



# Biodiversity

DELIVERING RESULTS

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Cover: While highly endangered, Mountain Gorilla populations in Rwanda’s Virunga massif are increasing as a result of conservation efforts. Photo: Nik Sekhran

Back cover: Tigers are threatened throughout their range in Asia by habitat loss and poaching. Protected area networks are vital to their long-term survival. Photo: SRstock



# Biodiversity

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May 2008

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UNDP's work in the focal area of biodiversity relates to the seventh Millennium Development Goal to Ensure Environmental Sustainability. The 2005 Millennium Ecosystem Assessment determined that in all regions, and particularly in sub-Saharan Africa, the condition and management of ecosystems is a dominant factor affecting the chances of success in fighting poverty. The regions facing the greatest challenges in achieving the MDGs are often also those facing significant problems of ecosystem degradation.

As the lead agency within the UN system in helping countries develop the capacity to manage biodiversity, UNDP focuses on two particular pieces of the broader biodiversity issue: mainstreaming biodiversity into the economic production sectors that drive national economies, and strengthening protected areas which provide an essential refuge for biodiversity, as well as a source of vital ecological services and other benefits to countries. UNDP's biodiversity work aims to connect these elements so that biodiversity is integrated as a core part of the development agenda.

Biodiversity management is a key part of UNDP's environment and energy strategy, one of four pillars of its work, along with poverty reduction, democratic governance, and crisis prevention and recovery. UNDP is assisting countries in meeting the 2010 targets agreed at the 2002 World Summit on Sustainable Development, and now codified into the MDG framework. We do this by building active coalitions of governments, communities, the private sector, civil society and others to protect biodiversity.

This publication showcases the achievements and results from projects undertaken around the world by UNDP's network of 132 country offices and its specialized environment team. The projects face different challenges and constraints but all work to achieve common objectives: the attainment of the MDGs, the alleviation of poverty, and the preservation of biodiversity. Our hope is that this publication serves as a useful resource around the world.

Kemal Dervis,  
Administrator, United Nations Development Programme

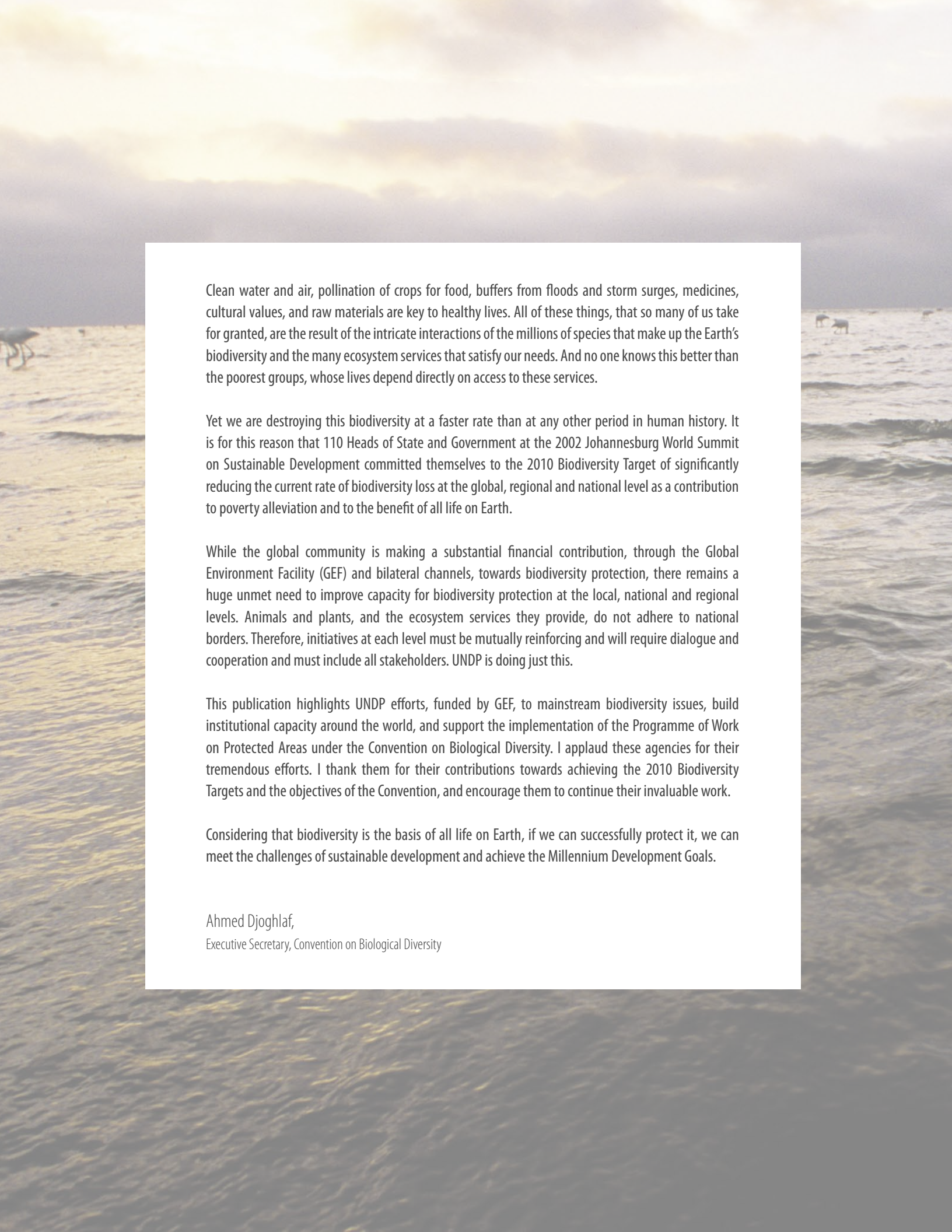


Reversing the global loss of biodiversity is one of the most daunting environmental challenges of the 21st century. It is also an economic problem: as biological resources are depleted, the livelihoods of millions of local, tribal and indigenous peoples are threatened. Supporting biodiversity conservation and sustainable use is a primary area of investment for the Global Environment Facility, accounting for more than a third of our grants overall, and close to 800 projects worldwide in more than 155 countries.

Many of these projects are administered by our UNDP colleagues and there are many success stories to share. Whether they involve creating new markets for sustainable coffee in Latin America, restoring the ecological balance of the Okavango Delta area of Botswana, protecting the pristine desert regions of the Gobi in Mongolia, or any one of dozens more efforts that UNDP professionals lead worldwide, their impact has been, and continues to be, highly significant and eminently laudable.

This publication is an outstanding introduction to this important work, and we hope it will give the reader an immediate feel for the tremendous number and variety of responses that we support to help countries sustainably manage biodiversity.

Monique Barbut,  
CEO and Chairperson, Global Environment Facility



Clean water and air, pollination of crops for food, buffers from floods and storm surges, medicines, cultural values, and raw materials are key to healthy lives. All of these things, that so many of us take for granted, are the result of the intricate interactions of the millions of species that make up the Earth's biodiversity and the many ecosystem services that satisfy our needs. And no one knows this better than the poorest groups, whose lives depend directly on access to these services.

Yet we are destroying this biodiversity at a faster rate than at any other period in human history. It is for this reason that 110 Heads of State and Government at the 2002 Johannesburg World Summit on Sustainable Development committed themselves to the 2010 Biodiversity Target of significantly reducing the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth.

While the global community is making a substantial financial contribution, through the Global Environment Facility (GEF) and bilateral channels, towards biodiversity protection, there remains a huge unmet need to improve capacity for biodiversity protection at the local, national and regional levels. Animals and plants, and the ecosystem services they provide, do not adhere to national borders. Therefore, initiatives at each level must be mutually reinforcing and will require dialogue and cooperation and must include all stakeholders. UNDP is doing just this.

This publication highlights UNDP efforts, funded by GEF, to mainstream biodiversity issues, build institutional capacity around the world, and support the implementation of the Programme of Work on Protected Areas under the Convention on Biological Diversity. I applaud these agencies for their tremendous efforts. I thank them for their contributions towards achieving the 2010 Biodiversity Targets and the objectives of the Convention, and encourage them to continue their invaluable work.

Considering that biodiversity is the basis of all life on Earth, if we can successfully protect it, we can meet the challenges of sustainable development and achieve the Millennium Development Goals.

Ahmed Djoghlaif,  
Executive Secretary, Convention on Biological Diversity



**Biodiversity** faces a variety of different threats across the world. These include direct pressures, such as conversion of forest to permanent agriculture, poaching, illegal logging, mining, settlement and uncontrolled fires, or indirect pressures from pollution and human-induced climate change. Unsustainable consumption continues, as indicated by the growing human global ecological footprint, which exceeds the planet's ability to regenerate by about 25 percent. The 2005 Millennium Ecosystem Assessment concluded that almost 60 percent (15 out of 24) of the ecosystem services that support life on Earth and make a direct contribution to human wellbeing – such as provision of freshwater, pollination and the regulation of regional climate, natural hazards and pests – are being undermined as a result of human activities. Two service groups, namely fisheries and freshwater provision, are now degraded beyond levels that can sustain current, much less future demands from a growing human population.

The rate of ecosystem change has accelerated over the past 50 years as a result of increasing demand for resources. More land has been converted to agriculture since 1945 than in the 18th and 19th centuries combined. The loss of primary forest since 2000 has been estimated at 6 million hectares annually and there is evidence that the frequency and extent of natural disturbances, such as fire, insect infestation and disease outbreaks that affect forest ecosystems is increasing. Coastal and marine ecosystems have suffered badly from human activities, leading to large losses of kelp forest, seagrass and coral habitats.

Five major biodiversity extinction events have been recorded in the planet's history, each of which led to profound shifts in the life forms on earth. Scientists suggest that we might now be on the brink of a sixth biodiversity crisis as a result of human activities. The Living Planet Index, published biennially by the World Wide Fund for Nature (WWF) and its partners, has re-

# INTRODUCTION

corded a consistent decline in average species abundance by about 30 percent between 1970 and 2003. The number of species considered to be critically endangered increased by seven percent between 2004 and 2006 with the most significant increases among the fish (48 percent increase), insect (45 percent) and reptile (14 percent) faunas. Important species such as the polar bear have recently joined the threatened list as a result of the effects of the global warming that has been induced by human activities.

Human societies depend on natural ecosystems to provide goods such as food, fibers, and fuelwood, and services such as pollination, carbon sequestration, nitrogen fixation and hydrological system regulation. Natural ecosystems are also important for recreation, underpinning the huge global tourism industry. The livelihood strategies and food security of the poor often depend directly on functioning ecosystems for goods and services. The poor often have insecure rights to natural resources and inadequate access to environmental information and markets and influence over decision-making – limiting their capability to protect the environment and to improve their well-being. The loss of biodiversity is therefore an important development issue. Not only is this loss curtailing future development opportunities from the sustainable exploitation of biodiversity goods and services, in poorer countries biodiversity loss is leading to impoverishment amongst the most vulnerable groups.

Although the root causes of biodiversity loss vary, they fall into general groups. The accelerating global demand for raw materials, including renewable resources harvested from the wild and non-renewable commodities such as metals and petroleum is leading to unsustainable extraction pressures in wildlands across the planet. This is compounded by population expansion and immigration into these areas. Traditional management practices become unviable

when population densities increase beyond certain thresholds; increased local consumption of natural resources leads to over-harvesting; while urban demand also places high stress on resources, such as fuelwood, previously harvested for local subsistence. Poverty and under-development cause communities to focus on their immediate survival, rather than longer-term sustainability – often leading to resource over-exploitation. This is compounded when traditional environmental management systems are jettisoned, as a result of the commoditization of resources or loss of traditional leadership in local communities. Weak environmental governance has led to unequal application of rules, limited accountability and a high degree of centralization in decision-making. The value of ecosystem services is rarely considered in economic policy: the costs of natural resource stewardship is generally uncompensated while subsidies which encourage destructive land uses and favor some sectors over others are sometimes provided by governments. Undefined property and usufruct rights on communal lands governing access to wild resources compound ecological problems and keep many communities in poverty.

The relative importance of these main drivers of biodiversity loss vary within countries and from region to region. But they all stem from human needs and desires – and these in turn are governed by humanity's attitudes, beliefs, cultures, and norms; economic exchange mechanisms; by knowledge, skills and technologies; and by policies, regulations and institutions.

It stands that biodiversity loss cannot be stemmed without targeted interventions to address these issues. UNDP-GEF's work to conserve biodiversity and sustain its contribution to human welfare is therefore aimed at addressing the root causes of its loss, through interventions that are attuned to global, national and local circumstances.

### UNDP-GEF activities to conserve biodiversity

UNDP-GEF is assisting countries to build their capacity to manage biodiversity through two Signature Programmes: bundles of projects sharing a common goal, each linked to the larger development agenda. UNDP interventions under these Programmes are

Sustainability, a key goal, given that the degradation of ecosystems and the services they provide are a significant constraint to the achievement of all the MDGs. UNDP works to address two targets that have been set under MDG 7: Target 7.A – Integrate the principles of sustainable development into country policies and programmes and reverse the loss



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geared to addressing the threats to biodiversity by lifting barriers to country actions needed to address the root causes of biodiversity loss.

**Signature Programme 1:** Mainstreaming biodiversity management objectives into production sector activities, to ensure that production practices maintain essential ecosystem functions that sustain human welfare.

**Signature Programme 2:** Unleashing the economic potential of PAs, so that they are better able to fulfill their management functions, are sustainably financed, and contribute to sustainable development.

Activities are designed to make a contribution to the attainment of the Millennium Development Goals (MDGs), in particular MDG 7: Ensure Environmental

of environmental resources; and Target 7.B – which aims to: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.

These targets are aligned with the Strategic Plan adopted in 2002 by the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD). The plan aims to enhance the effectiveness and coherence of the measures being taken to implement the three objectives of the CBD in order to achieve by 2010, a significant reduction of the current rate of biodiversity loss at the global, regional and national level. In addition to MDG 7, UNDP-GEF biodiversity actions can be directly related to Goal 1: Eradicate Extreme Poverty and Hunger; Goal 3: Promote gender equality and empower women; and Goal 8: Global Partnership for Development.

This booklet reviews progress made by a variety of UNDP-GEF projects in meeting the 2010 biodiversity targets across the globe under these Signature Programmes. The sample of projects selected is illustrative of the work UNDP is undertaking in different regions, dealing with different challenges.

### Mainstreaming biodiversity into production sectors

Most biodiversity in the world resides outside PAs in lands dedicated to various production activities, including agriculture, forestry, fisheries, mining and tourism. The integration, or mainstreaming, of biodiversity-friendly objectives into these production sectors constitutes a key vehicle for achieving biodiversity conservation. If these industries see biodiversity maintenance as a negative balance sheet item, then the chances are that these lands will be transformed and their biodiversity lost. Communities and businesses need to be persuaded that there is a link between the value of ecosystem goods and services and sustainable economic development. UNDP is tackling this need through pilot activities in a number of production sectors where there is a receptive private sector and communities ready to invest in conservation.

Key mainstreaming activities in the biodiversity portfolio include systemic level interventions that aim to influence the policy framework governing production sectors as well as institutional level interventions designed to enhance capacity to address biodiversity management needs in economic sectors. Barriers are being addressed by funding the development of more integrated planning systems, strengthening industry watch-dogs; building management expertise; and strengthening monitoring and reporting capacities. At an individual level UNDP works to increase skills to determine sustainable off-take rates for wild resources, and establish and adapt management strategies and mechanisms.

Barrier removal activities may also include building skills at individual level to design and pilot integrated land management models. The focus here is on working with champions in each sector that have shown willingness to engage around conservation issues and who may serve as role models for the production sector and stimulate replication of successful interventions. Since traditional financial capital markets will not usually finance biodiversity-friendly production activities if their performance remains unproven, UNDP works to sensitize financial managers to the investment opportunities offered by eco-friendly businesses. It also empowers communities by building their capacity, often through cooperatives, so that they can apply to credit institutions for funding or establish their own micro-credit facilities.

UNDP also stimulates the development of Payment for Environment Services (PES) schemes, to compensate resource managers for the costs they incur in protecting biodiversity. Such schemes aim at internalizing the benefits that derive from better biodiversity management in production practices to provide an incentive for sound stewardship. At the same time it assists communities and entrepreneurs to access 'green' markets that value commodities that have been produced in a biodiversity-friendly manner.

### Strengthening protected areas

Protected areas (PAs) are widely recognized as a cornerstone of biodiversity management and sustainable development. A comprehensive, effectively managed and ecologically representative global network of protected areas is crucial if the rate of biodiversity loss is to be reduced. By the end of 2006, there were nearly 107,000 PAs in the world covering 13 percent of the area of land and territorial waters.

While individual differences exist between countries and regions, it is possible to characterize some general deficiencies in PA estates, which include:



© NIK SEKHRAN – CHAMELEON IN NYUNGWE FOREST, RWANDA

inadequate bio-geographic coverage, weak management effectiveness and weak financial sustainability. Despite the large coverage, the global PA estate is not representative of all ecosystems. Analysis shows that the Convention on Biological Diversity's target of 10 percent PA coverage per ecosystem is yet to be achieved in a large number of the world's 825 terrestrial ecoregions and 64 large marine ecosystems. There are also significant gaps in species representation within the network and the habitats and the main populations of many species facing extinction lie outside the PA network. Moreover many PAs are managed ineffectively, and lack the financial resources to ensure sustainability. Many protected areas have not been legally established and have little or no management capacity. Others do not work to the benefit of indigenous and local communities – alienating them from conservation efforts and increasing the cost of managing sites.

In many cases, these problems can be traced to a perceived disconnect between PAs and the sustainable development agenda. UNDP assists countries to establish the governance frameworks needed to

strengthen PA management at the systems level, and unleash their economic potential by harnessing direct use values (sustainable tourism, or direct use of resources) or sustaining ecosystem services. UNDP's strategy is to address gaps through country-specific interventions that seek to strengthen management of protected area systems by addressing existing barriers at systemic, institutional, individual and financial levels. UNDP works through strategic partnerships mobilized with governments and the private sectors, NGOs and CBO groups that build on their respective strengths. This aims at mobilizing funding and management know how to strengthen PA systems but, just as importantly, takes a rights-based approach by ensuring that local communities are seen as partners, and not antagonists, in PA management, and have clear rights and responsibilities in the management equation.

