential to inform and influence policy and practice at all levels. IUCN is well known for its sound scientific base and know-how in conservation and sustainable natural resource management. In particular it has a track record on providing up-to-date knowledge and know-how on species conservation, protected area management and ecosystem management related to water, forests and oceans. IUCN derives its value as a trusted source of knowledge and know-how from its expert Commission networks, its members, its partners and its staff.

2. IUCN CONVENES AND BUILDS PARTNERSHIPS FOR ACTION

IUCN helps in building bridges between different actors and promoting joint actions and solutions. It uses its unique structure and credibility for establishing multi-stakeholder platforms that bring divergent views together. IUCN is increasingly seen as an 'honest broker' and a 'provider' of independent scientific advice on natural resource management issues. This has helped the Union to link to all stakeholders, including businesses, NGOs, governments and the science and engineering communities. To further strengthen this role, IUCN tailors its knowledge, know-how and tools to specific situations to find solutions for nature and people. In doing so, the Union empowers actors to make use of these so as to inform decision making and management.

3. IUCN HAS A GLOBAL-TO-LOCAL AND LOCAL-TO-GLOBAL REACH

IUCN's extensive network of members, Commission members, partners and Secretariat provides it with unequalled opportunity to bridge local and global decision making and action. IUCN's policy positions are underpinned with relevant lessons from the field. Field interventions

operate as learning centres that explore and find out what works in practice. Combining field level experience with expertise available through its global networks provides IUCN with the level of credibility it needs to influence national, regional and international policies and laws. IUCN further translates international policies and opportunities into effective national and local governance arrangements. Through this it promotes sharing of knowledge and experience across political and cultural boundaries.

IUCN is the only environmental organization with a seat at the UN General Assembly. This provides the Union with an important and unique entry into the significant world of international debate on environment and development. Its UN Observer Status is a powerful conduit for the concerns and knowledge of its members and Commissions at the international level.

4. IUCN INFLUENCES STANDARDS AND PRACTICES

IUCN uses its knowledge, convening power and local-to-global reach to develop and influence global, regional and national standards and practices. In some cases, IUCN has developed the standards such as with the IUCN Red List of Threatened Species and the IUCN Protected Areas Category system.

The IUCN approach to influencing standards and practices helps to ensure that decisions are based on best available science and know-how, and have received the input from a wide set of stakeholders. The Union further assists stakeholders to scale up and adapt practices to local conditions and provides standards for quality control.

The four features of IUCN's value proposition make IUCN distinct from others in the conservation and sustainable

development arena. They enable the Union to demonstrate leadership and ensure it has strategic influence at many levels.

In the coming years IUCN will:

- Improve its ability to produce and support the use of cutting-edge knowledge, know-how and tools on natural resource management;
- Respond more effectively to emerging conservation and sustainable development issues combining its assets;
- Increase the capacity of members, Commission members, partners and the Secretariat to work in a coordinated and mutually supportive way to connect their actions in the field with global policy work;
- Connect nature conservation issues and achievements to wider societal objectives such as security and poverty at the national and international level;
- Extend the Union's reach to new partners and promote innovative solutions to natural resource management challenges.

THE PROGRAMMATIC APPROACH

IUCN's programmatic approach is flexible, based on the approach that each situation needs a proper diagnosis to determine what combination of knowledge generation, empowerment and influencing governance is required in the programme intervention. There is no one single correct approach to a conservation challenge, and individual projects and programmes may combine forces to create multiple intervention modalities within the overall Programme. Through purposeful management and governance IUCN strives to ensure that the members, the Commissions and the Secretariat of the Union contribute their knowledge, skills and expertise to achieve a level of influence and impact than would not be possible as individual actors.

The IUCN Programme 2009–2012 is committed to purposefully deliver the full value chain of IUCN (see figure 4) through partnerships, networks and a global constituency for greater strategic influence and impact at multiple scales.

The IUCN Programme 2009–2012 is based on these unique strengths and seeks to improve them where possible to deliver conservation and sustainability at both global and local scale for the benefit of people and nature.

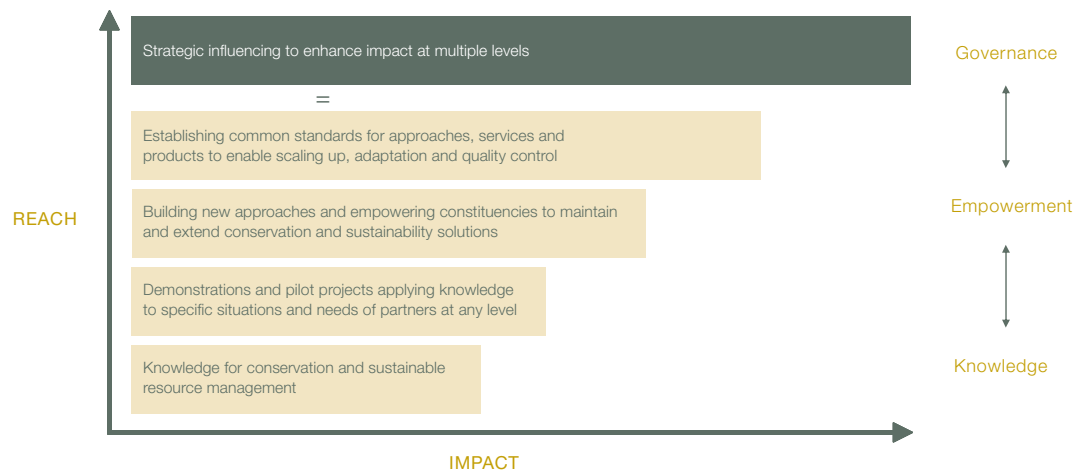


Figure 4: IUCN's value proposition and management challenge – purposefully delivering the full value chain through partnerships, networks and a global constituency for greater strategic influence and impact at multiple scales.