Key PA barrier removal activities at the systemic level include broad-based consensus-building among stakeholders, strengthening the policy and legal framework, establishing systems to facilitate institutional cooperation across government agencies, civil

## Global Results

UNDP has mobilized a total of US\$ 830 million in GEF funding and co-finance of US\$ 1.3 billion to address biodiversity loss. Within this larger envelope, a total of US\$ 350 million in GEF funding and US\$ 630 million in co-finance has been mobilized in the five years since the 2010 biodiversity targets were announced by the CBD-COP. The UNDP-GEF biodiversity portfolio has registered significant achievements in that period. They include the creation of 154 new PAs covering 9.95 million hectares, the improvement of management effectiveness in 419 PAs covering an area of 51.74 million hectares, and mainstreaming efforts covering more than 46 million hectares of land. The case studies in this book showcase some of these accomplishments.

society and the private sector, and establishing knowledge networks that build the capacity to mobilize and apply information to improve PA management and improve the public profile of PAs. At an institutional level, barrier removal activities generally focus on strengthening the capacity of PA authorities and other agencies so that they can perform basic functions such as planning, monitoring, enforcement and reporting, implement appropriate policies and adapt their management strategies to address changing threat profiles within the PA network. In order to make the global PA system more representative of all threatened biodiversity, UNDP works through the GEF partnership with the aim of achieving a new management paradigm based on co-management between resident communities, government and, in some instances, the private sector. Many new PAs are being established as Community Conservation Areas (CCAs).

Individual level activities are designed to enhance staff skills in PA authorities as well as community institutions made responsible for PA co management.

Financial barriers are an important target area for UNDP work: most PAs are capable of generating economic value from tourism, and ecosystem services. However, these values are rarely considered in the cost-benefit calculus employed when making budgetary allocations to the PA system and, as a result many PA systems are under-funded. A key UNDP strategy is to capture these financial benefits and ensure that they are retained for the management and strategic expansion of national PA systems.

## Factbox

**The surface** area of the Earth is 510 million km<sup>2</sup>, of which about 71 percent is covered by the oceans. The land surface is divided into eight bio-geographical realms that represent the major terrestrial animal and plant communities. The general tendency is to find more species towards the equator and fewer towards the poles; there also tend to be more species in areas with high levels of topographic diversity and low levels of climate variability or extreme climate events, particularly periods of low rainfall and low temperature. Seventeen countries, most of them located in the tropics, are known to harbor the majority of the Earth's species, and are known as 'megadiverse' countries. WWF has developed an ecological land classification system that divides the planet up into 14 biomes, called major habitat types, which are further subdivided into 825 terrestrial, 450 freshwater and 229 marine and coastal ecoregions. Among these, 238 ecoregions (made up of 142 terrestrial, 53 freshwater and 43 marine regions) are considered to be high conservation priorities. These are known as the 'Global 200 ecoregions'. Conservation International has identified 34 regions worldwide, labeled hotspots, defined as areas with at least 1500 species of endemic vascular plants which have lost 70 percent of the original vegetation. These hotspots cover 2.3 percent of the Earth's surface.

The UNDP-GEF global biodiversity portfolio includes projects supporting country-driven biodiversity management efforts under the two signature programmes in 189 of the Global 200 eco-regions and 30 of the hotspots.

## MOROCCO

# Revival of pastoralism works towards ecosystem symbiosis

The Atlas Mountain Range is one of the few relatively untouched large Mediterranean mountain systems. The Atlas and the Anti-Atlas Range have significant national and global importance and harbour more than a third of Morocco's endemic plant diversity. They provide water, food and animal feed reservoirs for a large proportion of the country's population and are an outstanding natural heritage site with important eco-tourism potential.

The project zone harbours 21 taxa of the 164 plants endemic to Morocco and 50 percent of all Morocco's terrestrial vertebrates. 98 out of Morocco's 236 bird species nest there while half of Morocco's endemic mammals and the endemic and endangered Sahara bee have been sighted.

The dominant form of economic production in these areas is agro-pastoralism, particularly mobile livestock-raising along with some seasonal cultivation in streams. Human interaction has shaped the landscape and species composition, as many plant species are dependent on grazing for their survival. Since the 1960s, however, traditional livestock-raising has changed in favour of more settled livestock production and farming. As a result, former pastures in the plains and midlands have been either over-grazed or ploughed up, the water table is showing signs of long-term depletion, land is increasingly degraded, habitats for wildlife are being destroyed, and the equilibrium sustained over thousands of years is at risk.

Settlement and conversion of land to crops has resulted in overgrazing of pastures and overuse of bushes for fuelwood. Since the plains and midlands were traditionally used as communal winter pastures, their settlement increases the threat to highlands biodiversity as well. Modern and traditional institutions are unable to control chaotic, unsustainable

settlement in marginal lands. Although common property tenure laws exist, they are unclear and therefore inadequately applied.

Threats to biodiversity also arise from indiscriminate settlement, conversion of wetlands and common pastures for crops, reduced livestock mobility, and limited understanding of the pastoral/ecosystem symbiosis.

## Project description

The project works as part of an innovative government intervention integrating pastoral range management with biodiversity conservation in a grazing-dependent ecosystem. It is encouraging the revival of bio-friendly mobility and common property management regimes, helping establish incentives for rangeland and wildlife biodiversity conservation and mainstreaming biodiversity issues into provincial and national policy debate. The project is also supporting land use planning through the establishment of Integrated Biodiversity Conservation and Sustainable Management Plans.

## Project results

### Systemic level capacity

- The project has increased the analytical understanding of economic, social and ecological benefits that derive from pastoral management systems. On this basis, it has addressed key bottlenecks that prevented the revival of mobile lifestyles: cultural denigration of transhumant culture; limited provision of services in transhumant areas; and the unfounded belief in the economic superiority of settled agriculture. It has tested mobile schools to provide education and has facilitated the installation/restoration of basic pastoral infrastructure to open up new spaces for grazing.

Funding has been made available to encourage honey production with the endangered Sahara bee instead of the alien Black bee. Not only does this replenish the bee population and generate income from the special honey produced, it also maintains wild floral composition, as the Sahara bee has a symbiotic, codependent relationship with several endemic plants. The project has also helped establish a gene bank for the conservation of the five most threatened plant species (local turnip, yellow carrots, millet, dwarf millet, and orbe).

#### Institutional level capacity

- The project has worked to mainstream conservation issues into traditional institutional bodies responsible for pasture management as well as newly-created pastoral organizations. In this way it has revived and reconciled customary institutions and modern administrative bodies. These organizations receive training in resource management and biodiversity conservation.
- Institutional coordination has been anchored to ensure sustainability of investments and commitments beyond the project lifetime. The project has developed partnerships with institutional stakeholders for the integration of biodiversity conservation in land planning and allocation.
- The project has reinstated 70,000 ha of traditional pastures regulated by customary law. An area of 12,000 ha has been declared a permanent reserve harboring wild Curvier's gazelles. The project has also helped reduce fuelwood demand by: installing more efficient collective ovens; facilitating access to butane gas; and reinstating traditional vegetation management practices. This has reduced household consumption of fuelwood by 71 percent from 2,240 to 640kg/year.

#### Market incentives

- The project established a revolving fund to develop local products that contribute to revitalizing nature-friendly mobile lifestyles. Women's associations are supported in enterprises including the marketing of capers, local artisanal products, such as tapestry; and medicinal and aromatic plants. It has also initiated a genetic enhancement and conservation programme for local sheep and goat populations, supported the National Ovine and Caprine Association and the commercialization of animal products.

#### Investment incentives

- The integrated management and development plans prepared by the project include packages of investment options designed to reconcile biodiversity conservation with basic human needs. The revolving fund was used to kick start revenue generating activities (see Factbox).
- In order to channel and orient tourism investment, the project developed an eco-tourism charter with institutional, private and community partners. It also established a 'Cle-Verte' brand label for eco-friendly tourist facilities.

#### Individual level

- The project has contributed to changing the perception of nomadism from an outdated practice to an economically productive cultural asset. Ten women's associations, 300 shepherds, and thousands of children have benefited from the services catalyzed by the project and can now embrace their mobile lifestyles with pride.



© AZIZ RAHHOU - THE ATLAS MOUNTAINS EXTEND 2,400 KILOMETERS THROUGH MOROCCO, ALGERIA AND TUNISIA

#### On-going (2001 – 2008)

GEF grant:	US\$ 4.252 million
Co-finance:	US\$ 5.387 million
Project cost:	US\$ 9.639 million

Partners: Ministry of Agriculture and Maritime Fisheries – Ouarzazate Direction; local public and private institutions.

## SOUTH AFRICA

# Creating a sustainable wildflower harvest industry

**T**he Cape Floristic Region (CFR) is the smallest of the world's six floral kingdoms, yet one of the richest. It harbours more than 9,600 different species of plants – 70 percent of which are found nowhere else – and is home to 560 vertebrate species and numerous invertebrates, many of which are highly specialized and dependent on the endemic flora. While mountainous areas remain relatively intact (most are water catchment areas and not suitable for agriculture), less than five percent of lowland areas are protected and these areas face accelerating threats from agricultural expansion and the spread of alien invasive plants.

The trade in flowers from South Africa is estimated at more than US\$ 45 million per year. In the CFR, the harvest of wild flowers such as proteas and ericas is a lucrative business, but only sustainable in the long-term if harvesting follows conservation lines. The wildflower industry can provide a competitive alternative to wheat farming and ostrich husbandry, two land uses in the CFR which threaten biodiversity. However, a number of barriers hamper the

development of a sustainable wildflower industry. Production barriers include ill-defined harvesting levels and weak regulatory and enforcement regimes. Distribution and marketing barriers include an absence of coordinated supply networks to draw product from large areas and avoid localized over-harvesting; and lack of market access and sufficient returns to reward landowners for the effort needed to manage their lands in conservation compatible ways.

## Project description

Cape Action for People and the Environment (C.A.P.E.) is an ambitious long-term programme to protect the CFR. The Agulhas Biodiversity Initiative (ABI), one of several C.A.P.E. initiatives, was established to protect the biodiversity of the Agulhas Plain which consists of 270,000 hectares of coastal lowlands and undulating hills at the southern tip of Africa. It is a region of exceptional biodiversity, with 2,500 indigenous plant species, including remnant patches of coastal renosterveld and lowland fynbos, two of South Africa's most threatened vegetation types. Over 130,000 hectares of wildland in this area has already been converted or degraded.

Although the CFR is home to some of South Africa's most productive farms, under-employment is high. Conservationists face the dual challenge of preserving priority habitats while ensuring that the land remains productive and provides new livelihood options for the region's disadvantaged communities.

In order to promote land uses that are compatible with conservation and reduce the development footprint on biodiversity, the project is working with farmers to secure and protect land from insensitive agricultural development, uncontrolled fires, alien invasive species and the over-exploitation of



There are close to 2000 bulbous plant species in South Africa. Many popular garden flowers grown from bulbs – including gladioli, arum lilies, watsonia, freesias and ixias – originate in the Cape Floristic Region. Although most of these species are now propagated overseas, the industry's long-term survival depends on the conservation of wild genetic material. Many species have extremely restricted ranges, found in small often fragmented areas that are threatened by habitat clearance and degradation. This is particularly true for low land bulbous plant species. The C.A.P.E. programme is helping protect this flora through a stewardship programme that works with landowners to designate important parcels of land as protected areas under Provincial environmental legislation.

wildflower resources. There are four components to this strategy: PA expansion to safeguard sensitive areas; awareness-raising; and two land uses compatible with conservation – the promotion of sustainable wildflower harvesting ; and nature-based tourism.

## Project results

- Prior to the project, only 48,000 ha of the Agulhas Plain enjoyed formal conservation status. The area of land under legally binding conservation management agreements in productive landscapes has now increased to 88,000 ha, with a further 32,000 ha in the process of being added. The flower component has made a major contribution towards this result. Wildflowers are being sourced through sustainable harvesting on 30,000 hectares of land and, as a result the natural habitat is being maintained. Employment for certified flower pickers and packers has doubled over the past three years.

### Production level

- The Flower Valley Conservation Trust was established as an NGO in 1999 to undertake research, training and monitoring of the flower industry. Sustainable harvesting levels for different species have now been established through field work by expert botanists. A recording protocol is in place, a species identification schedule is available, and a data capture system has been established. A Code of Practice for flower harvesting has been developed and CapeNature, the provincial conservation authority, grants harvest permits based on adherence to the Code. An auditing and certification system, with an associated brand and marketing strategy, is being developed to assure premium returns which will encourage certified harvesters and exporters to harvest in an environmentally-sustainable and socially responsible way.

### Product sourcing and distribution

- A private company, Fynsa Pty Ltd, set up three years ago with private capital to source and market sustainably harvested wildflowers, works in partnership with Flower Valley. Fynsa is selling product directly to retailers to maximize price returns at the farm level, thereby increasing conservation incentives for producers. Fynsa registered annual sales of over US\$ 5 million in 2007, with an annual growth rate of up to 40 percent. A major marketing deal has recently been secured with Marks & Spencers in the UK, which sells and promotes Fynsa's flowers under its social responsibility programme. A new marketing deal is being negotiated with SA-based grocers Pick 'n Pay, to diversify into the local market and a partnership has been established with the UK-based Better Flower Company to diversify into overseas markets.



© CLAUDIO VASQUEZ ROJAS - SUSTAINABLE PICKING OF YELLOW LEUCOSPERRNUM AT FLOWER VALLEY

On-going (2003-2009)

GEF grant: US\$ 3.226 million

Co-finance: US\$ 8.559 million

Project cost: US\$ 11.785 million

Website: [www.capeaction.org.za/](http://www.capeaction.org.za/)

Partners: SANParks, CapeNature, Flora and Fauna International, Shell Foundation, World Bank – Development Marketplace

## ECUADOR

# Galapagos islands get tough on invasive species

The Galapagos make up one of the world's most ecologically intact and diverse oceanic archipelagos. As much as 95 percent of the islands' original species composition remains, compared to extinction rates of over 50 percent in many other archipelagos. This is attributed largely to the late arrival of humans and the fact that in 1959, 97 percent of the islands' land area was set aside as a National Park by the government. However, the islands' biodiversity still faces pressures.

The most significant current threats to the islands' biodiversity stem from the introduction and spread of alien invasive species, that out-compete, prey on, or smother native fauna and flora. Many alien invasive species have been introduced in the past 30 years, corresponding with the growth of the human population, now estimated at over 20,000, and visitor numbers (some 120,000 per year). Controlling the spiraling bio-invasion requires mainstreaming invasive species management into the main production sectors – trade, tourism and agriculture – that drive their introduction and propagation. This measure also protects the nature-based tourism that

provides the Galapagos with its principal livelihood (77 percent of income, and 61.3 percent of jobs). Complementary action includes reducing and, where feasible and cost-effective, eradicating populations of key invasive species to make future prevention and control more feasible and sustainable.

## Project description

The project is working with a number of Galapagos institutions, municipalities and the general public to prevent the introduction of new invasive species and control the propagation and growth of existing populations. It is working to overcome a number of barriers that hamper prevention and control including barriers at the systemic level, such as sectoral policies that do not address invasive species control. At the institutional level, the project works to strengthen quarantine and inspection procedures and, at the individual level, to build capacity among stakeholders. A cross-cutting issue for the project is to secure long-term funding to maintain prevention and control at sufficiently high levels. This is critical, as the threat posed by bio-invasion is a permanent one.

## Project results

### Systemic level

- The project has helped introduce policy and regulatory instruments that provide stricter control over species introductions. There is now a legal requirement for all arriving organic material cargos, passengers and luggage to be inspected. A list of restricted or forbidden imports has been approved and manuals detailing 28 inspection procedures have been produced. Regulations for the disinfection of arriving commercial airplanes and some ships have been approved, and are enforced by trained inspectors.



There are already over 1,000 documented cases of alien species in the Galapagos including 500 plants, 25 vertebrates (feral goats, pigs, dogs, rats, cats, mice, donkeys and cats), and invertebrates such as ants and cockroaches. Invasive species are introduced deliberately or accidentally as agricultural, horticultural or ornamental plants, or in shipments of imported goods both from the mainland to the archipelago, and between islands. Many thrive under local conditions, and propagate naturally, threatening evolutionary processes and biodiversity through competition with, and displacement, predation, and parasitization of native and endemic species.

- An invasive species control strategy for the agricultural and livestock sector is in the final stage of approval and a similar proposal for the tourist sector is being advanced. The INGALA Council – the main governing body for regional development planning – approved a Total Control Plan (TCP) in 2007.

#### Systemic level

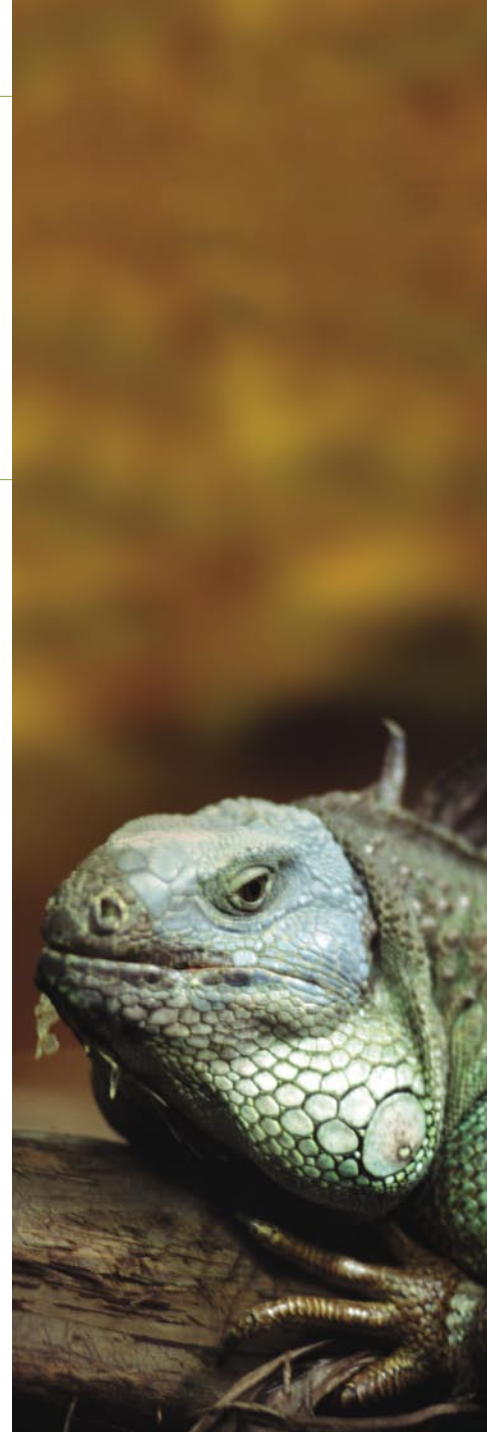
- The project has helped strengthen local and national institutions and increase community involvement in further improving inspection and quarantine systems. The quarantine system is now estimated to be 95 percent effective for air transport and 60 percent for marine, compared to five percent for both services at the start of the project. Around 80 percent of inspectors have been trained and 80 percent of the system is judged to be operating according to international standards. Institutional Committees of Invasive Species Management have been set up in the three inhabited islands and are fully operational in two. A system to coordinate regional planning on invasive species control measures between INGALA and the national, regional, and local levels has been created. Public participation now forms an integral part of the fight and includes local regulations for pets, increased awareness of the problem and pilot community monitoring programmes to help early detection.

#### Institutional and individual capacity

- Individual and institutional capacity building for eradication and control of existing species has helped bring several key aggressive invasive species under control. They include goats, cats, donkeys, feral pigs and dogs, black rats, ants, Rock Pigeons; fire ants and two species of blackberry. The successful eradication of feral goats on Isabela island, which makes up half of the archipelago's land mass, was the world's largest programme of its type. National capacity has been raised so that the Galapagos National Park service is able to implement the eradication methods developed by the project without outside assistance and complement its mainstreaming work for prevention of new introductions.

#### Financial sustainability

- An endowment fund – the Fund for the Control of Invasive Species in the Galapagos Archipelago – has been established to ensure that the recurrent costs of bio-invasion control can be met after GEF funding ends. All the legal instruments to operate the fund are ready and its design and structure has undergone external evaluation. The fund has already received US\$ 1 million from the Ecuadorian government and another US\$ 2.19 million through the UNESCO World Heritage Center, with support from UN Foundation and Conservation International. In March 2008 the Galapagos National Park committed US\$ 1 million and a further commitment is expected from the Ecuadorian government in addition to the GEF contribution of US\$ 5million.



© SP5T0CK - UNIQUE SPECIES, SUCH AS THE MARINE IGUANA, DRAW TOURISTS TO THE GALAPAGOS ISLANDS

#### On-going (2001-2008)

GEF grant:	US\$ 18.300 million
Co-finance:	US\$ 24.832 million
Project cost:	US\$ 43.132 million

Partners: Ecuadorian Ministry of the Environment, the Galapagos National Park (Parque Nacional Galápagos), Instituto Nacional Galápagos (INGALA), Servicio Ecuatoriano de Sanidad Agropecuaria (SESA) and Charles Darwin Foundation (CDF)

## BOTSWANA

# Mainstreaming biodiversity in the tourism sector

**T**he Okavango Delta in northern Botswana is the country's largest wetland, and the world's largest Ramsar site. The Delta's dynamic mosaic of landforms results in both high habitat diversity, and high concentrations of fauna. There are 448 species of birds (including two globally threatened resident species, the Wattled Crane and the Delta near-endemic Slaty Egret). The Delta also supports some of the largest remaining populations of cheetah and endangered African wild dog.

While the ecological integrity of this wetland remains largely intact, it is being eroded by gradually-rising anthropogenic pressures. The Delta's resources are critical to the livelihoods of its many different, overlapping resource user groups, each with competing demands for wetland resources. There is an unmet need to balance these demands to ensure that the Delta's ecological integrity is sustained.

### Project description

The Botswana government has developed the Okavango Delta Management Plan (ODMP), to

provide a cross-sectoral management framework for protecting the wetland complex. The Okavango Project was designed to support the ODMP by mainstreaming biodiversity conservation into three key production sectors – tourism, fisheries and water – each dependent on ecological services and goods provided by the Okavango River.

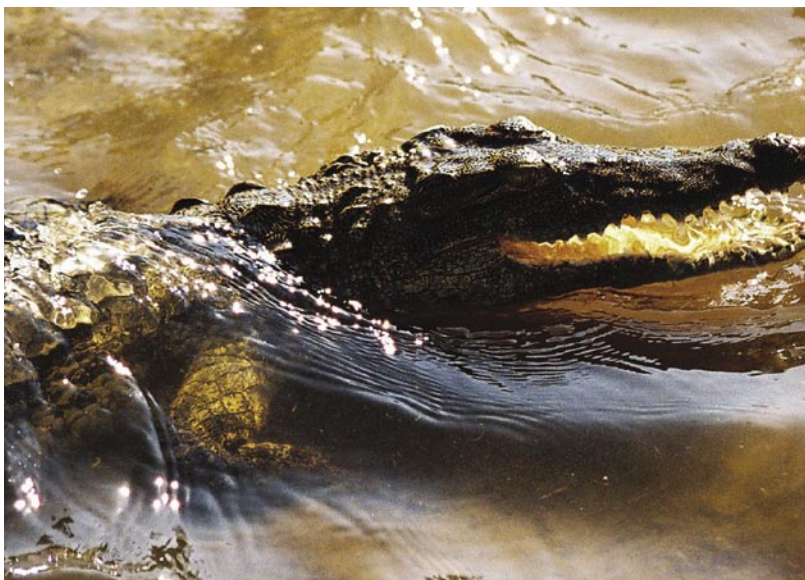
Of the main production sectors, tourism is the Delta's major economic activity, and is highly significant at national scale. Tourism contributes more than seven percent of GDP and provides nine percent of jobs nationwide, with the Delta as the country's major visitor attraction. However, tourism development is not currently managed with specific concern for ecological impact: with 50,000 people visiting 80 different facilities each year, and a projected growth rate of five percent over the next 10 years, the industry can generate positive economic benefits, but also negative ecological impacts. These impacts include pollution from oil and solid waste and effluent discharges.

Despite widespread support for the ODMP within the tourism industry, environmentally sustainable tourism development in the Delta is hampered by a number of barriers which the project is addressing. These include barriers relating to overall sector governance, undermined by weak regulatory and enforcement capacities, and the tourism market, which does not currently provide an impetus for good operator management practices. Moreover, the tourism concession rights allocation framework does not provide for biodiversity-friendly management, or reward good behaviour.

### Project results

#### Governance

- The capacity of the district land-use planning authority, the Tawana Land Board (TLB), is being



The invasive alien aquatic plant *Salvinia molesta* (Kariba weed) has a long history of constricting channels in the Delta, adversely impacting biodiversity and limiting their use for tourism. The Biokavango project is supporting the government's efforts to monitor this threat and control the weed biologically, using weevils. A private sector partner, CC Africa, has established an 'Adopt-a-weevil' campaign, through which their clients can sponsor the company's ongoing *Salvinia molesta* control programme in partnership with local communities.

strengthened through the introduction of improved decision-support tools. Two sections of the ODMP, the Tourism Development Plan and the Integrated Land Use Plan, have been harmonized to guide district-level tourism planning, and a new TLB biodiversity staff member is helping integrate biodiversity management objectives into routine tourism planning activities, which will reduce industry conflicts and simplify regulation and inspection.

- The private sector plays a key part in project implementation, with five major Delta tourism operators, CC Africa, Desert and Delta, Kerr and Downey, Wilderness Safaris and Orient Express, investing a total of US\$ 3.1 million in the initiative. These companies are adapting management practices, particularly waste management systems, improving interpretation facilities for biodiversity, and conducting environmental, biological and water quality monitoring. To improve the flow of biodiversity information to and from tourism operators, the University of Botswana's Okavango Research Centre (GIS and environmental chemistry labs), and the Okavango Delta Information System (ODIS) geographic database are being upgraded.
- Liquid waste management systems in all 80 tourism sites are being assessed to determine if, besides meeting operators' financial needs, they are appropriate for operation in the Delta.
- A contingency plan is being developed to coordinate response to any major fuel or oil spillage in the increasingly busy Delta.

#### Marketing

- There is strong support within the tourism sector for the introduction of an eco-certification scheme that recognises good operator performance. The project is piloting a certification and verification scheme that will help operators increase their tourism product value by safeguarding biodiversity resources. The scheme will be promoted to tourists through a new Okavango Delta biodiversity interpretation centre, that will highlight best practices while also providing interesting information on the wetland's ecology.

#### Property rights

- The TLB is helping incorporate biodiversity management into tourism lease agreements, which will impact on 60 percent of concession areas over the next five years. This move addresses the missing link between responsible stewardship of natural resources and increased length and security of lease agreements, and will encourage investment in biodiversity-friendly management.
- Joint management partnerships are being developed between tourism operators and local communities at five pilot sites, in order to minimize conflicts over resource access. The partnerships will lower the cost of managing neighbour relations, and encourage greater commitment and investment in biodiversity management by communities and the private sector.



© SRStock - THE OKAVANGO DELTA SUPPORTS LARGE POPULATIONS OF CAPE BUFFALO

On-going (2006-2010)

GEF grant: US\$ 4.28 million  
Co-finance: US\$ 12.14 million  
Project cost: US\$ 16.42 million

Website: [www.orc.ub.bw/biokavango](http://www.orc.ub.bw/biokavango)

Partners: Government of Botswana, University of Botswana, CC Africa, Desert and Delta, Kerr and Downey, Wilderness Safaris and Orient Express, IUCN

## CROATIA

# Coastal development needs to consider biodiversity

The Dalmatian Coast of Croatia is made up of a unique mosaic of marine and terrestrial ecosystems. The area is dominated by a limestone geological base, with a distinctive Karst relief. The coast is a repository of biodiversity on account of its unique bio-geographic position, plus the fact that it was a refuge for plants and animals during the last Ice Age. The Strategic Action Programme for the Conservation of Marine Biodiversity in the Mediterranean Region prepared with support from UNEP-GEF identified the Dalmatian coast as one of three priority areas for conservation in the Mediterranean and over 38 percent of the coast's natural habitats are listed in the EU Habitat Directive. Recent economic developments coupled with the collapse of environmental management systems in Croatia have allowed the growing local tourism, fisheries and agriculture industries to have an increasingly negative impact on biodiversity. Many unique habitats are in danger of being lost: out of 5,835 km of total coast length, 837 km had been developed by 2000. Another 1,553 km of the coastline is designated for development by 2015.

## Project description

The COAST project aims to help Croatia seize a unique and short-lived opportunity to improve nature conservation on the Dalmatian Coast before current unsustainable development trends cause irreversible damage to its ecosystems.

The overall objective of the project is to transform the existing actions, practices and approaches of private sector operators working in the tourism, agriculture and fisheries industries in the four coastal counties by mainstreaming biodiversity conservation concerns into their planning and operations.

It aims to achieve this by directly initiating changes in the sectors and by transforming the forces that drive them, including the banking sector, the EU Accession process, the regional planning system and the PA management system. In total, the project is promoting biodiversity mainstreaming on 663,000 ha of productive landscape and 702,000 ha of seascape.



© ADRIANA DINJU - CROATIAN LANDSCAPE



© CROATIAN TOURIST ASSOCIATION - UNIQUE COASTAL MOSAIC

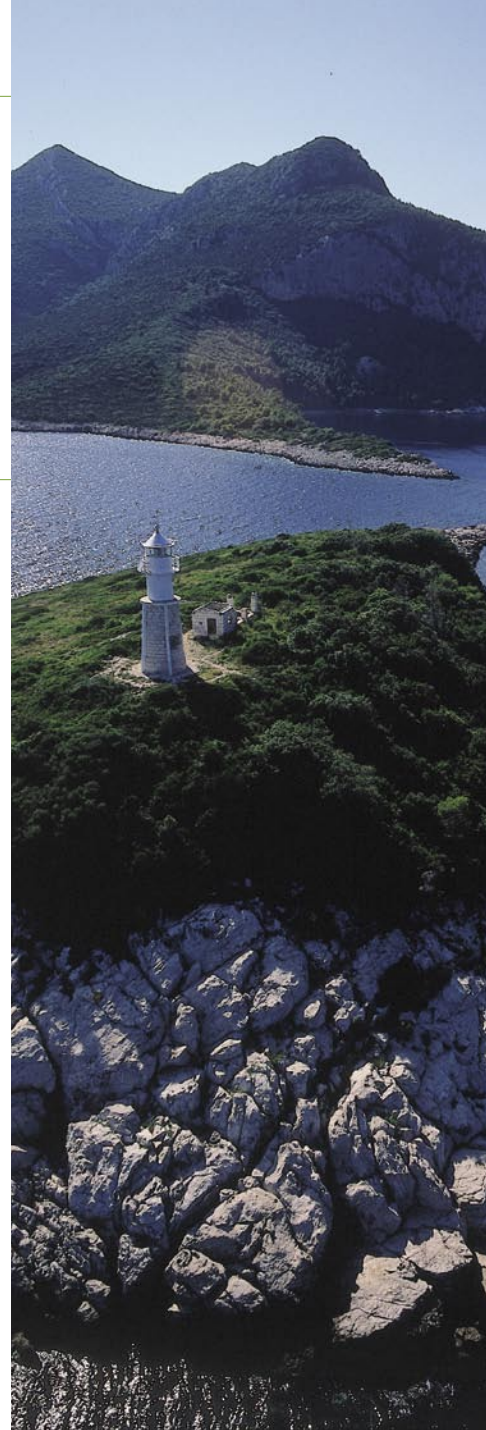
There are 698 islands, 389 islets and 78 reefs in the Croatian archipelago, which makes it the largest archipelago in the Adriatic Sea, and the second largest in the Mediterranean. The Adriatic has large numbers of endemic flora and fauna including endemic Posidonia sea grass meadows which provide habitats for many species and are an internationally important area for juvenile populations of the loggerhead turtle. Posidonia beds are threatened across the Mediterranean although in Croatia they still cover rather large areas of coastal waters up to 50 meters deep.

## Project results

- The project is playing a critical role in the sustainable development of the Dalmatian coast by contributing to the management of Ecological Networks, sensitive areas where conservation objectives are to be integrated into production practices to ensure biodiversity is protected.
- The project has several innovative and demonstrative aspects designed to address institutional, investment and market barriers. It is helping to modify the banking sector to ensure financial sustainability; use sector champions able to push the environment agenda – to mainstream biodiversity into the work-programmes of key organizations, in order to generate ownership and ensure institutional sustainability; and directly catalyse pro-biodiversity initiatives by local stakeholders.

### Investment and market barrier removal activities

- The project is creating a Biodiversity Business Facility to support biodiversity friendly business development. The Facility, which is being established in four county development agencies, will focus on promoting niche businesses in agriculture, tourism and fisheries that can have a positive impact on biodiversity. The Facility will focus on assisting those small and medium-sized enterprises (SMEs) which obtain commercial value from biodiversity by: providing technical guidance to integrate biodiversity management into production; stimulating demand for their products and services; and helping businesses source capital by providing access to affordable financing and financial incentives – including partial risk guarantees and small grants. It will also provide support during business development and link these activities to EU policy development on agri-environmental schemes, business and biodiversity.
- The project is supporting the development and implementation of biodiversity-friendly tourism through a Destination Area Tourism Management Plan which will guide tourism development over the coming years, and encourage the diversification of tourism products.
- The project is providing support for the design and implementation of eco-friendly practices and in obtaining eco-certificates for traditional agricultural businesses including: livestock, olives and olive oil, orchards, processed fruit products such as jams, vegetables, vineyards and wine, wildflowers and flower cultivation and licensing.
- The Facility will support small-scale sustainable fisheries, marine tourism and sport fishing as well as shellfish farming. The Facility will also determine how many of the current 10,000 small-scale fishermen could reduce their dependency on fishing – and thus reduce fishing pressures – by diversifying into sport fishing and nature tourism.



© CROATIAN TOURIST ASSOCIATION - DALMATIAN COASTLINE, A CONSERVATION PRIORITY

On-going (2007-2013)

GEF grant: US\$ 6.988 million

Co-finance: US\$ 24.334 million

Project cost: US\$ 31.322 million

Website: [www.undp.hr/coast](http://www.undp.hr/coast)

Partners: Ministry of Environmental Protection, Physical Planning and Construction as implementing agency, other ministries, state institutions and county governments

## SOUTH AFRICA

# Production sector reform saves ecosystem services

South Africa's temperate Grasslands are the second largest biome in the country, occupying 29 percent of the land territory. The biome is a repository of globally significant biodiversity – in particular, a rich storehouse of floristic diversity – harboring over 4,000 plant species, many of which are endemic. However, South Africa's grasslands, like others across the globe, are critically threatened. Human activities have already irreversibly transformed 30 percent of the area while less than two percent is included in the Protected Area estate, which itself is not representative of the biome's diversity.

The Grasslands provide essential ecosystem services, in particularly hydrological services that make a major contribution to South Africa's agriculture, forestry, mining, and industrial economy. The annual value of ecosystem services provided by the Grasslands is estimated at US\$ 1.2 billion. Around 6.4 million cattle and 13 million sheep graze the biome, which also provides coal for South Africa's power stations. South Africa's largest urban and industrial centre – the conurbation of Johannesburg and Pretoria – is also located within the biome. The economy of this area generates 33.9 percent of GDP. Plantation forestry in the Grasslands is worth US\$ 660 million per year. However, these production activities also constitute the main threat to Grasslands, by stimulating habitat loss and degradation. There is therefore a need to integrate biodiversity management into the development agenda, promoting the concept that ecosystem services provided by the Grasslands have a real monetary value.

## Project description

The Grasslands project seeks to mainstream biodiversity objectives into the agriculture, forestry,

urban development and coal mining sectors – the main drivers of biodiversity loss. Interventions are designed to address institutional and policy level barriers, correct market failures and demonstrate how different production sector practices can be adapted to achieve biodiversity management.

A key focus is on managing 'trade-offs' between development and biodiversity conservation, so as to allow development vital to the national economy to occur without while ensuring that critical biodiversity is protected.

## Project results

### Institutional capacity

- The buy-in of stakeholders to a common goal, and their support in the design and implementation of interventions is central to effective mainstreaming. Representatives from the production sectors have played an integral part in the project's design and are key partners in implementation. For example, Forestry South Africa – the forest sector's industry body – is implementing the project's forestry component. Several South African forestry companies are committed participants and have identified 37 biodiversity priority areas on forestry land that they are moving to protect as secure set-asides under new legislation.

### Knowledge management

- The project has significantly increased the body of knowledge on the grasslands biome. A conservation needs assessment has identified priority areas – amounting to 36.7 percent of the biome – that need to be conserved to maintain biodiversity patterns and process. This knowledge is informing land use decision-making at local government level with a view to ensuring that develop-

Curiously, only one in six plant species in the South African grasslands community is actually a grass – the remainder are bulbous plants including arum lilies, orchids, red hot poker, aloes, gladioli and at least 54 species of ground orchids. The mean species richness of 82 species per 1000 m<sup>2</sup> is second in South Africa only to the Renosterveld vegetation community. Most plant reproduction takes place vegetatively rather than through seed production, particularly among the bulbous plants and climax grasses.

ment occurs as far as possible outside designated sensitive areas, and if this is not possible, that steps are taken to reduce, mitigate and offset unavoidable impacts.