THE IUCN PROGRAMME 2009–2012

IUCN is a knowledge-based organization. It provides knowledge and tools, builds capacity to use these tools, and helps others develop more effective policies and laws, instruments and institutions.

Our strategy for change is based on the assumption that when knowledge is available and people and institutions are empowered to use it, they can often participate more effectively in decision making to improve laws, policies, instruments and institutions. However, IUCN also recognizes that the flow from knowledge to empowerment to governance is not always linear. The exercise of power, for example through governance, also generates particular types of knowledge. With this in mind, IUCN aims to be a knowledge-based organization, but one that facilitates decision making and ensures effective links between knowledge, practice and policy, and thus enables its constituency to make better informed decisions. This strategy combines with our value chain to influence, encourage and assist natural resource managers to develop more sustainable practices. IUCN's interventions may take place at any point along the chain and are based on the understanding that empowering people to use relevant knowledge can influence decisions that will result in change. Influencing governance, demonstrating success and learning from experience will lead to generating and adopting best practice and the opportunity to influence the behaviour of a wide range of institutional actors. If these actors use IUCN's best practice in their own work, then IUCN will have the maximum possible influence, both through its own work directly and by influencing the work of others.

It is important to understand this strategy, but this approach alone is not sufficient to organize and focus a large international conservation programme for a Union that seeks to add value to the extensive

individual efforts of its members and expert networks.

The IUCN Programme 2009–2012 identifies one core programme area and a related set of four thematic programme areas (see below). These areas target critical issues that need to be addressed to tackle today's and tomorrow's conservation challenges (see previous sections), and reflect the lessons we have learned in the implementation of previous programmes of work. At its core, the IUCN Programme 2009–2012 has the conservation of biodiversity and sustainable use of natural resources. Building on this foundation IUCN will address the four thematic programme areas – in terms of the impact of these issues on biodiversity and in terms of the potential for biodiversity to provide solutions and tools to address the impact of these issues on human well-being (see figure 5). IUCN will adopt an adaptive management approach, which recognizes that ecosystems and socio-ecological systems are dynamic, and that management interventions lead to new lessons being learned; these lessons can be subsequently applied to further improving ecosystem management in a continuing cycle of improved adaptation to changing conditions.

The IUCN Programme 2009–2012 is considerably different from previous IUCN programmes in order to ensure:

- greatly sharpened focus;
- better communication of important conservation messages;
- easier illustration of the IUCN Programme's contribution to conservation and sustainable development;
- better integration of the work of the Secretariat and the Commissions on the delivery of shared results;
- vastly improved mechanism for engaging members in delivering programme results;

IUCN BELIEVES THAT...

Biodiversity and ecosystems underpin human well-being.

It is only possible to conserve biodiversity and ecosystems by addressing underlying forces, particularly development and consumption.

To achieve its programme, IUCN uses a flexible approach, diagnosing first and adapting specific solutions in changing contexts.

The policy arena must better integrate sound science and demonstrated practice, and IUCN is well placed to provide this.

Stakeholders who are key to conserving biodiversity must be empowered to participate in decision making.

Influencing governance arrangements, simultaneously from the local level to the global level, is key to effecting wider change and building public support.