- The project has also increased knowledge of the impact of different land uses in the biome on biodiversity. A better understanding has also been obtained of production sector dynamics. This has allowed interventions that provide incentives for compatible land uses and mitigate the impacts of incompatible ones to be pursued. For instance, livestock husbandry can be conservation compatible, as long as stock densities are controlled and fires set to stimulate re-growth are carefully managed. However, the expansion of crop production is incompatible with conservation. The project is supporting rangeland agriculture by demonstrating good practice on-the-ground and through market interventions, such as product labelling and market placement for range-fed beef, that meets exacting environmental criteria, while also strengthening zoning rules to contain the expansion of crop farms (i.e. biofuels) in critical areas.

#### Incentives and market mechanisms

- Developing effective incentives requires an understanding of production sector dynamics and priorities, as well as the 'right' regulatory environment. For example, although coal-mining companies own large tracts of biodiversity rich land, their activities are extremely damaging to biodiversity on-site. Drawing on international experience with biodiversity offsets, the project is working with the coal-mining sector and regulatory agencies to develop a wetland mitigation banking system. This will allow companies with a vehicle for offsetting unavoidable on site damage to the environment, through investments in the permanent conservation of other grasslands – with equivalent conservation value – that are threatened by other land uses. Company interest in this scheme is driven by the need to secure water for their mining operations, which – given the scarcity of this resource in South Africa – may become conditional on effective conservation, regulatory controls and corporate responsibility.
- Urban development is placing considerable pressure on the biodiversity and ecosystem services that sustain the megacity of Johannesburg/Pretoria. The development of 'eco-estates' – residential complexes in attractive, but ecologically sensitive landscapes – provides a mainstreaming opportunity and a chance to benefit from the market trend towards ecologically conscious living. The project is working with the appropriate regulatory bodies to ensure that the building of 'eco-estates' results in biodiversity gains through the creation of grassland set-asides. New spatial planning guidelines and impact mitigation conditions are being put in place.



© SANBI - SOUTH AFRICA'S GRASSLANDS ARE THE COUNTRY'S SECOND LARGEST BIOME

On-going (2006 – 2012)

GEF grant:	US\$ 8.65 million
Co-finance:	US\$ 37.26 million
Project cost:	US\$ 45.91 million

Website: <http://www.grasslands.org.za>

Partners: SANBI, Forestry SA, DEAT, Depts of Water Affairs and Forestry; Agriculture, Working for Wetlands, Gauteng Dept of Agriculture, Conservation and Environment, WWF SA, Botanical Society of SA, Mpumalanga Tourism and Parks, Ezemvelo Kwa-Zulu Natal Wildlife

## GEORGIA

# Land race revival saves agricultural heritage

Georgia lies on the southeastern boundary of Europe, between the Greater and Lesser Caucasus and the Black Sea, an area defined by Conservation International as one of the world's biological hotspots. Georgia, with 23 soil-climatic zones in only 69,700 km<sup>2</sup>, possesses unique plant diversity and a long history. Its agriculture can be traced back seven or eight thousand years, when Kartvelian (Georgian) tribes began to domesticate basic crops such as wheat, barley, oat, rye, grain, legumes and fruit species. Georgia has a rich flora, both in terms of wild species (more than 4,200) and crop species (about 100 families and 350 local species of grain crops). Georgia also has more than 100 species of seed and stone fruit-trees, nuts and wild berries, while more than 500 local varieties of grapes have been recorded, although only 300 are grown today.

Georgia once had diversified agricultural production. However, agricultural practices over the last 70-80 years have resulted in significant erosion of agro-biodiversity, which has undermined crop production sustainability. The collapse of the

Soviet Union aggravated biodiversity loss due to difficulties of the transition period, collapse of the extension system and the absence of appropriate policies for conservation and sustainable agro-biodiversity use.

In Soviet times most family plots and collective farms grew introduced varieties and local landraces were generally only cultivated by agricultural research centers. When state funding ceased, the process of agro-biodiversity loss intensified as valuable collections and stocks of landraces began to deteriorate.

At the same time, farmers found themselves stuck with introduced varieties that needed quantities of agrochemicals and water that they could neither provide nor purchase. Although local varieties would have performed much better, they were not available for planting and the research centers lacked capacity to assist farmers to reintroduce them.

## Project description

The UNDP-GEF project was launched in 2004 in the Samtskhe-Javakheti region of South Georgia in order to remove the institutional, knowledge and market barriers that hamper the conservation and sustainable use of the region's agro-biodiversity. Project interventions include the establishment of sources of primary seed and planting material for the threatened crops and fruit varieties and the strengthening of local farmers' associations as the main vehicles for production.

As well as distributing seed and planting material, the project helps farmers access markets, including specialist markets for organic products. It works to facilitate experience-sharing among farmers and enhance information access to farmers, authorities, research stations, donors and other stakeholders.



Georgia is a part of the Fertile Crescent – where many modern staple foods originated. Not long ago, the widely cultivated crops in Georgia included millet, rye, endemic wheat varieties, chickpea, lentil, beans and peavine, as well as plants grown for their oil and fiber content. Today, many of these crops are absent or under-represented in the local farming systems. The project has therefore promoted community-driven, on-farm initiatives supported through supplies of seed and planting materials, knowledge dissemination, marketing efforts, and publicity in order to re-introduce indigenous varieties to the Samtske-Javakheti region.

## Project results

### Production

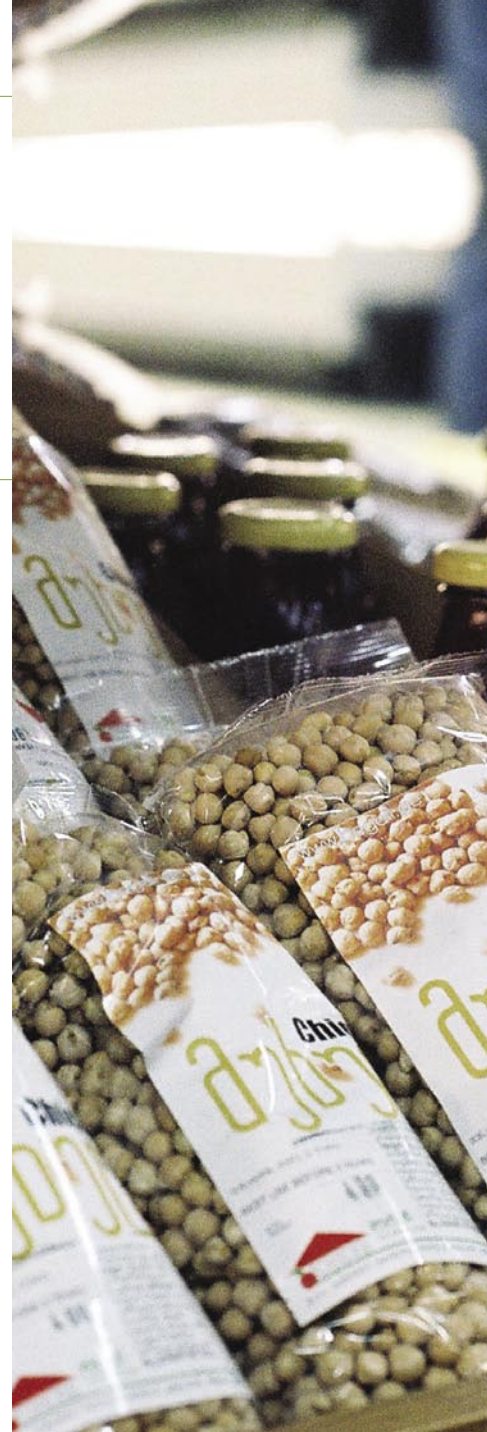
- The project has established a seed multiplication programme to encourage local farmers pursue agro-biodiversity objectives. Seed material stored in the Institute of Botany has been multiplied on the Institute's demonstration plot and distributed to farmers. A fruit nursery has been also established at the demonstration plot and planting material for further multiplication has been collected in the region.
- The land races that the project has introduced are, by their very nature, highly adapted to local physical conditions and exhibit a high level of resistance to crop pests and disease. Although their yields are lower, they require fewer inputs, attract a higher price and provide potential access to international markets that would not ordinarily exist for less remarkable modern agricultural crop varieties. The reintroduction of land races – particularly a greater range of pulses – has also improved the nutritional intake of the farming communities.
- The project has collected and documented traditional ways of using indigenous crops. A recipe book has been published and widely distributed to raise consumer awareness. Dishes prepared from local varieties have also been promoted through food tasting events and the media. As a result, the local market demand for indigenous varieties is growing.

### Institutional and Individual capacity

- Farezi – a local farmer's association – has been established in Samtskhe-Javakheti. The association unites more than 150 members directly involved in on-farm conservation activities. It serves as the main vehicle for the production and distribution of seed and planting material and facilitates local level experience-sharing. Farezi has created a seed fund and all members have agreed to join the seed multiplication system by returning 1.5 times the original amount of seed distributed to them. Members are also receiving training and extension services on a regular basis.

### Markets access

- The project has arranged for Begeli – a local company – to market the crops produced by participating farmers. It has carried out a market study and developed five products that use 'regional' and 'organic' branding systems that are attracting growing demand in local supermarkets. Begeli pays farmers a 10 percent premium on the existing market price for beans and at the same time buys directly from farmers, skipping the middleman and maximizing returns at the farm level.



© UNDP/GEF PROJECT TEAM – CHICK PEAS, A STAPLE FOOD ORIGINATING FROM THE GEORGIAN REGION

On-going (2004-2009)

GEF grant: US\$ 0.987 million

Co-finance: US\$ 1.717 million

Project cost: US\$ 2.704 million

Website: [www.elkana.org.ge](http://www.elkana.org.ge)

Partners: Biological Farming Association Elkana (Georgian NGO); EED and Misereor, Germany, OxfamNovib and Avalon; the Netherlands, Swiss Development and Cooperation Agency; and HEKS/EPER, Switzerland

**BRAZIL, COLOMBIA, EL SALVADOR, GUATEMALA, HONDURAS & PERU**

# Biodiversity-friendly coffee targets consumer conscience

Coffee is the world's largest commodity crop market and, after petroleum, the second largest globally traded commodity. 10 million hectares of land are under production, and the industry generates US\$ 70 billion in annual retail sales and employs 25 million people worldwide. Virtually all coffee is grown next to, or in place of, tropical forests. Coffee is cultivated within 13 of the world's biodiversity hotspots, and the quality of stewardship of coffee lands has a marked impact on biodiversity in these areas.

Traditional coffee farms leave areas of native forest to shade plants in conditions that hardly affect local flora and fauna. Shade-grown coffee is one of the most biodiversity-friendly crops in the tropics, equal only to traditional cocoa farms. A forested coffee farm will retain the vast majority of bird species and most of the microorganisms, insects, and mammals that are found in pristine rainforest.

More than half of the world's coffee is grown in Central and South America. Of the approximately 5.8 million ha of land under cultivation, some two

million hectares is still estimated to be shade-grown. However, the percentage of coffee now grown under full sun, or minimal shade, is growing and is more than 70 percent in countries such as Colombia or Brazil. The switch in farming systems is leading to a loss of on-farm biodiversity, with one study showing a drop in beetle diversity from 126 species to 29, and ant diversity from 30 to eight species. As shade coffee farms often provide important biological corridors between protected forest patches, this switch is also undermining ecological integrity at the landscape level – leading to increased forest fragmentation.

There are several possible ways of promoting shade-grown coffee, almost all of them linked to standards and a corresponding certification scheme for biodiversity-friendly shade grown coffee. Although certified coffee probably accounts for less than five percent of global production, experts predict substantial growth. Over the last 10-15 years, the coffee industry has been pioneers in piloting sustainability measures, and it is very likely that all the major actors in the coffee world will have some sort of sustainability standards and policies before this project ends in 2013.

## Project description

The project is working with major coffee traders, roasters, and specialty importers to increase the volumes of Rainforest Alliance (RA)-certified shade-grown coffee sourced from the six coffee-producing countries in Latin America – Brazil, Colombia, El Salvador, Guatemala, Honduras, and Peru. In consumer countries the project is working to increase demand for shade-grown coffee by promoting certified coffee in the marketplace and working with new and existing partners, to deepen the commitment to sustainability. The project is highly innovative because it strengthens the direct linkage between



Rainforest Alliance Certification is one of the most rigorous and complete sustainability standards in the coffee world, and one that emphasizes biodiversity conservation, as well as socio-economic criteria. RAC prohibits the felling of forest habitat for coffee production or other reasons, and also bans the hunting of threatened or endangered species. It also encourages the creation of biological corridors to link natural habitats and promotes planting trees in and around certified coffee farms, partly to provide habitat extensions for birds and other species. RAC helps farmers and coffee producers realize that sustainability in coffee is about more than getting premium market prices.

market forces and conservation interests and embraces the entire supply chain instead of narrowly focusing on project sites and niche markets. It seeks to forge a powerful, direct relationship between consumer demand for certified coffee, the world coffee market and conservation benefits.

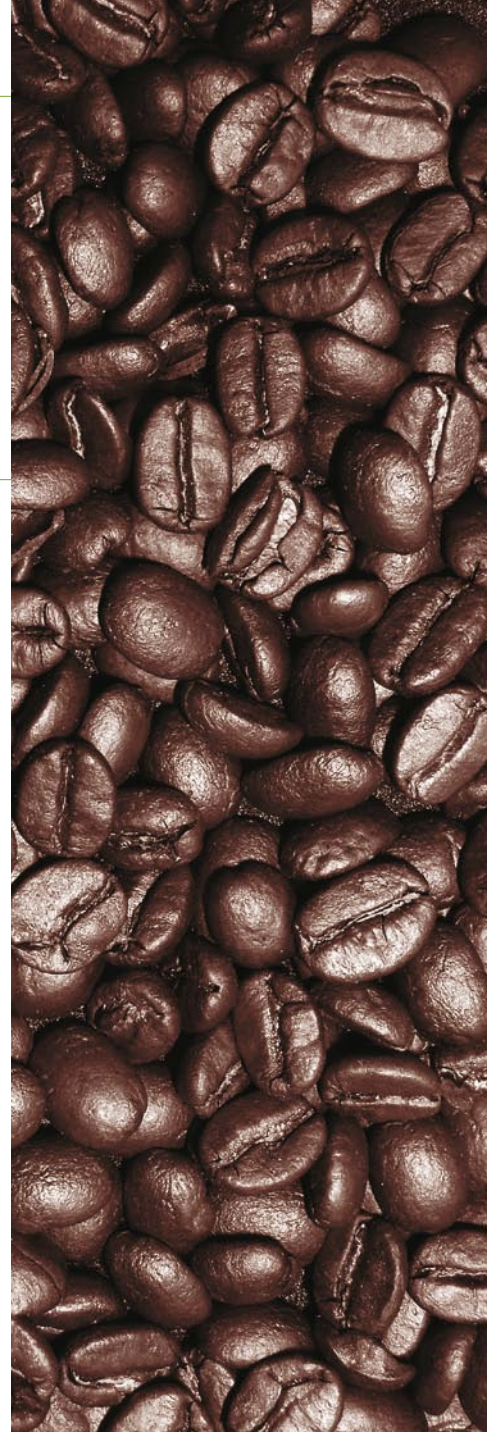
Project targets include increasing the amount of certified land producing shade-grown coffee more than fifteen times, from 93,000 ha in 2005 to 1.5 million ha in 2013. On the demand side the project seeks to increase the annual volume of RAC coffee sold from a baseline of 30,000 metric tons to 500,000 metric tons, or 10 percent of the global market. Certified coffee will be sold in 200,000 to 300,000 retail outlets, increasing from a baseline of 20,000 outlets.

## Project results

- The area devoted to certified coffee worldwide was 92,000 ha in 2005, and has already increased to 160,060 ha.

### Market incentives

- Sales of RAC coffee grew by more than 100 percent on average from 2003-06. Sales in 2006 were estimated at around 27,000 metric tons, but had risen to between 40-45,000 metric tons by 2007, or close to 100 percent growth. This has been made possible by partnerships with major roasters, wholesalers and retailers including:
  - **Tchibo.** The giant German roasting company mounted a roadshow which visited shopping centers all over Germany to explain sustainability to consumers. A brochure on RAC helped reach tens of thousands of consumers.
  - **Kraft Foods.** Different Kraft brands launched new certified products and campaigns to show commitment to sustainability and their collaboration with Rainforest Alliance. Full-page advertisements were placed in prestigious magazines such as Vanity Fair and the New Yorker. Kraft has continually increased its commitment to sustainability over the past several years, buying about five million pounds of certified coffee in 2004, increasing to about 14 million pounds in 2005 and to about 29 million pounds in 2006.
  - **McDonald's Europe.** A campaign has been launched in the UK, Ireland, and Germany as a part of a roll-out of RAC coffee to 17 European countries – a market that drinks more than 143,000 cups a day. McDonald's is the first major retailer in the United Kingdom to source all of its coffee from Rainforest Alliance.
  - **Whole Foods.** Supermarkets have launched a WholeTrade guarantee that includes RAC and Fairtrade Certified. Whole Foods is heavily promoting the sustainability concept to its customers.



© MIRIAM CHIES - CONSUMERS PLACE A PREMIUM ON CERTIFIED COFFEE

### On-going (2006-2013)

GEF grant: US\$ 12.640 million

Co-finance: US\$ 81.613 million

Project cost: US\$ 94.254 million

Partners: Rainforest Alliance, Sustainable Agriculture Network Partners, major private retailers

## MALAYSIA

# Integrated approach helps save peat swamp forests

The world's largest tracts of tropical Peat Swamp Forests (PSFs) are found in South-east Asia – predominantly in Malaysia and Indonesia – where they support many specialized flora and fauna species and are often the last refuge for lowland species such as elephants and tigers. They are the most important type of wetland in Malaysia, where about 1.45 million hectares of PSFs account for approximately 75 percent of the country's total wetland area. As well as being ecologically important, the PSFs also contain high-quality timber species, provide many non-timber forest species for local use, support fisheries, provide drinking water, control floodwaters and help maintain water levels in rivers and streams.