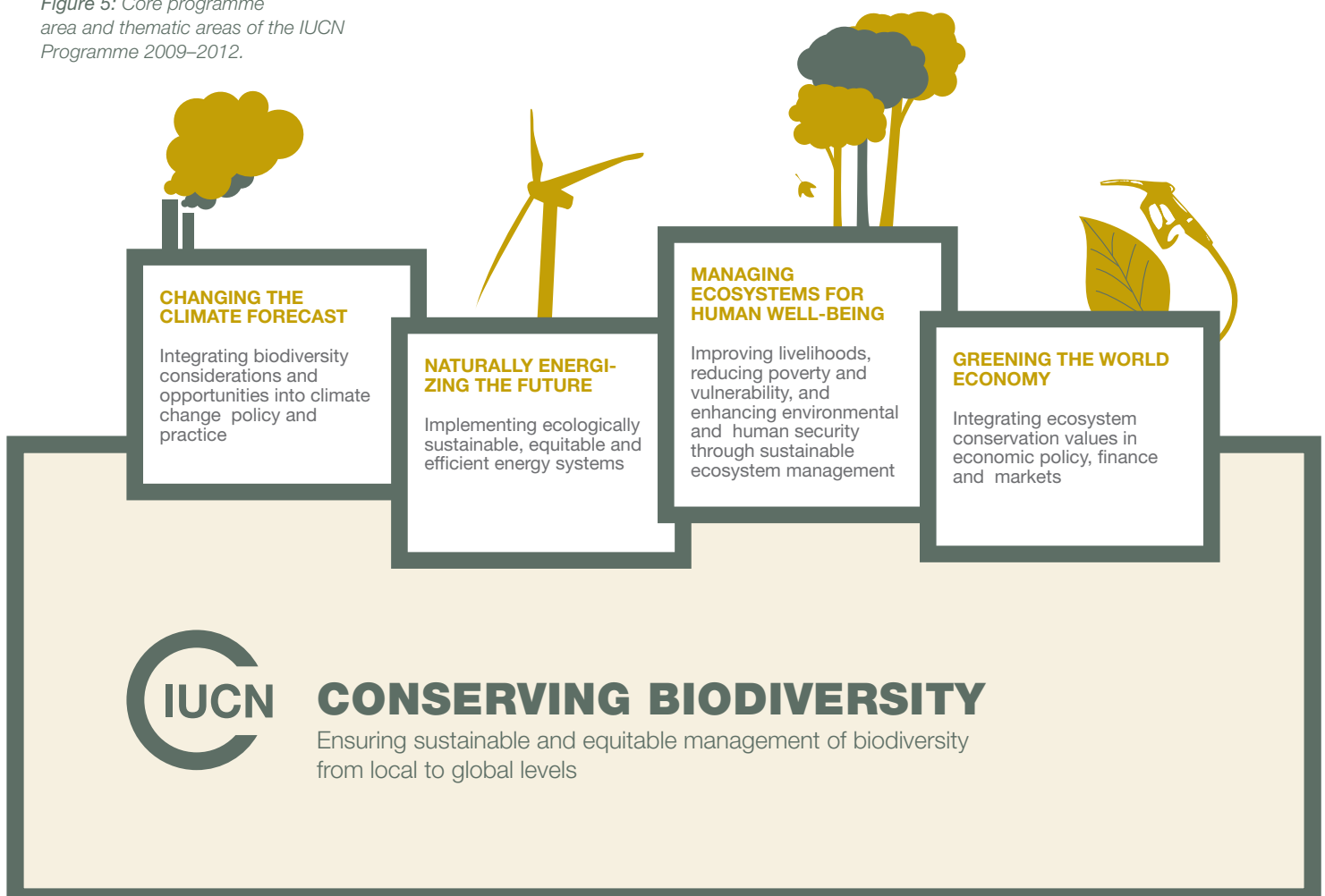
Businesses and consumers should be paying the real economic value for ecosystem goods and services.

- better integration and understanding of the complex interface between the environmental, economic and socio-cultural components of sustainable development; and
- clearer demonstration of how the elements of IUCN's strategy of Knowledge, Empowerment and Governance are joined – and how these elements are used to influence effective biodiversity conservation at all levels while at the same time applying policy lessons to inform practice.

During the intersessional period (2009–2012), IUCN's work will be defined at two levels:

1. The activities, initiatives and projects of the Secretariat and the Commissions for which IUCN is directly accountable in terms of delivery, effectiveness and financial management.
2. The activities, processes and/or initiatives that may be catalysed or influenced by the Union, but for which the Secretariat and Commissions do not have any direct responsibility.

Figure 5: Core programme area and thematic areas of the IUCN Programme 2009–2012.



The Programme described in this document outlines the global framework for IUCN's work as undertaken by its Secretariat and Commissions working with members and partners. In addition, IUCN's work in the field will also need to be planned and implemented with national and local priorities in mind. Development of regional and thematic programmes has involved intensive consultation with relevant stakeholders to identify local needs and priorities. This ensures that the IUCN Programme 2009–2012 is demand-driven at the level of implementation, but within a strong global framework.

For the first time, the IUCN Programme 2009–2012 is fully results-based. It incorporates clear indicators and measures of success for each result at global and component programme level to monitor progress (details can be found in the Monitoring Plan 2009–2012). It also explicitly recognizes the importance of ensuring policy consistency in all results, including cultural sensitivity, rights-based approaches and gender equity in achieving successful conservation.

The IUCN Programme 2009–2012 at a glance

The IUCN Programme 2009–2012 identifies a set of ten global results within one Core Programme Area and four Thematic Programme areas:

Core Programme Area: Conserving biodiversity

Ensuring sustainable and equitable management of biodiversity from local to global levels

Global result 1.1: Biodiversity-related policies and governance systems enable action towards the achievement of biodiversity conservation.

Global result 1.2: IUCN standards, tools and knowledge for sustainable natural resource management are available and actions are taken for biodiversity conservation including effective management of global and regional common natural resources.

Thematic Programme Area 2: Changing the climate forecast

Integrating biodiversity considerations and opportunities into climate change policy and practice

Global result 2.1: Climate change mitigation and adaptation policies and practice include biodiversity concerns from local to global level.

Global result 2.2: Natural resource management policies and strategies to adapt to the impacts of climate change are adopted and implemented.

Thematic Programme Area 3: Naturally energising the future

Implementing ecologically sustainable, equitable and efficient energy systems

Global result 3.1: Energy policies and strategies mitigate the impact of the growing energy demand on biodiversity.

Global result 3.2: Ecosystem services that underpin sustainable and equitable energy are incorporated in energy policies and strategies.

Thematic Programme Area 4: Managing ecosystems for human well-being

Improving livelihoods, reducing poverty and vulnerability, and enhancing environmental and human security through sustainable ecosystem management

Global result 4.1: Development policies and strategies support vulnerable and

poor stakeholders, especially women, to sustainably manage ecosystems for improved livelihoods.

Global result 4.2: Sustainable environmental management reduces vulnerability to natural hazards and conflicts.

Thematic Programme Area 5: Greening the world economy

Integrating ecosystem conservation values in economic policy, finance and markets

Global result 5.1: Economic, trade and investment policies better integrate biodiversity values.

Global result 5.2: Companies, industry associations and consumer groups incorporate ecosystem values into planning and action.

CORE PROGRAMME AREA: CONSERVING BIODIVERSITY

Ensuring sustainable and equitable management of biodiversity from local to global levels

RED LIST

Biodiversity loss is one of the world's most pressing crises, causing growing global concern about the status of the biological resources on which so much of human life depends. It has been estimated that the current species extinction rate is between 1,000 and 10,000 times higher than it would naturally be. At the same time, there is also growing awareness of how biodiversity supports livelihoods, allows sustainable development and fosters cooperation between nations. This awareness is generated through products such as the IUCN Red List of Threatened Species.

Made possible by the collaborative work between the Species Survival Commission and the Species Programme, the IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of species. More information at: <http://www.iucn.org/themes/ssc/redlist.htm> and <http://www.iucnredlist.org>.

IUCN's long-term goals agreed and confirmed at the World Conservation Congress are:

Extinction crisis alleviated

The extinction crisis and massive loss in biodiversity are universally adopted as a shared responsibility, resulting in action to reduce this loss of diversity within species, between species and of ecosystems.

Ecosystem integrity

Ecosystems are maintained and where necessary restored, and any use of natural resources is sustainable and equitable.

These goals are the foundation of IUCN's work, approved by members. Achieving these goals entails the delivery of knowledge on the status of biodiversity, specific actions to promote the conservation of species, the effective management of protected areas, the establishment of new protected areas to fill major gaps in biodiversity coverage, the delivery of ecosystem goods and services, and the sustainable management of landscapes. Further, it translates that knowledge into pragmatic solutions and improved governance that tackle the direct causes of the loss of biodiversity and ecosystem integrity, and provides the solid knowledge base to support results in the four thematic programme areas.

IUCN creates knowledge and understanding of the complex relationship between biodiversity and the key processes driving biodiversity loss, for instance by providing key indicators on the status and trends of biodiversity, and developing effective tools and methods for sustainable management based on its multiple sources of information. Subsequently, we empower people to use this knowledge in order to influence

governance mechanisms, which together will address the challenges of sustainable development.

Practically, it means the delivery of basic repositories of knowledge, standards and tools for biodiversity conservation, and effective management of global and regional common natural resources.

Global result 1.1: Biodiversity-related policies and governance systems enable action towards the achievement of biodiversity conservation.

IUCN has a long history of applying its knowledge in developing, advising and implementing biodiversity-related agreements at all levels, particularly through its Commission on Environmental Law. Such agreements include the full suite of hard and soft law instruments that address the wide range of issues of environmental management from local to global. Of growing concern for the environmental community is governance for natural resources and regions beyond the mandate of existing national authorities (e.g. the high seas) but which require concerted and collective action for effective management. In addition, the challenge of governing resources and sites that span political boundaries including river basins and many trans-national protected areas will be addressed in IUCN's Programme.

While continuing to improve its ability to influence a broad range of international, regional and national processes and institutions to support more efficient, effective and equitable biodiversity conservation and sustainable development, IUCN will work to support full enabling of biodiversity-related policies and governance systems to take action for the conservation of natural resources. In particular, the three pillars of IUCN [Secretariat, members and Commissions] will work together to ensure the

WORLD HERITAGE

The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted by the General Conference of UNESCO in 1972 with the primary mission to identify and protect the world’s natural and cultural heritage considered to be of “outstanding universal value”. IUCN has been involved in the World Heritage Convention from the very beginning, having drafted the text with UNESCO in 1972. IUCN is explicitly recognized within the Convention as the advisory body to the World Heritage Committee on natural World Heritage sites and receives an annual contract from the UNESCO World Heritage Centre. The IUCN World Heritage work is managed by the Programme on Protected Areas, working in collaboration primarily with WCPA and other IUCN Commissions, the UNEP World Conservation Monitoring Centre (UNEP-WCMC) and IUCN Regional and Country offices.

IUCN’s role under the Convention is threefold:

Evaluate all natural and ‘mixed’ sites nominated for World Heritage Status and contribute to evaluations of certain cultural landscapes

Monitor the state of conservation of existing World Heritage sites

Contribute to training, capacity building and related initiatives, particularly at regional and field levels



strengthening of policies to support the conservation of species and management of protected areas.

Global result 1.2: IUCN standards, tools and knowledge for sustainable natural resource management are available and actions are taken for biodiversity conservation including effective management of global and regional common natural resources.

The ability to make and implement sound decisions and choices is largely dependent on the knowledge and tools available and the capacity to use and apply them. Despite the progress made,

need to be taken into account when conserving and using natural systems according to ecosystem management principles, including the particular needs of diverse cultures, and the importance of human rights frameworks to empower disadvantaged groups in the quest for equity in natural resource use.