Over the past two decades, PSFs have increasingly been threatened by development as dry lowland ecosystems became depleted and could no longer meet demands for land and livelihoods. Major threats include drainage, timber extraction, land conversion, fires and poaching. These often occur simultaneously, such as when an area is drained for land conversion, leaving large areas vulnerable to

fires. Addressing the threats is hampered by barriers including fragmented and incompatible policy frameworks, inadequate institutional and technical capacities, and a lack of coordination between conservation and production sectors within the governance framework.

## Project description

UNDP is working with the government of Malaysia to help implement a GEF-supported project to safeguard the country's remaining tropical PSFs. Its primary objective is to develop and implement management plans that will support the conservation and sustainable use of PSFs. The project has developed plans for multi-sectoral, integrated PSF management at three sites in the Malaysian States which harbour the largest remaining areas of PSFs in the country: Sarawak (the Loagan Bunut National Park – LBNP); Sabah (the Klias Peninsula); and Pahang (the South-East Pahang Peat Swamp Forest – SEPPSF). Each site represents a distinct PSF ecosystem and collectively they support at least 60 globally significant species of plants and animals.

## Project results

### Systemic level

The project has worked to strengthen the policy framework for PSF management and integration within national development processes. Activities include:

- Facilitating the creation of State Wetlands Committees. These are inter-agency bodies established to coordinate wetlands management and to ensure the integration of wetland conservation into development planning. These high-level committees will help ensure that wetlands conservation is supported by compatible land uses in adjacent areas and upstream watersheds.



Peat Swamp Forests play a crucial role in our planet's carbon cycle. It is estimated that a 10m deep peat swamp can store 5,800 tonnes of carbon per hectare, compared with just 500 tonnes in other types of tropical forest. However, when PSFs dry out and burn, this stored carbon is released back into the atmosphere. By developing ways to reduce the incidence of peat fires in the South-East Asia region, the project has played a small but important role in helping slow the effects of global climate change.

- Organizing the first-ever national symposium on PSFs, which brought together national-level government and non-government stakeholders to develop knowledge-based decision-making processes for the management of PSFs.
- Promoting policy discussions on the strategic direction and way forward for Sustainable Forest Management (SFM) in relation to climate change issues.

#### Institutional level

The project has strengthened institutional capacities to monitor and manage PSFs through the use of:

- Integrated Ecological Monitoring Systems for the project sites, which support decision-making on land-use and SFM at the operational level.
- Integrated Management Plans developed through multi-sectoral processes to integrate PSF management and sustainable economic development activities in surrounding production landscapes.
- Institutionalized Reduced Impact Harvesting Guidelines for production forests surrounding PSF reserves, which minimize damage from uncontrolled drainage.

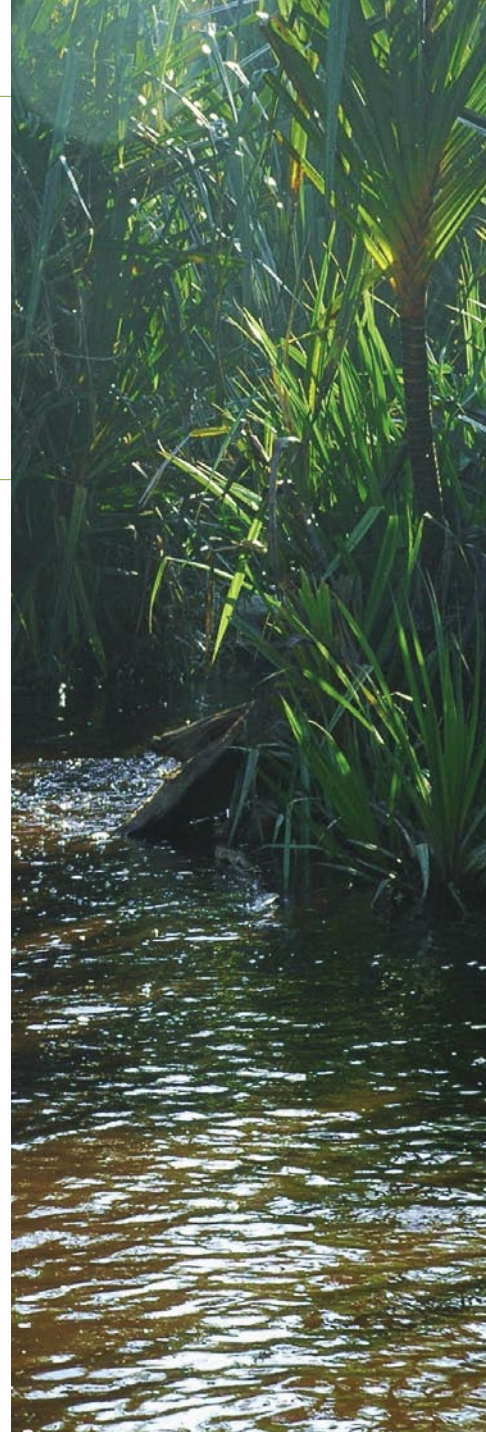
#### Individual level

The project has also strengthened technical capacities for wetlands management and sustainable use through a range of initiatives, including:

- Strengthening management capacities of Forestry Department staff at the state and national levels in areas such as forest fire prevention, fieldcraft (GPS and remote sensing, information management and statistical methods, etc.), ecological monitoring and wetlands management.
- Promoting sustainable harvesting through the revival of the indigenous community's traditional fishing regulations and providing training related to fish rearing techniques.
- Establishing collaboration between local authorities and oil palm producers and processors to reduce pollution and sedimentation in PSF ecosystems.
- Enhancing public awareness about PSFs and wetlands through various campaigns, including extensive training and field exposure for teachers and students and efforts to incorporate conservation issues in school curricula.
- Developing technical guidelines for regulating development activities in state owned land surrounding PSF reserves.

#### PA system representation

- The biodiversity conservation and forest management planning systems established for the Pahang and Sabah sites have helped to make a case for targeted expansions of existing PA systems. A new Forest Reserve (the Bukau-Api Api Protection Forest Reserve) is being gazetted adjacent to the Klias FR in Sabah, and an additional 20,000 ha of permanent forest reserve has been added to the Pahang site to create green corridors and strengthen the fragmented forests' ecosystem integrity.



© UNDP/GEF PROJECT TEAM – MALAYSIA'S PSFs SUPPORT AT LEAST 60 GLOBALLY SIGNIFICANT SPECIES

On going (2002–2008)

GEF grant: US\$ 6.309 million

Co-finance: US\$ 6.670 million

Project cost: US\$ 12.979 million

Website: [www.psf-frim-undp.org/](http://www.psf-frim-undp.org/)

Partners: Forest Research Institute of Malaysia, the Ministry of Natural Resources and Environment, State Governments of Sabah, Sarawak and Pahang, DANIDA and Royal Netherlands Government.

**COSTA RICA, EL SALVADOR, GUATEMALA, HONDURAS, NICARAGUA**

## Access to investment can boost biodiversity business

**M**esoamerica (the seven Central American countries plus Mexico's four southern-most states) has an area of 769,000 km<sup>2</sup>. While only 0.5 percent of the global land area, MesoAmerica harbours around seven percent of all terrestrial species identified to date. The region's 210 endemic mammal species and 24,000 plant species rank first and fourth respectively among the global biodiversity 'hotspots'. The region's varied habitats range from coastal swamps and mangroves along the Pacific Coast, with broad-leaved and coniferous forests at higher altitudes; moist, sub-tropical wet forests and rain forests within the Caribbean lowlands; and broad-leaved premontane and montane hardwood forests in the southern portion of Mesoamerica.

The biodiversity of the region's forest and mountain ecosystems is being threatened by habitat loss and degradation. From 1990-95, total forest habitat losses in Central America were estimated at 2.3 million hectares mostly from unsustainable timber extraction, the opening up of forest to slash-and-burn agriculture or conversion to cattle ranching,

agricultural or mixed production systems. However some types of agricultural land uses – such as silviculture, shade-grown coffee and cocoa production, sustainable fishing and nature-based tourism – are potentially compatible with conservation goals and lands under such production systems can provide biological connectivity between protected forest blocks. Engineering a paradigm shift from unsustainable to sustainable production systems that internalize biodiversity conservation objectives in production practices still remains a challenge.

Around 95 percent of regional enterprises – accounting for 54 percent of employment and 34 percent of production – are small or medium-sized enterprises (SMEs). Many are based in rural areas, depend heavily on natural resources and are involved in activities which lead to land conversion and degradation. SMEs are active in cocoa and coffee farming, intensive cattle ranching, timber extraction, marine aquaculture and shrimp farming, high input horticulture and sugarcane production, slash and burn agriculture and tourism (80 percent of tourism businesses worldwide are run by SMEs).



Mesoamerica has made substantial strides towards conserving its remarkable biodiversity, including establishing approximately 600 terrestrial and over 100 marine PAs. About 12 percent of the region is now under some form of protection, with Costa Rica (26 percent) and Guatemala (22.6 percent) leading the way in terms of share of land surface protected. Regional co-operation has led to the creation of an innovative programme for consolidating a network of PAs and biodiversity friendly plantation forests, agro-forestry systems and private reserves into a Mesoamerican Biological Corridor (MBC) that will link habitats throughout the region.

## Project description

The project aims to ensure that the important Central American SME sector increasingly contributes to sustainable development and environmental protection by incorporating biodiversity concerns into its business practices. The project is addressing multiple barriers faced by SMEs including limited access to credit from financial institutions, limited knowledge of market opportunities, and limited management capacities to run small businesses successfully. The project is working to build capacity in the banking and SME sectors and bring them together to facilitate investment transactions and business development. It is working to catalyze changes in banks' SME lending practices by enhancing their understanding of biodiversity business opportunities and, at the same time, improve SME's abilities to develop biodiversity-friendly business opportunities. This also includes facilitating access to emerging markets for certified eco-friendly products.

It is estimated that by the end of the project 200 small or medium producers and service-providers, and several thousand micro-producers will have benefited from the project and transformed their business practices. The project's long-term impact will be measured by the degree that banks and financial institutions have changed lending policies to invest in biodiversity-friendly SMEs, as well as the biodiversity impact brought about by such investments.

## Project results

### Institutional

- The project has established a team of biodiversity, SME, policy and finance experts and this team is now fully integrated into the daily operations of CABEL – the Central American Bank for Economic Integration. As a result the project is fully institutionally-driven and has access to CABEL's network of 150 regional financial institutions. CABEL has now formally adopted and launched a biodiversity-friendly SME support and credit programme and is in the process of approving a new partial credit guarantee fund.
- The project has provided guidance defining biodiversity-friendly SMEs across each of the main natural resource sectors such as tourism, coffee and fisheries. The guidance includes eligibility criteria, examples of best practice and simple indicators for expected biodiversity impact.
- The project has also conducted an outreach programme and has partnered with all relevant regional agencies and NGOs in order to develop a large soft pipeline of potential investments, across different productive sectors.



© MANUEL ACEVEDO - OVER 100 MARINE PAs HAVE BEEN ESTABLISHED IN MESOAMERICA

On-going (2007-2014)

GEF grant: US\$ 10.225 million

Co-finance: US\$ 17.750 million

Project cost: US\$ 27.975 million

Website: [www.bcie.org/spanish/banca-inversion-desarrollo/desarrollo-competitividad/cambio.php](http://www.bcie.org/spanish/banca-inversion-desarrollo/desarrollo-competitividad/cambio.php)

Partners: Central American Bank for Economic Integration (CABEL); Ministries of Environment, Industry and Finance

## NAMIBIA

# Capacity spans the gap to effective management

**N**amibia lies at the heart of the species-rich Namib-Karoo-Kaokoveld Desert, one of the WWF's Global 200 Ecoregions. It has several highly diverse living deserts including the Sperebbiet, Namib desert and Kunene escarpment. The country has a high level of endemism and is an evolutionary hub for groups of organisms including melons, succulent plants, solifuges (commonly known as false spiders), geckos and tortoises. Namibia's conservation efforts have also made the country a stronghold for populations of large animals such as black rhinoceros (almost a third of the world's population) and cheetah.

Namibia has established an impressive system of state-managed protected areas as a cornerstone of its conservation programme. The system comprises 20 national PAs, covering 13.8 percent of the country's 114,000 km<sup>2</sup> terrestrial area. There is huge potential for these areas to be woven into a tight, cohesive and effective network of PAs, providing an effective buffer against threats to biodiversity.

However, several barriers hinder the improvement of PA management effectiveness including: a fragmented policy framework; weak institutional capacities, weak human capacities for PA operations, incomplete bio-geographic coverage, and the absence of tested mechanisms for public-private-community partnerships.

## Project description

Realizing that intervention was needed to lift these barriers and improve management effectiveness in the PA network the SPAN Project was designed to address three broad areas: i) strengthening systemic capacity, i.e creating an enabling legal/policy environment and financial mechanisms for PA management; ii) strengthening institutional capacity for management; and iii) demonstrating new ways of PA management. Four field demonstration sites – Bwabwata-Mudumu-Mamili Complex (Etosha); Skeleton Coast Link, Ai-Ais and Sperrgebiet – were selected for this component.

## Project results

### Systemic level

- When Etosha National Park's celebrated its Centenary Year in 2007, the project supported the Ministry of Environment and Tourism (MET) in organizing a series of events to promote national parks and their role in conservation and national development. In a speech marking the park's centenary Namibia's president called for effort to 'link these parks into one fluid system across the country,' and 'create wildlife corridors between Etosha and the Skeleton Coast National Parks.'
- SPAN has provided technical and financial support for Namibia's new Parks Bill, due to be operational in 2008.



Namibia will soon proclaim the 26,000 km<sup>2</sup> Sperrgebiet National Park, increasing Namibia's PA coverage to about 17 percent of its territory. Much of the Sperrgebiet is in the succulent Karoo biome, one of the world's few arid biodiversity hotspots. Sperrgebiet means 'forbidden area' in German and, as a national diamond mining concession area, has been off-limits to the public for many years. The SPAN project has helped prepare a solid foundation for the new park including development of park management, business, and tourism plans and the establishment of a co-management mechanism with stakeholders such as the mining and fishery sectors.

- SPAN has also provided technical and financial support to finalizing park management-related policies, including the Policy on Tourism and Wildlife Concession on State Land approved in June 2007; the Human Wildlife Conflict Management (HWCM) policy approved in December 2007; and the Policy on Parks, Neighbours and Resident People which is schedule to be finalized before the end of 2008.

#### Institutional level

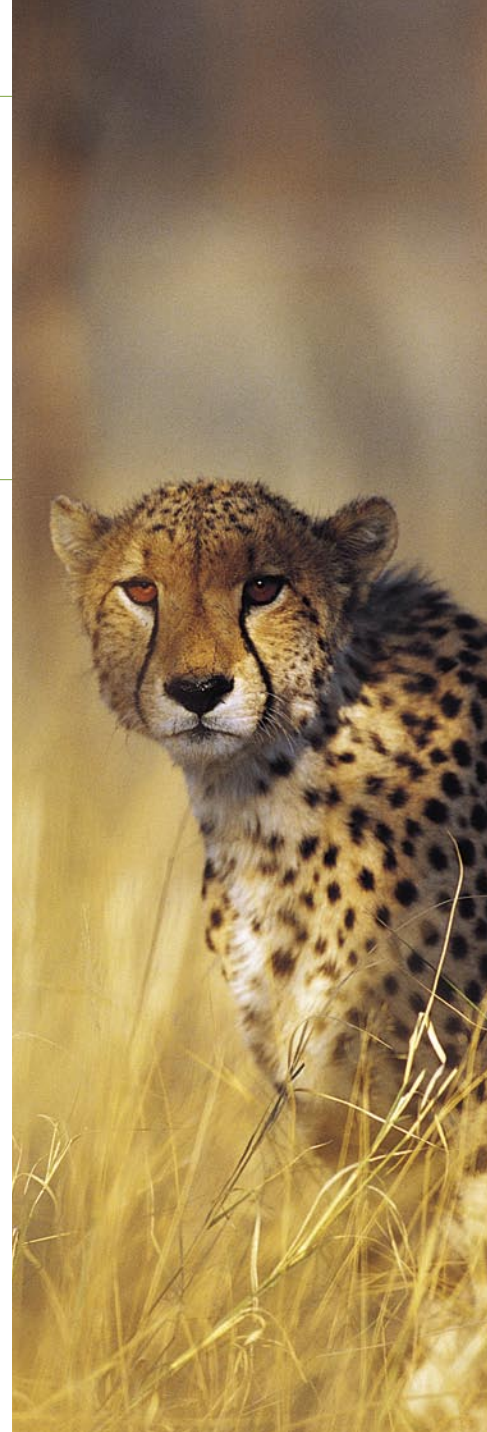
- The project has developed incentive mechanisms including a training plan for PA management and several specialized training and capacity building courses, including law enforcement, vehicle maintenance, and park business planning.
- Working in partnership with MET the project has helped launch an innovation grant scheme which has been designed to fund innovative initiatives thought up by park managers as well as a field staff award.
- An HIV/AIDS – Environment Working Group (HEWG) has been established and includes participants from both conservation and health agencies. The group has conducted a study to assess the links between HIV/AIDS and the environment, using parks as the entry point. It has also launched an innovative conservation branded condom (called Conservadom) and published a range of HIV/AIDS awareness-raising leaflets.

#### Individual level

- To enhance management effectiveness and facilitate the consolidation of PAs the project set up four field demonstration sites, each with a specific demonstration objective. Bwabwata National Park was reproclaimed, adding a species-rich riverine core conservation area to the PA network, and it is hoped that two new parks – the Sperrgebiet and Kunene People's Park – will soon be proclaimed. Kunene Park, which will be co-managed with the involvement of local communities and conservancies, will contain the endemic-rich Namib Escarpment, currently under-represented in the PA system, and will help to secure a viable wildlife corridor between two of the country's flagship parks – Etosha and Skeleton Coast.

#### Financing barriers

- The project's studies and economic analysis has played a catalytic role in the MET's efforts to dramatically increase government funding for PAs. As a result the park management budget has increased by over 130 percent within two years and a total of US\$ 7.46 million additional funding has been sourced for park management and infrastructure consolidation from EU, KfW, USFWS and international NGOs. Significant co-financing (US\$ 96.9 million) including a major investment in park infrastructure in SPAN's field demonstration sites. is also in the pipeline from the Millennium Challenge Account (MCA).