IUCN will work to develop and mainstream standards, tools and knowledge for sustainable natural resource management, including the effective management of global and regional common natural resources. This result also includes the important work in implementing species and protected area conservation that is



gaps still remain in the way we generate and share knowledge for biodiversity conservation and sustainability. A comprehensive and integrated biodiversity information system requires a better understanding of the complexity of natural systems, and improved means for disseminating the information. Social needs and economic realities also

enabled through the standards and tools that IUCN develops and promotes. IUCN’s Programme must facilitate the action of members and Commissions to achieving IUCN’s goals.

THEMATIC PROGRAMME AREA 2: CHANGING THE CLIMATE FORECAST

IMPROVING CORAL REEF RESILIENCE TO CLIMATE CHANGE

As one of the most threatened marine ecosystems in the world, coral reefs have been a centre of concern to IUCN for many years. In developing countries in particular, millions of local communities depend on them as a source of protection, income and food. As a response, the Global Marine Programme (GMP) is actively involved in improving knowledge and building capacity to improve coral reef management, and enhancing local communities' livelihoods.

At the global level, GMP's work focuses on building bridges between scientists and managers, to help improve understanding and management of coral reefs' ability to adapt to climate change.

In 2006 the Climate Change and Coral Reefs Working Group (IUCN-CCCR) was formed to synthesise resilience knowledge concerning coral reefs, and expedite the development of tools that improve the protection of coral reefs under the threat of climate change.

A Reef Manager's Guide to Coral Bleaching constitutes one of the key tools developed so far.

At the field level, IUCN, together with its partner CORDIO, is particularly active in eastern Africa and South Asia to work on coral reef monitoring and research.

While this work particularly emphasises climate change impacts and resilience of reef systems, a Coral Reefs and Livelihoods Initiative, in partnership with UNEP, is developed in South Asia to enhance livelihoods and diversification in association with coral reef management.

Integrating biodiversity considerations and opportunities into climate change policy and practice

Climate change is driven primarily by human production of greenhouse gases. Reducing, and ultimately halting, the accumulation of atmospheric greenhouse gases will require reducing emissions and enhancing the storage of these gases, in soils, vegetation and other means. But the results of the Intergovernmental Panel on Climate Change make it clear that climate will continue to change for at least the next several decades, requiring ecosystems and human societies to adapt to these changes. IUCN believes that a critical element in adapting to climate change is maintaining biodiversity and healthy ecosystems, which provide the means for adaptation. IUCN therefore will support efforts to reduce emissions, enhance sequestration of greenhouse gases, and ensure that appropriate knowledge, policies and funding are mobilized to conserve the biodiversity that will be essential for adapting to climate change.

The evidence that the world is warming is now compelling: polar bears, among many other species, have become the flagship of species threatened by the shrinking of their habitat; breeding patterns are changing and extreme weather events are increasing. Global climate change is the most pressing concern of the 21st century. Increasing temperatures, changing rainfall patterns, increased frequency and severity of extreme weather events, and sea level rise are already being observed and have serious implications for the environment and human societies. Reducing greenhouse gas emissions and improving the capacity of the world's ecosystems and communities to adapt to inevitable climate change impacts are two central challenges.

IUCN is primarily concerned with the impact of climate change on the world's biodiversity and on people's livelihoods, as well as the impacts of actual or proposed mitigation and adaptation measures. Poor and vulnerable countries and communities and others, including women, without access to information and decision making, particularly in developing countries, will be most affected and least able to cope with the impacts of climate change. Their vulnerability is exacerbated by the fact that swift environmental changes often aggravate existing discrimination, further strain access to resources, and lead to conflict. Through its science and expertise, IUCN has a major role to play in influencing policies, developing scenarios and making sure that the best information and capacity are available for implementing these strategies.

Global result 2.1: Climate change mitigation and adaptation policies and practice include biodiversity concerns from local to global level.

Although governments and businesses are starting to take greater responsibility for their greenhouse gas emissions, the targets that have been agreed so far are too modest to have any significant impact on the warming trend. IUCN can contribute greatly to the post-Kyoto negotiations by monitoring the impact of climate change on biodiversity, advocating better solutions, influencing policies and laws, and building capacity for effective commitments to reduce atmospheric concentration of greenhouse gases. As promoted in the Convention on Biological Diversity, mutually supportive actions addressing climate change, biodiversity loss and human livelihoods should be identified and implemented throughout IUCN networks. The REDD (Reduced Emissions from Deforestation and Degradation) process and the

conservation of specific ecosystems, like peatlands, are good examples of what IUCN can greatly and positively influence.

that tests assumptions, monitors results and adapts management actions accordingly, for example by enabling

THE CRiSTAL TOOLBOX

IUCN, in collaboration with IUCN members IISD and Intercooperation and partners (the Stockholm Environment Institute - US), has developed a project management tool called CRiSTAL (Community-based Risk Screening Tool – Adaptation & Livelihoods). The tool is designed to help managers of sustainable livelihood and environmental management and restoration projects to: (a) understand how climate change affects their work; (b) systematically consider how their work can contribute to vulnerability reduction and adaptation; and (c) use this understanding to develop and incorporate climate risk-reduction and adaptation measures in their programming.