© SRSTOCK - NAMIBIA'S CONSERVATION EFFORTS HAVE PROVIDED A REFUGE FOR LARGE ANIMALS, SUCH AS CHEETAH

On-going (2005-2011)

GEF grant: US\$ 8.550 million

Co-finance: US\$ 33.677 million

Project cost: US\$ 42.227 million

Website: [www.span.org.na](http://www.span.org.na)

Newsletter: Sandpaper (quarterly)

Partners: Ministry of Environment and Tourism, KFW, USAID, US Fish and Wildlife Service, Conservation International, WWF-UK, NAMDEB

## RUSSIA

# Ecosystem approach boosts PA effectiveness

The vast 1,065,000 km<sup>2</sup> Altai-Sayan Ecoregion (ASE) lies in the center of Asia with 62 percent of its area in Russia, 29 percent in Mongolia, 5 percent in Kazakhstan, and 4 percent in China. The eco-region – one of the least disturbed areas of natural forest and steppe in the world – contains a unique mix of ecosystems (alpine tundra, taiga, steppe and desert), and is home to flagship species, such as Snow Leopard and Altai Argali sheep. The forests of the Russian portion of ASE contain the world's largest unbroken stretches of South – Siberian – Mongolian boreal forests, which occupy more than 535,000 km<sup>2</sup> and constitute an important carbon sink estimated at 3.21 billion tons of carbon. Key threats to the ASE's biodiversity include: loss, fragmentation and degradation of valuable habitats as a result of fires, unsound forestry operations and illegal logging; and overexploitation of wildlife, including poaching and illegal trade in endangered species.

Although the ASE's 288 protected areas, which cover an area of 6.3 million hectares, provide an

important backbone for conservation, there are several barriers that hamper PA management effectiveness in confronting these threats. These include: weak institutional and individual capacity at all levels to plan, regulate and manage PAs and resource use in a biodiversity-friendly manner and at an ecosystem scale; and the fact that currently the PA system is not wholly representative of the ASE's biological diversity. Much of the mountain tundra and alpine meadows, taiga, steppe, forest steppe, and riparian ecosystems are under-represented in the PA estate.

## Project description

The project, which operates in the Russian portion of the ASE, has been designed to: improve the legislation, compliance mechanisms and institutional capacity for PA planning and management; and to strengthen and expand the PA system to make it more representative of the region's different ecosystems. UNDP is also implementing two similar GEF projects across the border, in the Mongolian and the Kazakhstani portions of the ASE. These projects have built-in mechanisms for transboundary cooperation in order to secure the conservation of the ASE as a whole.

## Project results

### Systemic level

- Legal amendments have been developed to clarify law-enforcement rights, responsibilities and practices of PA rangers in Altai Republic and Krasnoyarsk Territory.
- The project has facilitated the development of an agreement on transboundary cooperation between two World Heritage Sites – the Ubsunurskay Kotlovina Biosphere Reserve on the Russian side of the ASE and the Uvs-Nuur



After finding that as many as that 90 percent of snow leopard deaths were animals trapped in goat and sheep enclosures and killed by herders the project recommended that vent outlets and windows in the enclosures be reinforced with metallic mesh grids. Trials at 20 key herder camps proved this to be a simple, yet effective way to keep snow leopards out and deaths fell by a factor of seven. The Ubsunurskaya Kotlovina Biosphere Reserve has now signed agreements with all of its herder camps to install and maintain the grids. Similar arrangements are expected in Shapshal'skiy and Sengelen ridges.

Reserve on the Mongolian side. This agreement is critical for the conservation of transboundary populations of Altai mountain sheep and snow leopards within the Russian-Mongolian border area. Transboundary work is coordinated by the Regional Steering Committee established under the three UNDP/GEF biodiversity projects in Russia, Mongolia and Khazakhstan which meet annually.

#### Institutional level

- The project helped create a Directorate for PAs in the Tyva Republic, enabling it to take full control of the planning and management of regional PAs on its territory. PA management planning training sessions have been organized for various institutions and by early 2008 five PA management plans had been already developed.
- The project has conducted successful trials of PA co-management councils, bringing together administrations, regional authorities and indigenous communities (e.g. Shortz, Tubular, Telengit) to discuss problems and identify revenue generation schemes within and around PAs.
- A new anti-poaching approach, which brings together representatives of customs, police, and environment and hunting departments as unified brigades, has been instituted. Two brigades are now successfully operating in Tyva and Altai Republics. The scheme has been replicated by another UNDP/GEF biodiversity project in the Kamchatka region.

#### Individual level

- The project developed an educational curriculum for PA administrative staff in the Altai region, which has been built into the official regular government-funded vocational training system. The first training sessions under this programme took place in 2007.
- Training in anti-poaching activities, illegal trade prevention, and implementation of CITES regulations for senior PA, customs services and local hunting departments officers has also been a key project activity.

#### Protected Area representation

- The project contributed to a half-million hectare expansion of the region's PA network. It helped create two new IUCN-II sites (Ergaki and Ukok Parks) together totaling 480,704 ha which has put an extra 3.2 percent of the region's under-represented ecosystems – notably mountain tundra, alpine meadows and taiga – under legal protection.
- The project is also mediating in discussions currently being held between federal and regional governments on further expansion of the PA network, including establishment of a strictly protected area in Altai Republic (Sailugem) on the Russia/Mongolia border to protect critical habitats of Altai Argali mountain sheep.



© UNDP/A. KUISIN - THE ASE CONTAINS A UNIQUE MIX OF VARIED ECOSYSTEMS

On-going (2005-2010)

GEF grant: US\$ 3.50 million

Co-finance: US\$ 11.70 million

Project cost: US\$ 15.20 million

Website: [www.altai-sayan.org](http://www.altai-sayan.org)

Newsletter: Living Future

Partners: Ministry of Natural Resources, regional administrations (Tyva, Altai and Khakassia, Kemerovo, Altai, and Krasnoyarsk), Altai-Sayan Ecoregion Association of Reserves and National Parks, WWF

## CHILE

# MUMPAs make their mark on marine conservation

Chile's extensive 6,435 km coastline, islands and territorial seas house globally important biodiversity, and the area is noted for the high endemism evident among several taxonomic groups. For example, endemism rates of up to 52 percent are found in benthic macro-invertebrates, and 27 percent among Chile's characteristic macro-algae. Intense upwelling within the cold water Humboldt Current that runs northwards along the coast brings nutrients to the area, making the Chilean coastline one of the world's most productive marine ecosystems. The area supports a large fishing industry: Chile is the world's fourth largest fishing power, accounting for approximately 10 percent of global fisheries. While industrial fisheries mainly operate on the high seas, coastal regions support artisanal fisheries that provide livelihoods for coastal communities – including several Amerindian groups that depend on fishing.

However, a range of pressures now threaten marine and coastal biodiversity including over-fishing and the use of destructive fishing practices by some fisheries. Although the benthic and pelagic fisheries are regulated, the high level of catches permitted for some species have affected these populations and problems arise from the fishing methods employed. Bottom trawling poses threats to the benthic environment by scouring the ocean floor and many fisheries have high levels of unintended bycatch – which is discarded. Limited attention has been paid to protecting fish spawning and juvenile grow-out areas, or to protect spawning biomass. Other threats include land-based pollution from domestic and industrial effluent, agriculture and mining runoff. These however tend to be localized and large stretches of the coast still remain in good condition.

Chile's National Programme for Use of the Coastal Zone is working to address land-based pollution on

the marine environment and guide urban and industrial development in coastal areas. There is, however, an unmet need to establish a bio-geographically representative network of marine and coastal protected areas to protect biodiversity. Chile's national PA system is heavily skewed in terms of coverage to terrestrial ecosystems: only a few marine and coastal PAs exist and these have mainly been gazetted for the purposes of research, environmental education or to conserve specific species.

A number of barriers are impeding efforts to establish a representative network. At the systemic level, policy and regulatory frameworks are inadequate for managing coastal and marine areas as PAs and ensuring the integration of such PAs within development strategies. Institutional arrangements are also complex. Different institutions have mandates over geographical areas, which are often restricted and this hinders the effective management of larger habitat complexes. There is an absence of sound management and operational planning systems for these larger complexes. Although different institutions have specific legal instruments, there are no mechanisms to bring them together as one consolidated framework.

Despite its key role in Chile's economy, awareness of the importance of coastal and marine biodiversity is extraordinary low among both decision-makers and the general public, particularly at the local level, which undermines interest in underwriting the costs of marine and coastal PA creation and management.

## Project description

The project is working with local, sub-regional and national government institutions as well as community groups and private businesses to establish multi-use coastal and near-shore marine PAs as a

The Chilean coastline harbors the globally endangered Humboldt Penguin that is endemic to the Humboldt Current. The total world population of this species stands at 12,000 breeding pairs, two-thirds of which are in Chile. The population is undergoing a decline, thought to be linked to over fishing of prey species, guano mining in breeding areas, and entanglement in fishing nets. Humboldt Penguins are vulnerable to sea surface warming that occurs during episodic El Niño Southern Oscillation (ENSO) events, which reduce phytoplankton concentrations, and results the collapse of fish populations. As the penguins are top predators, ENSO events often lead to the abandonment of breeding efforts, and the starvation of juvenile birds.

cost-effective way of integrating sectoral needs (fishing, recreation, tourism) and biodiversity conservation.

## Project results

Project activities have succeeded in securing protection for 75,209 ha of near-shore waters and 42,145 ha of coastal lands.

### Systemic level

- Legal status has been afforded to Multiple-use Marine and Coastal Protected Areas (MUMPAs) by joining existing laws under a single instrument to form PAs with core zones zoned for restricted-use as well as adjacent sustainable use areas. MUMPA establishment automatically increases legal protection as Chilean law requires that all projects neighboring legally-established PAs go through an Environmental Impact Assessment (EIA) process. Three MUMPAs have been created, two of which are functioning and will soon have long-term management plans while the third is developing its initial management plan. Fisheries institutions have agreed not to grant permits for fishing activities in these areas until management plans have been approved zoning the areas for strict protection, tourism and fishing and setting permissible catch levels for fishery offtakes.
- Governance structures have been set up for each MUMPA, which now have a formally established Regional Committee that includes public and private sector actors, meets regularly and is integrated with regional government structures. The committees' capacity for co-management is being built through training and other means, conflict resolution systems are being emplaced, and MUMPA management objectives are being codified in ICZM frameworks at local and regional levels. A national MUMPA committee has been constituted to coordinate the process.
- An awareness programme, which works through media such as national and regional television, newspapers and radio; maps, guides and newsletters and also holds meetings with fishermen's unions and regional and local government leaders, has significantly increased awareness of the importance of marine and coastal biodiversity conservation in the maintenance of livelihoods and local economies.

### Financial issues

- Each MUMPA is developing financing strategies that provide for revenue-generation through the induction of user fees. Advances in this arena include a leasing contract with a private operator that returns a percentage of tourism revenues for biodiversity conservation activities.



© SRSTOCK - TWO-THIRDS OF THE WORLD'S POPULATION OF HUMBOLDT PENGUINS ARE FOUND IN CHILE

On-going (2005-2010)

GEF grant: US\$ 3.872 million

Co-finance: US\$ 7.913 million

Project cost: US\$ 11.786 million

Webpage: [www.conama.cl/gefmarino](http://www.conama.cl/gefmarino)

Partners: CONAMA (National Commission for the Environment), SERNAPESCA (National Fisheries Service), SERNATUR (National Service for Tourism), regional and local government authorities

## TANZANIA

# PA network expansion preserves forest endemism

The exceptional levels of biological diversity found in Tanzania's Eastern Arc Mountains make them a global conservation priority. At least 100 species of vertebrates and 1,500 plants are endemic to less than 3,500 km<sup>2</sup> of the mountain forest – one of the world's highest concentrations of forest endemism. The species inventory continues to rise, following the discovery of a new species of monkey, elephant shrew, shrew, and birds over the past five years. Ongoing research suggests that many of the newly collected amphibians are also new species, often confined to a single mountain block, or a forest patch or wetland within that block.

However the loss of forest land from human activities including conversion to agriculture, fires, logging and overharvesting of non-timber forest products is having a serious impact on biodiversity. In 2004 the Eastern Arc Mountains had just one officially recognized PA according to the IUCN system – the 190,000 ha Udzungwa Mountains National Park. There was also a network of around 150 forest reserves, managed by the Forestry and Beekeeping Division (FBD), district councils and villages. However, there was no

overall conservation strategy for the area, nor a holistic approach to its management. Funding was also a problem. In 2004 the reserves received only around US\$50,000 from the central government or the district councils, and little work was being done to achieve sustainable financing for the forest reserve network.

## Project description

A 2004 review showed that more than more than 80 percent of the Eastern Arc Mountains' remaining forest cover was found within a network of Forest Reserves, with most of the remainder managed as sacred forests, private tea estates, or 'proposed' as various kinds of reserve. The UNDP-GEF project undertook a systematic review of this existing patchwork of sites in order to develop a comprehensive PA network covering the full range of Biodiversity.

## Project results

PA system representation

- The government, acting on the review's findings, has proposed 87 of its Forest



© NEIL BURGESS - ELEPHANT SHREW, UZUNGWA RANGE



© NEIL BURGESS - TREE FROG

The forests of the Eastern Arc Mountains store large amounts of carbon in their woody vegetation. A recent study undertaken by the project calculated that 151.7 million tons of carbon is stored in the forests, with about 91.7 million tons in the existing forest reserves. The study further calculated that deforestation over the past 20 years has resulted in the loss of around 34 million tons of carbon (equivalent to around 125 million tons of CO<sub>2</sub>). Deforestation has mostly taken place in the unprotected woodlands and forests that lie outside the network of Forest Reserves and National Parks. Deforestation rates in the reserves are insignificant in comparison.

Reserves, covering some totaling 656,815 ha, as PAs according to the IUCN classification system.

- The project has helped improve the reserve network on the ground by completing the gazettal of a number of 'proposed' forest reserves. By the end of 2007 there were two new reserves totaling 1,900 ha in the North Pare Mountains and the gazetting process was underway for two proposed reserves on the South Pare Mountains (1,500 ha), one in the East Usambara Mountains (960 ha), and two in the Udzungwa Mountains (10,000 ha). When operational these new reserves will form the Derema corridor forest, a major step in conserving key areas of Eastern Arc forest and its biodiversity.
- The government is also working to upgrade the status of the most important Forest Reserves to Forest Nature Reserves, the highest level of protection under the Tanzanian Forest Act (2002). In 2004 Tanzania had just one Forest Nature Reserve – Amani in the East Usambaras – which covered 8,300 ha. By the end of 2007, two sites – Kilombero and Nilo – had been declared as FNR and a third site – Uluguru – is being gazetted.
  - The 134,115 ha Kilombero Nature Reserve contains populations of endemic or near endemic primates including the newly described kipunji monkey, the Iringa red colobus, and an Eastern Arc endemic nocturnal primate, a new species of elephant shrew, two endemic shrews, two endemic birds and some near endemic amphibians and reptiles.
  - The proposed 24,115.09 ha Nature Reserve Uluguru will, when declared, protect more than 135 endemic species of plants, two endemic species of birds, six endemic species of amphibians, two of reptiles, one endemic small mammal and 44 endemic vertebrates.

Enhancing sustainable funding.

- UNDP and the World Bank have worked together cooperatively to establish a conservation trust fund – the Eastern Arc Mountains Conservation Endowment Fund. This fund, which received an initial capitalization of US\$ 7 million, has its own offices and staff, whose management skill have helped the fund's original endowment grow.
- The project has also been investigating the potential for payments for ecosystem services (PES), such as water and carbon, to increase the amount of funds available for conservation management. The PES initiative got off to a good start when Coca Cola signed a funding agreement that will allow communities living in the Uluguru Mountains to receive payments for sound management of their land and natural resources. The Uluguru Mountains area provides a key water source for the city of Dar es Salaam.



© NIK SEKHARAN - 1,500 PLANT SPECIES ARE ENDEMIC TO THE EASTERN ARC MOUNTAINS

On-going (2004-2009)

GEF grant: US\$ 5.000 million

Co-finance: US\$ 15.870 million

Project cost: US\$ 20.870 million

Website: <http://www.easternarc.or.tz>

Partners: Ministry of Natural Resources and Tourism, CARE International, Tanzania Forest Conservation Group, The World Bank, DANIDA

## MONGOLIA

# Buffer zone stewardship protects pristine desert

The Great Gobi Strictly Protected Area (GGSPA) was established in 1975 to protect a largely pristine part of the Gobi desert and its globally important biodiversity. Located in the south-west of Mongolia, bordering China, the PA supports rare desert and mountain steppe vegetation and provides habitats for many globally threatened species such as the Snow leopard, ibex, Argali sheep, Saiga antelope, Gobi bear, the Asiatic wild ass and wild Bactrian camel. The GGSPA was included in the World Network of Biosphere Reserves in 1990 and is the world's fourth largest biosphere reserve and, at 5.3 million hectares, the largest in Asia.

Although the area is very sparsely inhabited, there has been increased human-wildlife conflict over scarce water resources and grazing land, increased poaching and unsustainable harvesting of biomass from natural habitats. Additional threats to wildlife include inter-breeding between domestic and wild camels and illegal mining. Key barriers to proper management of the GGSPA include poor institutional capacities and arrangements to manage a vast and remote PA, weak support and involvement of local

communities in conservation efforts and a weak scientific basis for PA management – particularly of some globally important species such as the Gobi bear and the Bactrian camel.

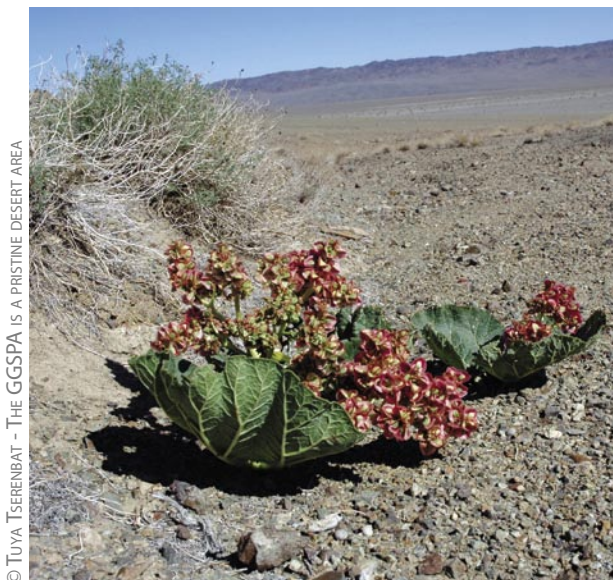
## Project description

The project had three key objectives: to strengthen management of the Great Gobi ecosystem; to improve stewardship of its buffer zone areas and to implement targeted responses for the cross-cutting issues of overgrazing and pasture deterioration, over-collection of Saxaul bushes and downy poplars, and declining water resources. The project focused on a 4.4 million hectare area of the Great Gobi SPA and its buffer zone.