IUCN will work to support full integration of biodiversity concerns into climate change mitigation and adaptation policies at all scales.

the movement of species in response to climate change through maintaining connectivity in the land/seascape and the establishment of coherent protected area systems.

Global result 2.2: Natural resource management policies and strategies to adapt to the impacts of climate change are adopted and implemented.

IUCN will support the adoption and implementation of natural resource management policies and strategies to adapt to the impact of climate change.

Despite the growing awareness about climate change, we are now past the point where the earth's warming can be avoided. Since we cannot prevent all climate change, and while more aggressive reductions in greenhouse gas emissions are undoubtedly needed, the key challenge facing the nature conservation community is managing the uncertainties created by climate change. A precautionary approach is needed that reduces current risk, plans for movement of species, and keeps future management options open. This means adopting a more dynamic approach to conservation

THEMATIC PROGRAMME AREA 3: NATURALLY ENERGISING THE FUTURE

Implementing ecologically sustainable, equitable and efficient energy systems

Modern societies are in the midst of changing from dependence on petroleum to a much more diverse mix of energy sources. Managing this transition is going to be a major challenge, with substantial risks to biodiversity and human well-being. IUCN's approach to influencing this transition will be based on generating knowledge about the impacts of various energy alternatives on biodiversity, designing appropriate policy measures to ensure appropriate governance, and demonstrating how biodiversity can be conserved even while new forms of energy are being developed. IUCN will support processes that accelerate the transition to energy systems that are ecologically sustainable, socially equitable, and economically efficient while making full use of the best available technologies and governance arrangements.

Energy plays a role in everything we do and humanity's growing requirements for energy are resulting in significant impacts on biodiversity. Energy supply systems both depend on and influence ecosystems. Ecosystems, such as watersheds and forests, are critical for the provisioning of energy services such as water flows for hydro-electricity and biomass for bio-energy. However, current energy production can also cause species and habitat loss along the entire energy cycle from exploration to production and distribution to final use. The very biodiversity that provides energy services is under threat by the growing demand for energy.

At the same time, globally, energy systems are changing. These changes are driven by factors such as development imperatives, security and environmental concerns. It is increasingly recognized that energy choices are also having an impact

on the world's ability to respond to and mitigate climate change. The options to meet energy demand are expanding to include renewable sources such as wind, solar, tidal and geothermal energy while recognizing that traditional sources such as coal, gas and oil cannot completely be eliminated in the near future. No one energy source is completely biodiversity-neutral and energy choices will need to be made with a full understanding of the trade-offs involved in any specific situation.

Global result 3.1: Energy policies and strategies mitigate the impact of the growing energy demand on biodiversity.

The International Energy Agency predicts a 50% growth in demand for energy by 2030 with 80% of that demand to be met by fossil fuels. The World Energy Council has produced several scenarios and most of these predict a considerable expansion in biomass energy especially between 2050 and 2100. This demand is mainly driven by population dynamics, development needs and consumption patterns. Each of these possible futures has significant potential and likely repercussions on biodiversity, the ecosystem services it supports, and subsequent impacts on human well-being.

New and emerging technologies (e.g. "clean coal") and alternative energy sources (wind, solar, geothermal, bio-energies) can all play a role in reducing the impact of conventional energy, particularly by reducing greenhouse gas emissions, but either the actual energy system, relying on exploration, production and distribution technologies that are environmentally harmful, or the progressive conversion to alternative energy schemes will unavoidably have some impacts on biodiversity.

Developing and implementing sustainable energy strategies based on ecosystems will require a more thorough understanding of those implications and

Ecosystems provide the raw material for several types of energy production: examples include biomass (wood, grasses, seeds for oils, plant material for sugars)



impacts. Energy policies and strategies, including at the corporate level, need to recognize and minimize these impacts in order to avoid further degradation of ecosystem services and subsequent repercussions on human well-being.

IUCN will work to support the development of energy policies and strategies to mitigate the impact of the growing energy demand on biodiversity.

Global result 3.2: Ecosystem services that underpin sustainable and equitable energy are incorporated in energy policies and strategies.

On the other hand, about 1.6 billion people currently lack access to electricity and over 2 billion people depend on traditional biomass fuels for cooking and heating. Often women suffer most from 'energy poverty' because they are responsible for gathering food, fuel and water. The world's poor people have a legitimate right to and need for increased energy services which are affordable, healthier, more reliable and more sustainable.

and water flows for hydropower from the micro to the large scale. Ecosystems also provide supporting services which underpin many of the energy options – such as the creation of productive soils, nutrient cycling and photosynthesis which are all critical for biomass production. Water is essential to provide cooling for nuclear power plants, and extracting usable fuels from tar sands requires vast amounts of water. Unfortunately, the services which ecosystems are providing to energy systems are rarely formally recognized by energy producers or consumers – meaning that they are not valued, paid for, or otherwise integrated in energy decisions. Yet the positive role of biodiversity in supporting delivery of energy is dependent on responsible approaches to energy – such as implementing biodiversity offsets or locating energy production in areas of least harm to ecosystems.

IUCN will work to support full integration of ecosystem services, as the basis for sustainable and equitable energy, into energy policies and strategies.

THEMATIC PROGRAMME AREA 4: MANAGING ECOSYSTEMS FOR HUMAN WELL-BEING

Improving livelihoods, reducing poverty and vulnerability, and enhancing environmental and human security through sustainable resource management

THE CONSERVATION FOR POVERTY REDUCTION INITIATIVE
In September 2005, IUCN launched the Conservation for Poverty Reduction Initiative (CPRI) to harness and focus the institutional capacity in biodiversity conservation as a tool for improving human well-being and to provide a facility to mobilize needed complementary skills through partnerships and alliances. IUCN, with its membership, expert networks in Commissions and worldwide Secretariat is uniquely placed to contribute to supporting that link. More information at: <http://www.iucn.org/themes/spg/portal/index.htm>.

A substantial body of research has demonstrated that increasing desertification, loss of soil fertility, changing climatic conditions, depletion of fisheries, deforestation and other environmental changes are contributing to the declining capacity of ecosystems to meet human needs, often resulting in deepening poverty and declining human security. IUCN believes that reversing these trends will require significantly improved ecosystem management. By mobilizing the best available science, respecting the traditional knowledge developed by local communities, identifying and addressing the ultimate causes of the mismanagement of ecosystems, and improving management policies and practices, IUCN will work to achieve the full recognition and acceptance by decision makers of the link between conservation and human well-being.

Poverty is defined by low levels of income, poor health, lack of access to education and information, high vulnerability, limited influence on decision making, lack of essential freedoms, and lack of rights and opportunities to access resources, financing and other economic assets. Approaches to reduce poverty must provide tools and other means for people to enhance and secure their economic assets, and consider the special needs of indigenous peoples and other distinct or marginalized groups. Since two-thirds of the poor are women (according to UNDP's Human Development report) approaches should also incorporate gender equity standards and ensure that women are direct beneficiaries of poverty reduction. This involves increasing women's capacity and participation in decision making,

including equitable access and control over natural assets.

Basic security and livelihood security are critical to long-term human well-being and lasting conservation outcomes. Increasing demands on natural resources are likely to spawn human conflicts at local, national and international levels. Climate change is also expected to expose human populations in vulnerable locations to an increase in extreme weather events and to changes in agriculture production, leading to insecurity.

Conservation actions that take into account equity, equality, rights and vulnerability issues, and promote stakeholder dialogue and conflict management, like Community Conserved Protected Areas, can contribute to cooperation and conflict prevention. In post-conflict situations, restoration of ecosystems and livelihoods and landscape management planning become priorities. Environmental insecurity, human insecurity, food insecurity and rural poverty are intimately linked, and unless they are tackled together, efforts to reduce poverty and conserve biodiversity will fail in the long run. The concept of ecosystem goods and services provides a new perspective to more convincingly express and implement IUCN's commitment to both conservation and development, including in post-disaster rehabilitation and interventions on environmental emergencies.

Global result 4.1: Development policies and strategies support vulnerable and poor stakeholders, especially women, to sustainably manage ecosystems for improved livelihoods.

Enhanced livelihood security will be achieved through innovative approaches that improve management of ecosystems

MANGROVES FOR THE FUTURE

Mangroves for the Future is a partnership-led initiative aimed at promoting investment and action in ecosystem conservation as essential infrastructure for sustainable coastal development. The initiative is founded on a vision for a more healthy, prosperous and secure future for all Indian Ocean coastal communities, where all ecosystems are conserved and managed sustainably. In order to ensure ecosystem productivity and continued support to human development, they need to be maintained and improved to meet today's needs as well as future demands and pressures just like any other component of infrastructure. Degrading this valuable stock of natural capital puts a serious strain on the economy and society, at local, national, regional and even global levels — as has become all too apparent in the aftermath of the 2004 Indian Ocean tsunami.

and create new opportunities for increasing the availability and quality of productive assets for women and men in rural communities and urban contexts. This result will incorporate an approach that combines tools needed to address the four dimensions of poverty – assets and opportunities, power and voice, security and capabilities – and includes considerations of gender equity and cultural diversity.

Natural resource governance systems need to enhance effectiveness and equity if they are to deal with the range of issues involved in the links between ecosystems, human well-being and environmental security. Greater effectiveness and equity are achievable through rights-based approaches and democratic decision making on the use of and access to ecosystem goods and services, markets, technology and capital.

Environmental decision making needs to maximize the contributions of ecosystem services to poverty reduction, and to minimize adverse impacts of conservation on livelihoods.

IUCN will support the integration of vulnerable and poor stakeholders, especially women, to sustainably manage ecosystems for improved livelihoods into development policies and strategies.

Global result 4.2: Sustainable environmental management reduces vulnerability to natural hazards and conflicts.

Building more secure and sustainable livelihoods depends on multiple elements like integrating approaches and tools for risk management and reduction, enhancing the resilience of ecosystems and human communities to unexpected change (including considerations of gender equity and cultural diversity), and building greater capacity to respond to threatening events.

IUCN is expanding its capacity to respond to natural hazards, starting with a better understanding of the challenges they create, the needs of ecological and livelihood rehabilitation, and the potential contributions conservation can make. IUCN will seek to expand partnerships and promote greater consistency of interventions of the humanitarian sector, governments and development cooperation, to better integrate the environment in relief and mitigation operations as well as in preventive and post-conflict strategies.

IUCN will support sustainable environmental management as a tool to reduce vulnerability to natural hazards and conflicts.