## Project results

### Systemic level

- A partnership has been formed with an international research organization for scientific studies of umbrella species such as the wild Bactrian camel and Gobi Bear. The partnership approach



© TUYA TSERENBAT - THE GGSPA IS A PRISTINE DESERT AREA



© TUYA TSERENBAT - TWO HUMPED BACTRIAN CAMEL

The Gobi bear is a critically endangered mammal found only in the GGSPA. Weighing up to 100 kgs, and up to a meter and half high, the Gobi bear is comparatively smaller, with longer limbs and a shorter golden coat than its relatives elsewhere. It is estimated that as few as 20-25 Gobi bears remain in the wild. This small population makes the Gobi bear highly vulnerable to droughts, disturbance by people and livestock, and killing of its cubs by wolves. The Gobi bear is also considered to be facing possible threats due to inbreeding. The project co-organized an international workshop on the Gobi bear and a captive breeding programme is underway.

to research has not only helped to identify better conservation measures, but has also established the basis for future research partnerships in other Mongolian PAs.

- The project developed an innovative ranger-based monitoring system for the vast GGSPA and integrates the collected information into its database. This approach is now being replicated in other Mongolian PAs.
- The project has helped to strengthen cross-border coordination and cooperation with China for conservation activities. There are now regular information exchanges and both countries now use the same field handbook for monitoring wild camels. Joint camel monitoring and research expeditions were organized in April 2005 in Mongolia and in October 2005 in China with the support of a UK-based research group.

#### Institutional level

- The project established five regional Buffer Zone Councils, provided relevant training and helped develop management plans. The councils have used seed money to partly fund 12 small projects with an additional 30-40 percent of funding raised from their own resources.

#### Individual level

- Human and technical capacity has been improved in the PA management authority and GGSPA has become a demonstration model for other Mongolian PAs. The PA management plan has been developed for 2004-2012 using information accumulated over the 30 years since the GGSPA's establishment.
- A strong focus of the project was on raising public awareness. Five regional information centers were established in the buffer zones and training was provided to local secondary schools' biology teachers. Environmental clubs were also organized at secondary schools to raise awareness. As a result, local communities in the buffer zones have become more supportive of the PA and recorded incidents of some illegal actions, such as poaching, fell by about 80 percent between 2004 and 2006.
- Local communities have developed pastureland management plans based on the project's recommendations to minimize competition and conflicts with wildlife. A book on pastureland use aimed at herders was produced and a monitoring methodology developed for them to assess pastureland conditions. Alternative energy sources – such as solar water heaters – were demonstrated to reduce pressure on the local slow growing vegetation.

#### Financing barriers

- Potential eco-tourism development and promotion opportunities identified by the project have resulted in the establishment of an eco-tourism camp at the base of Eej Mountain National Monument. The PA management plan has incorporated eco-tourism promotion as a component.



© TUNGALAG ULAMBAYAR - THE CRITICALLY-ENDANGERED GOBI BEAR IS FOUND ONLY IN THE GGSPA

Completed (2003 - 2007)

GEF grant: US\$ 0.954 million

Co-finance: US\$ 0.615 million

Project cost: US\$ 1.569 million

Partners: The Government of Mongolia, the Institute of Biology (Mongolian Academy of Sciences), Wild Camel Protection Foundation (UK), Denver Zoo (USA), and International Association for Bear Research and Management.

## RWANDA

# PAs are the mainstay of primate conservation

**R**wanda lies at the heart of the Albertine Rift ecoregion in the western arm of Africa's Rift Valley. This is one of Africa's most biologically diverse regions, home to some 40 percent of the continent's mammal species (with 402 species), and also characterized by huge diversity among birds (1,061 species), reptiles and amphibians (293 species), and higher plants (5,793 species). These high numbers are partly due to the region's diversity of habitats, ranging from afro-montane forests to lowland rain forests and savannas. The forest areas provide habitats for a large number of endemic species.

Rwanda contains two afro-montane forest blocks, the Virunga mountains in the northwest, and the Nyungwe forest in the south. Both areas are important for primate conservation; Nyungwe – which comprises the largest block of afro-montane forest in East Africa – has 13 species of primates, among the highest for any site in Africa. The Virungas are famous for their mountain gorillas, but also as an important site for conservation of the even more endangered golden monkey.

The Virunga mountains and Nyungwe forest have both been declared as PAs (i.e. the Volcanoes National Park and Nyungwe National Park). The total area of both sites combined is just 116,300 hectares, of which Nyungwe NP accounts for 86 percent. They are small and vulnerable and face major threats from people. Both parks are surrounded by densely settled areas, with a human population density of 345 per km<sup>2</sup>. Threats include habitat clearance, as smallholders nibble at the forest edge; habitat degradation, from the harvest of wood for fuel, construction and other purposes; and wildlife hunting.

Rwanda has established a National Parks Service (known as ORTPN) and sees PAs as the mainstay of its biodiversity protection strategy. However this strategy faces three sets of barriers: inconsistencies in policies and laws governing conservation and development; institutional weaknesses – at national level for PA governance, and at district level for integrated land management; and skills deficits in PA functions needed for adaptive management based on sound monitoring and evaluation.



© CHRISTINE LIPPAL - HOEST MONKEY IN NYUNGWE FOREST



© NIK SEKHAN - MOUNTAIN GORILLA IN THE VIRUNGA MASSIF

Rwanda has about 30 percent of the global population of Mountain Gorillas, a sub-species with restricted distribution in the Albertine rift eco-region. Gorilla watching has become a major tourism draw in Rwanda, attracting more than 16,000 tourists in 2007, paying around US\$ 500 each to join organized treks. Tourism is now one of Rwanda's largest sources of foreign exchange (US\$ 42 million in 2007). The importance of conservation efforts supported by the project is amplified by the threats facing Mountain Gorillas elsewhere in Africa. In 2007, at least nine gorillas were killed in the DRC, a chilling reminder that the species' survival hangs in the balance.

## Project description

The project is linked to other UNDP-GEF initiatives in the DRC and Uganda to protect the biodiversity of the Albertine Rift eco-region. It has three complementary components: i) Strengthening systemic, national and district institutional capacities by integrating PAs into national and district sector plans, and strengthening the administrative capacities of ORTPN; ii) Enhancing local benefits from, and reducing conflicts within, parks by strengthening capacity for collaborative forest management; improving local benefits from tourism and reducing human –animal conflict); and iii) Strengthening park staff capacities for adaptive management through the development and implementation of PA business plans at both sites, as well as developing robust monitoring and information systems and staff training.

## Project results

### Systemic level

- Policies and policy implementation are being harmonized across relevant sectors from national to local government levels. The policies aim to ensure that forest management and agricultural practice in PA buffer zones are conservation-compatible. Conservation objectives are also being integrated into district development activities.

### Local benefits

- A new revenue sharing policy, that channels tourism receipts to local communities and will give communities a stake in park conservation, has been agreed. The project is working with forest-edge communities to improve the conservation compatibility of their livelihoods, to reduce the negative impacts of honey, bamboo, and tree harvesting in the parks, which are degrading forests. A system is being developed to compensate local communities for damage caused by wildlife to crops and livestock and to promote substitute crops which will avoid future human/wildlife conflict.

### Park management:

- A system to speed up data monitoring and provide results for management and decision-making has been set up. The project is restoring degraded lands in Nyungwe NP and has cleared alien invasive trees. Steps are being taken to prohibit encroachment into parks, with improved surveillance and enforcement. All forest harvest activities in the Nyungwe buffer zone were suspended in 2007, pending the restructuring of buffer zone management to ensure compatibility with core area conservation and ensure local benefits to communities. Commercial upgrading and expansion of roads within the park has been stopped, pending road regulation improvements.



© AMY VEDDER - COMMUNITIES ARE IMPORTANT STAKEHOLDERS IN PARK CONSERVATION

On-going (2005-2010)

GEF grant: US\$ 5.45 million

Co-finance: US\$ 7.98 million

Project cost: US\$ 13.43 million

Partners: Partners: Rwanda Environmental Management Authority, ORTPN, USAID, WCS, International Gorilla Conservation Programme, Helpage, Dian Fossey Gorilla Fund, the Gorilla Organization, CARE, Mountain Gorilla Veterinary Project

## ROMANIA

# Partnership activities target Europe's last virgin forest

The Carpathian Mountains, the largest mountain range in Europe, are an important ecological north-south forested corridor for flora and fauna dispersal across Central Europe. They are included in the WWF Global 200 Ecoregion list and, as the largest area of virgin forest left in Europe, include extensive tracts of montane forest and the continent's largest remaining natural mountain beech and beech/fir forest ecosystems. Romania encompasses approximately 55 percent of the Carpathian range, and is the lead country for the protection of its biodiversity.

The Maramures Mountains border Ukraine and constitute the northernmost mountain range of the Romanian Carpathians. Maramures Nature Park (MMNP) occupies about 150,000 ha, out of which 60 percent is represented by forests, 30 percent by grasslands and alpine pastures and only four percent by agricultural lands. The ecosystems are representative of the Carpathians, and include alpine and sub-alpine habitats, resinous, mixed and broadleaved forests. The large inaccessible forests

have made it possible for several large mammal species such as lynx, wolf and brown bear to survive in the park.

The region's most serious threats to biodiversity are habitat fragmentation and degradation. Many new landowners are clear-cutting forests as they have no incentives to apply sustainable forest management principles. Over 90 small wood mills in the region produce over 43,000 m<sup>3</sup> of sawdust per year, which is mainly dumped along riverbanks resulting in degraded spawning and feeding habitats for some endangered fish species, such as the rare Danube salmon population. Pressures on the region's biodiversity are the result of historical and current economic development patterns, and are expected to grow in light of developing trends, unless measures are undertaken to improve management of the area's natural resources.

## Project description

The project seeks to strengthen Romania's national system of PAs by demonstrating effective biodiversity conservation in MMNP through: operationalizing the park; strengthening environmental governance across Maramures county; and strengthening the link between sustainable use and conservation within MMNP.

## Project results

### Systemic level

- The park, now legally designated as a PA, is unique in the Romanian system as it represents the first partnership among local communities, NGOs and government in the protection of natural resources.
- Establishment of the park has resulted in changes to forest management policy for PAs



With 80 percent coverage with unspoiled mountain forests, the Romanian Carpathian Mountains are among Europe's most pristine ecosystems. Although they cover less than 1.5 percent of the European area west of Russia, the mountains are home to the largest concentration of wild carnivores in Europe, with over a third of its largest predators, including an estimated 8,000 brown bears, 3,000 wolves and 2,000 lynx. Romania is the only place in Europe where carnivores live in high density and very close to humans.

at a national level. The new policy requires that productive forestlands within the park be managed according to the park's conservation objectives, rules and regulations. This has significantly strengthened the ability of PAs to conserve biodiversity in forestlands.

- The project supported new legislation (Law #265), now being enforced, which requires any new development in the park obtain approval from the park administration. The project has also supported the development of regulations and guidelines for maintaining traditional building styles in the MMNP area.

#### Financial barriers

- The project supported Romania's first economic study on payment for environmental services (PES). Eleven ecosystem services were included in the study, five of which are considered key services: watershed protection, recreation, biodiversity, carbon sequestration and scenic beauty. According to the PES study, MMNP provides a total of US\$ 59.5 million in goods and services when annual carbon sequestration, based on the trading value of carbon, is included. Ecosystem services such as annual carbon sequestration, watershed protection, wildlife habitat, recreation, cultural heritage, and traditional landscapes altogether contribute a total of US\$ 29 million, while ecosystem goods such as timber, water, hunting, non-timber forest products, and hay contribute another US\$ 30 million.
- The first practical results of the PES study came when the main local tourist operator developed an agreement with the park in which part of the profits from tourism will be directed to nature conservation.
- The project has leveraged additional funding which is being used simultaneously address two threats to biodiversity – unwanted sawdust deposits and the need for alternative energy sources for the region's schools. The project is now encouraging the use of sawdust briquettes as the schools' main source of energy with the help of an Italian investor, who has started a sawdust-collecting business in the park.

#### PA system representation

- Project stakeholders have committed to the development of a trans-boundary biosphere reserve, covering the Carpathians Biosphere Reserve in Ukraine, the MMNP and Rodnei Mountains National Park in Romania.
- The project has set-up a unique management organization which performs two important functions: project implementation and MMNP management. This will be extremely valuable for the long-term sustainability of conservation activities when the project ends as trained staff will be in place to continue park management using skills and knowledge which have been strengthened through project activities.



© SRSTOCK - GREY WOLVES AND OTHER CARNIVORES LIVE CLOSE TO HUMANS IN ROMANIA

Ongoing (2005-2008)

GEF grant: US\$ 0.975 million

Co-Finance: US\$ 1.331 million

Project cost: US\$ 2.306 million

Website: [www.muntiimaramuresului.ro](http://www.muntiimaramuresului.ro)

Newsletter: (Romanian only)

Partners: UNDP-Romania, National Forests Administration, Maramures Prefecture, Maramures County Council, Water Management System, Ecological Society from Maramures (NGO), local administrations

## CAPE VERDE

# Participatory management conserves island ecosystems

Cape Verde is an archipelago separated from the African continent, with volcanic and sandy soils, coupled with a dry climate, and erratic rainfall. Its vegetative cover is limited, and its unique terrestrial ecosystem is highly fragile. The level of endemism is especially high, with several cases of single island endemism. There are 82 endemic plant species (out of 238 in total) all of which are angiosperms. Cape Verde's significant high avian, reptile, and arthropod diversity is currently at great risk with, for example, 47 percent of bird species threatened, including 17 of the 36 species that breed on the islands. Several endemic birds are also listed as endangered. Threats to terrestrial biodiversity include alien invasive species, expansion of agricultural land-uses, unsustainable firewood collection and extraction of wild, often endemic, plants for medicinal use. Climate change is also likely to become a significant threat.

## Project description

The project is designed to conserve globally significant biodiversity in Cape Verde's terrestrial eco-

systems through the creation of a PA system. New legislation has created 47 PAs (21 terrestrial, 25 marine and coastal and one exclusively marine) across the nine islands of the Cape Verde archipelago. The project is working to overcome barriers affecting further development of the PA system through development of the policy and legal framework, building local and national management capacities; and encouraging collaboration between central authorities in charge of protected areas and communities adjacent to PAs.

## Project results

### PA establishment and management

- The project has made two of the new PAs operational. Both are biodiversity hot spots. The 3,500 ha Monte Gordo Natural Park on São Nicolau Island, is one of Cape Verde's most pristine areas with many endemic plant species. The 2,600 ha Serra Malagueta Natural Park, on Santiago Island, contains the greatest number of endemic plant species of any protected site in the country.



© MANUEL ACEVEDO - WORKING WITH LOCAL COMMUNITIES



© MANUEL ACEVEDO - WORKING WITH LOCAL COMMUNITIES

Extensive ecological surveys led to three nests of a Cape Verdean sub-species of the purple heron being spotted this year at Serra Malagueta, on Santiago Island. The last time this sub-species' nests were spotted on Santiago was more 50 years ago and purple heron were thought to be extinct there. The discovery is seen a sign of species recovery and the project team is monitoring the nests, which are only found in very inaccessible places, every week.



© MANUEL ACEVEDO - NEW LEGISLATION HAS CREATED 47 PAs ACROSS CAPE VERDE'S NINE ISLANDS

- The Monte Gordo and Serra Malagueta National Parks both have PA management plans based on extensive baseline data and prepared with the involvement of community leaders, including women, local and central governments, as well as neighboring landowners. The plans have established PA site boundaries, established permitted land-uses and outlined the management strategies to deal with threats to biodiversity.
- Before the PAs were created, they were managed as forestry perimeters and had undergone extensive exotic tree planting and soil retention programmes. Some of the species used were invasive and had rapidly spread, competing with native vegetation for water and nutrients. The project has enlisted the help of local communities in controlling, sometimes eradicating, alien invasive species and in replanting native species. Both Natural Parks now have well-managed plant nurseries, which supply replanting programmes, within and outside the PAs.
- Although the project has helped Cape Verde establish the basis for a functional PA system it currently covers only 6.6 percent of the country's land surface, and several parks only exist on paper. A conservation plan developed under the project provides a road map for the incorporation of additional sites into the protected area system.
- The project has put PAs onto the national agenda for the first time, which has prompted the Government to take a new approach to biodiversity conservation and provide funding to cover PA staff costs. Education and awareness-raising initiatives are being conducted in all communities and schools in and around the PAs. PA advocacy activities have also targeted key stakeholders living on the islands, including business leaders, local and central government agencies, external partners and the general public. PA visitor numbers are increasing as awareness grows. In 2007 the project invited the 'Group of Parliamentarians for the Environment' and other leading national politicians to visit the project sites. This visit attracted extensive media coverage and helped leverage cross-party support for PAs from government and the public.

#### Systemic and institutional capacities

- The project is implementing capacity-building strategies that empower public and private institutions to conserve the islands' ecosystems and undertake long-term adaptive management to contain potential future degradation of the environment.
- At site level, the project is helping to pilot a participatory approach to PA co-management with the full involvement of surrounding communities. It seeks to combine poverty reduction and biodiversity protection by providing sustainable livelihoods opportunities to local inhabitants. This is a new approach for Cape Verde and required extensive data-collection, as well as awareness raising and community engagement activities.

On-going (2004-2009)

GEF grant: US\$ 3.585 million

Co-finance: US\$ 6.186 million

Project cost: US\$ 9.772 million

Website: [www.areasprotegidas.cv/](http://www.areasprotegidas.cv/)

Partners: One-UN Office in Cape Verde,  
Government of Cape Verde, Peace Corps, GTZ

## CAMBODIA

# Capacity drive protects biosphere core areas

Cambodia's relatively large intact natural areas and globally important ecosystems, such as the Cardamom Mountains, Northern and Eastern Plains, and the Tonle Sap Lake, contain high levels of biodiversity. Tonle Sap is one of the largest freshwater lakes in Asia and is a critical breeding ground for many species, including 200 species of fish recorded in the lake. The 'flooded forests' around the lake are the largest examples of this type of habitat remaining in South East Asia and are home to 225 bird species and 42 reptile species. The lake is one of the most productive inland fisheries in the world and an important source of protein food for Cambodia, particularly the rural poor.