THEMATIC PROGRAMME AREA 5: GREENING THE WORLD ECONOMY

Integrating ecosystem conservation values in economic policy, finance and markets

WBCSD

The World Business Council for Sustainable Development (WBCSD) is a CEO-led, global association of some 190 companies dealing exclusively with business and sustainable development.

The Council provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices, and advocate business positions on these issues in a variety of forums, working with governments, non-governmental and intergovernmental organizations. Members are drawn from more than 35 countries and 20 major industrial sectors.

The Council also benefits from a global network of about 60 national and regional business councils and regional partners.

The Council's objectives are to:

Be a leading business advocate on sustainable development

Participate in policy development to create the right framework conditions for business to make an effective contribution to sustainable human progress

Develop and promote the business case for sustainable development

Demonstrate the business contribution to sustainable development solutions and share leading-edge practices among members

Contribute to a sustainable future for developing nations and nations in transition

In order to achieve this, the Council focuses on three key areas:

*Energy and Climate
Development
The Business Role*



Virtually all environmental problems have an economic component, and many are driven by market imperfections. While it is unrealistic to ever expect perfect markets, IUCN seeks to better inform market decisions, helping to ensure that the full impacts of economic decisions on ecosystems are well understood (and quantified where possible). If decision makers are better informed about the full implications of their decisions, and the public is well informed about these implications, then economic policies are more likely to support sustainable development and the biodiversity upon which human well-being depends.

Today's economies generally fail to support the sustainable management of ecosystems, primarily because the full value of biodiversity is not taken into account. Despite significant progress in many countries, much work remains to be done to widen and deepen the incorporation of environmental values and related livelihood concerns in economic policy, markets and finance, particularly with respect to biodiversity, intangible ecosystem services and poverty reduction. A related priority is to develop new sources of finance for biodiversity conservation, together with improved allocation mechanisms to ensure more cost-effective and more equitable conservation.

The challenge is not so much conceptual or technical as political, namely to persuade the public and policy makers that economic policies and markets can and should be reformed to support ecosystem conservation. The starting point is to build capacity within government agencies and private business to assess and reduce adverse environmental impacts. Further steps typically involve efforts to internalize

environmental values in economic policy and markets through the use of economic incentives.

Global result 5.1: Economic, trade and investment policies better integrate biodiversity values.

Growth in global economic output, driven in large part by the globalization of trade and investment, is putting increasing pressure on natural resources everywhere. The pace of economic globalization may be outstripping the capacity of local and national governments, and multilateral institutions, to monitor and regulate markets in the public interest. IUCN will help by providing information and analytical tools for assessing the impacts of trade and investment flows on natural resource use, and by offering alternative policy proposals which can help ensure that global trade and finance support rather than undermine biodiversity conservation and sustainable use.

IUCN will work to support full integration of biodiversity values into economic, trade and investment policies.

Global result 5.2: Companies, industry associations and consumer groups incorporate ecosystem values into planning and action.

Modern economies consume vast quantities of energy and raw materials, and produce high volumes of wastes and polluting emissions. Emerging economies, especially China and India, will have a significant and increasing influence on biodiversity globally in the coming decades. Fuelling development in these economies will certainly involve exploitation of natural resources both domestically and globally. Impacts of this growth have already been felt within China, which is now expanding trade relationships with the rest of the world, in an effort to secure long-term

supply of critical resources. At the other end of the scale, millions of small and medium-scale entrepreneurs and investors across the globe continue to rely on natural resources and ecosystem services for their livelihoods.

that demonstrate a real commitment to change in mainstreaming the environment in their wider activities.

IUCN will work to support full integration of biodiversity concerns and opportunities into business planning at all scales.

GISP

Since 1997, a coalition of scientists, economists, lawyers, social scientists, conservationists and resource managers have worked together to develop a new comprehensive strategy for addressing the growing problem of adverse effects of invasive species on both natural as well as managed ecosystems. It now has been well documented that invasive species are one of the greatest threats to biological diversity globally and the most serious threat on many island systems.

There are also enormous economic losses incurred due to the impacts of invasive species and they have impacts on human health and development.

Continued globalization of capital markets and supply chains, combined with mounting regulatory pressure from governments and increasingly effective NGO campaigns, is likely to foster wider environmental awareness by companies throughout the world, and corporate social and environmental responsibility strategies are one of the results of this growing awareness. The challenge for IUCN is to hasten this trend by mobilizing public and political opinion, strengthening government regulatory capacity and policy frameworks, and assisting companies and industry associations

IUCN, along with several partners, formed the Global Invasive Species Programme (GISP) in 1997. The main partners at the outset were SCOPE, United Nations Environment Programme (UNEP), and CAB International (CABI) who developed awareness and understanding about invasive species and developed several important works including the Global Invasive Species Strategy and a toolkit for the management of invasions. More recently, IUCN has partnered with CABI, The Nature Conservancy (TNC) and the South African National Biodiversity Institute (SANBI) to take GISP further into the realm of spreading information about invasive species and the ways of addressing threats by invasions, as well as addressing the global policy environment on this issue. GISP has also implemented a series of projects related to the understanding of invasions and their costs to biodiversity and development supported by a range of donors. CABI, IUCN and TNC are presently providing some staff support to enhance the secretariat of GISP as well as to expand its membership.



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