Over the last decade, rapid human population growth and associated development pressures have resulted in significant ecological changes in the Tonle Sap region. Over-exploitation of forest, wildlife and fish resources; encroachment into natural areas for farming and other development; and the spread of alien exotic species have caused loss and degradation of flooded forests and other habitats,

with corresponding decreases in the diversity and populations of fish and other wildlife.

UNESCO has designated the Tonle Sap as a Biosphere Reserve and the Cambodian government has identified critical zones to be put under strict protection. However, overlapping institutional mandates among government agencies, poor coordination between local development and conservation initiatives, and weak institutional and human capacities for PA management have been creating major barriers to the conservation and sustainable use of the Tonle Sap.

## Project description

The Tonle Sap Conservation Project (TSCP) is working to overcome barriers to biodiversity conservation in the Tonle Sap Biosphere Reserve by developing management capacity. The TSCP works to build capacity in the lake's three core areas; to develop systems for biodiversity monitoring and management; and to raise awareness of conservation through education and outreach programmes. TSCP is also helping develop alternative livelihoods for communities that currently use the lake's natural resources in an unsustainable way.

## Project results

### Systemic level

- To support the wider management of the Tonle Sap, TSCP, which is a component of a broader programme – the Tonle Sap Environmental Management Project (TSEMP) – has drafted a Strategy to Enforce Laws and Regulations in and Around the Core Areas of the Tonle Sap Biosphere Reserve and established needs and priorities for additional PAs within the TSBP, covering an area of 64,000 hectares.



During the dry season, water from the Tonle Sap flows down the Tonle Sap River to the Mekong River. However, during the monsoon season, the flow of the Tonle Sap River reverses and Mekong floodwater flows into the lake, raising its level by up to 10 meters and expanding its size from 2,500-3,000 km<sup>2</sup> to 10,000 km<sup>2</sup>. This 'pulsing' system brings additional nutrients to the lake from the Mekong, creating one of the world's most productive freshwater ecosystems. The ancient Khmer civilization, epitomized by the world-famous Angkor Wat, depended significantly on the productive fisheries and farming supported by the Tonle Sap.

The project has also developed monitoring protocols for water bird colonies, water snake harvesting, crocodiles, Bengal floricans – a type of bustard, and fire.

- Tools and approaches to conservation, including monitoring protocols, being developed by TSCP are likely to be used in the larger TSEMP programme and may also be used by projects working in other Cambodian PAs.
- Curricula for schools' conservation education and an accompanying teacher's manual developed by the project have been approved by the Ministry of Education, Youths and Sports for use in the provinces surrounding the Tonle Sap.

#### Institutional level

- Strong partnerships have been forged with local government authorities, who have engaged constructively in many project activities including biodiversity monitoring. The project's capacity building, mentoring and encouragement activities have resulted in five Provincial Departments of Environment initiating PA establishment work with support from their provincial and local authorities. Local authorities were also actively involved in demarcating the core protected areas of the Tonle Sap Lake.

#### Individual level

- The project has helped operationalize conservation actions by strengthening core area management in three areas (Prek Toal – 21,342 ha, Stung Sen – 6,355 ha and Boeung Chhmar – 14,560 ha) and by establishing two new PA management centers. More than 160 PA staff have completed training, a management plan has been approved for Prek Toal and Stung Sen's boundaries have been demarcated and mapped.
- More than 280 families living in Tonle Sap's three core areas have been supported in identifying and implementing conservation-friendly livelihood options. One success in this area has been the involvement of local communities in protecting bird colonies in part of the project site. Benefits from visiting tourists go to the communities, which has allowed them to move away from unsustainable activities such as egg collection and hunting, to eco-tourism, a conservation compatible livelihood.

#### Sustainable financing

- Twenty-two savings and self-help groups, using capital raised and managed by communities, have been established to help 536 families from poor communities establish sustainable alternative livelihoods. The TSCP is supporting a number of community-based eco-tourism ventures that can also provide alternative livelihoods. An assessment is also being made of the ways in which tourism fees can be used as a source of sustainable financing for conservation activities.



© MANUEL ACEVEDO - TONLE SAP'S FLOODED FORESTS PROVIDE CRITICAL BREEDING GROUNDS FOR BIRDS AND FISH

On-going (2005-2011)

GEF grant: US\$ 3.596 million

Co-finance: US\$ 15.536 million

Project cost: US\$ 42.227 million

Partners: Government of Cambodia, ADB

## BRAZIL

# Landowners work to create private reserves network

The Cerrado biome covers almost 25 percent (200 million ha) of Brazil. It is one of the largest savanna-forest complexes in the world, containing a diverse mosaic of habitat types. However, over the last two decades, the Cerrado has undergone an intense, swiftly-paced conversion to other uses which has given little consideration to the economic potential that lies in the sustainable use of the area's resources for pharmaceuticals, food, oils, resins, or ecotourism, or to the environmental services it provides such as soil erosion control, water supply and others.

As one of the richest and most threatened biomes on the planet, the Cerrado is considered one of the world's biodiversity hotspots. However, until recently only 1.5 percent of its area was officially protected in established conservation sites. In a bid to stimulate private sector participation in conservation and enhance overall coverage of the national PA system, the Brazilian government created a legal status for Private Natural Heritage Reserves (RPPNs) in 1996. RPPNs are defined as 'areas of private domain, to be specially protected under the owner's initiative,

with formal recognition by government, because of the notable importance of the area's biodiversity, or landscape characteristics, or other environmental features requiring restoration efforts'. To be recognized as a RPPN, the reserve must be registered in perpetuity, so that neither descendants nor new owners may change its use. Incentives, such as tax breaks and assistance in establishing sustainable economic activities, were offered to participating landowners. A more recent Brazilian law gave legal status to a National System of Nature Conservation (SNUC) which includes RPPNs as an integral part of its classifications.

## Project description

This project worked in partnership with private landowners and NGOs to facilitate the expansion of the PA network in the Cerrado region. It sought to increase the area under protection status by establishing RPPNs, in areas near, or adjacent to, Chapada dos Veadeiros and Grande Sertão Veredas – two of the Cerrado's five National Parks – which together represent 42 percent of the total area of the five parks.

The project established a framework for the establishment and management of RPPNs in the Cerrado that is relevant for the establishment of private reserves throughout Brazil. Conservation capacity was built in the new RPPNs by drawing up management plans; and providing training in PA planning and management and ecotourism development; and through the establishment of a RPPN support network, consisting of RPPN managers, NGOs, relevant government staff members and local communities. Particular importance was given to demonstrating the economic benefits that arise from the establishment of RPPNs in order to stimulate replication by other landowners.



The Cerrado is not homogenous but shows a great variation ranging from completely open fields dominated by grasses to the closed, forest-like 'cerrado' and the 'cerradão' which is a closed canopy forest. It is this habitat variability that supports the enormous diversity of plant and animal species. The 'cerrado' trees have characteristic twisted trunks covered by a thick bark, and leaves which are usually broad and rigid and serve as adaptations for the periodic fires which sweep the Cerrado landscape.

## Project results

### Legal and systemic

- Although the original project target was the establishment of just four RPPNs, seven were eventually created, five surrounding Chapada dos Veadeiros National Park and two at Grande Sertão Veredas. Management plans were finalized for the RPPNs and infrastructure was developed. The project has also assisted five other properties in the Grande Sertão Veredas area to prepare to have their properties declared as RPPNs.
- Project inputs assisted the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA) to draw up a directive that further establishes RPPN rules and regulations and speeds up the processes required for their formal recognition. A methodological guide for RPPN management plans was produced.
- The project has facilitated discussions with the Secretariats of Environment in project municipalities on the need to support, increase and consolidate the PA network by the establishment of legal entities, such as municipal parks and sustainable development reserves, as well as RPPNs.

### Individual

- Landowner incentives and the creation of sustainable livelihoods were encouraged by the adoption of sustainable tourism practices in RPPNs, training eco-tourism guides in surrounding communities, establishing nature trails and visitor centres; and the preparation and marketing of Cerrado products such as fruits. An innovative mobilization instrument – community events known as Encontro dos Povos – was decisive in engaging local communities' support for reserves. This in turn was highly influential in landowner's decisions to commit to the official establishment of RPPNs.
- A local RPPNs landowners network was created in the vicinity of the Chapada dos Veadeiros National Park and a database of new landowners interested in attaining RPPNS status was prepared by the Brazilian environmental organization FUNATURA (Fundação Pró-Natureza). FUNATURA, working in cooperation with landowners, maintains a team to enforce compliance to RPPN regulations and sustains a close relationship with landowners. A large number of landowners have approached FUNATURA for support in seeking RPPN status.
- Plans to involve research associations in the creation of a scientific observation programme at the RPPNs are advanced.
- The project has demonstrated that the protection of even the smallest area strategically located in high biodiversity areas– one of the new RPPNs is just 1.4 ha – can yield conservation gains.



© HELEN COLES DE NÉGREY - OPEN CERRADO GRASSLANDS LEADING ONTO GALLERY FOREST

Completed (2001-2006)

GEF grant	US\$ 0.750 million
Co-finance:	US\$ 1.328 million
Project cost	US\$ 2.078 million

Partners: Fundação Pro-Natureza (FUNATURA), National Confederation of RPPN Owners (CNRPPN), Brazilian Institute of Environment and Natural Resources.(IBAMA)

## GLOBAL

# Early country action aids worldwide PA network

**M**ore than half of the ecoregions in the WWF Global 200 list are endangered. Conservation International has identified 34 hotspots, where 75 percent of the planet's most threatened mammals, birds, and amphibians survive within habitats covering just 2.3 percent of the Earth's surface. Their survival is threatened by poaching, illegal logging, mining, settlement and agriculture expansion, uncontrolled fires, toxic contamination and climate change.

A comprehensive, effectively managed, and ecologically representative global network of PAs is crucial for blocking out these threats. Although there were over 106,926 PAs by the end of 2006 embracing every known biome and covering 13 percent of the world's land and territorial waters surface area – greater than the area of Brazil and Canada combined – the fifth World Parks Congress found that 1,423 species of mammals, birds, amphibians and turtles were not represented in the current global PA network, and over 20 percent of these species were threatened. The present-day

PA network under-represents biodiversity, suffers from under-funding, inefficient management, and perverse industry incentives.

## Project description

The CBD Programme of Work on Protected Areas (PoWPA), adopted by the seventh CBD Conference of Parties in 2004, is a global action plan to address these barriers. However, PoWPA implementation has been slow, and in early 2007 UNDP/GEF launched the Country Early Action Grants global project in order to provide grants to countries, particularly Small Island Developing States (SIDS) and Least Developed Countries (LDCs), to facilitate the implementation of 13 critical PoWPA activities, including: help for the ecological gap analysis; reviewing and revising forms of conservation applied at PAs; integrating PAs into the wider landscape; promoting co-management, private PAs and similar innovative governance models; tackling legal problems; making monetary valuations of PA resources and services; tackling perverse incentives and establishing positive ones, establishing innovative funding mechanisms; PA training programmes; and systems to monitor PA management effectiveness. Grant approvals are made by the International Technical Review Committee (ITRC) which is composed of volunteer members from the GEF Secretariat, CBD, UNDP, UNEP/WCMC, World Bank, TNC, WWF, IUCN-WCPA and the GEF Scientific and Technical Advisory Panel.

## Project results

In October 2007 the ITRC approved the first applications for specific projects. As a result, projects with a GEF-financed budget up to US\$ 150,000 have begun in 11 countries. For US\$ 1.5 million of approved GEF funds, have leveraged a similar amount (US\$ 1.35 million) in co-financing from government and



Of the 724 recorded animal extinctions in the last 400 years, about half have been island species. LDCs – mainly concentrated in Africa – are often the last resorts of flagship biodiversity. However, SIDS and LDCs have generally been least successful in PoWPA implementation and least covered by multilateral donor agencies. Therefore the project is devoting at least 50 percent of its grant resources to LDCs and SIDS. As of early 2008, over 75 percent of projects in the pipeline were SIDS and LDCs.

non-government agencies. In the second round (closed in March 2008) a further 17 country requests were submitted to ITRC for consideration. Below is a brief summary of the first round on-going projects.

#### Systemic level

- In **Honduras**, the project is supporting the establishment of a legal mechanism for private reserves and community-managed reserves. Experience from three demonstration sites will be incorporated into the policy act before approval by the Ministry of Natural Resources and Environment. In Liberia, the project is selecting pilot sites for PA co-management trials, incorporating local knowledge. The experience will then be used to draft a country strategy on reconciling poverty issues with biodiversity. In **Micronesia**, the project will help develop a plan to achieve PoWPA's 30 percent target for marine PAs, and 20 percent for terrestrial, before 2012 and 2010 correspondingly.

#### Institutional level

- In the **Gambia** the project is helping review conservation models; supporting the establishment of a countrywide coalition for protected areas; facilitating new country-tailored PA governance types, including community engagement mechanisms. It will also launch an eco-tourism programme and a PA management effectiveness tracking tool.

#### Individual level

- In the **Dominican Republic, Bahamas, Federated States of Micronesia, Samoa and Tajikistan**, the project is helping put a PA officers' vocational training system in place, by developing the curriculum and ensuring that training will be conducted on a regular basis during, and after, the project's lifetime.

#### Financial barriers

- In **Guatemala** the project is testing payment-for-ecosystem services (PES) at pre-selected PAs. The project will help identify supply and demand sides for each PES, try to put PES to work at demonstration sites and develop a PES country uptake plan. In the **Dominican Republic** the project will be fostering the creation of a National Trust Fund mechanism to provide sustainable funding for PA systems. In **Samoa**, the project will cooperate with a micro-financing institution to set up a fund for supporting biodiversity-friendly enterprises (mangrove planting, mollusk breeding, eco-tourism, etc.) with special focus on women's livelihoods.

#### Filling the ecological gaps

- In the **Dominican Republic, Federated States of Micronesia, Mongolia, Panama, Samoa**, the project will help to complete ecological gap analyses and approve national plans for PA creation/expansion to better represent terrestrial and marine ecosystems.



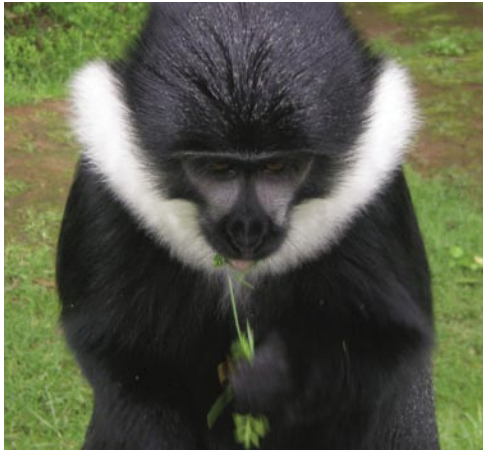
© NICOLAS CÉGALERBA - MOST LEMURS ARE LISTED AS ENDANGERED OR THREATENED SPECIES

#### On-going (2007-2010)

GEF grant:	US\$ 9.4 million
Co-finance:	US\$ 5.0 million
Project cost:	US\$ 13.4 million

Website: [www.protectedareas.org](http://www.protectedareas.org)

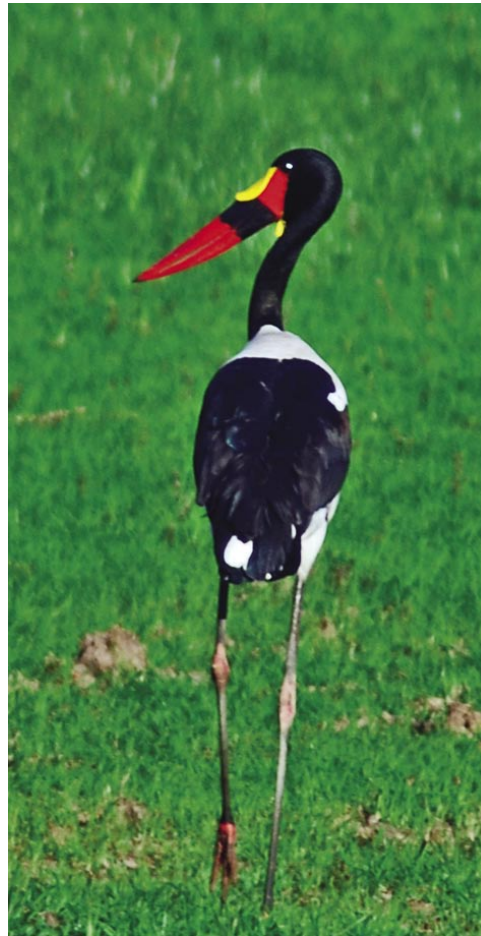
Partners: CBD Secretariat, TNC, WWF, WCS, Conservation International, IUCN, World Commission on Protected Areas, UNEP World Conservation Monitoring Center



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## Additional photos from projects

01. Christine Lippai; Impalas on the Chobe Waterfront, Botswana
02. Christine Lippai; Yellow Leucospermum: Cape Floristic Region, South Africa
03. Any Vedder; Angolan Colobus Monkeys, Southern Rwanda
04. Christine Lippai - Hoest Monkey in Nungwe Forest
05. Nik Sekhran; Wild Flowers, Cape Floristic Region, South Africa



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- 06. Christine Lippai: Wild Flowers, Cape Floristic Region, South Africa
  - 07. FANAMBY: Smallholder farming, Madagascar
  - 08. Midori Paxton: Gemsbok Oryx in the Namib Desert, Namibia
  - 09. Florin Iorganda: Street scene, Malaysia
  - 10. Nik Sekhran: Saddle Billed Stork, Luangwa Valley, Zambia

## ABOUT UNDP

UNDP is the UN's global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. UNDP is on the ground in 166 countries, working with them on their own solutions to global and national development challenges. As countries develop local capacity, they draw on UNDP and its wide range of partners.

World leaders have pledged to achieve the Millennium Development Goals, including the overarching goal of cutting poverty in half by 2015. UNDP's network links and coordinates global and national efforts to reach the MDGs with a focus on helping countries build and share solutions to the challenges of:

- Democratic Governance
- Poverty Reduction
- Crisis Prevention and Recovery
- Environment and Energy

UNDP also helps developing countries attract and use aid effectively and, in all its activities, encourages the protection of human rights and the empowerment of women.

The annual Human Development Report, commissioned by UNDP, focuses the global debate on key development issues, providing new measurement tools, innovative analysis and often-controversial policy proposals. The global report's analytical framework and inclusive approach carry over into regional, national and local Human Development Reports, also supported by UNDP.

In each country office, the UNDP Resident Representative normally also serves as the Resident Coordinator of development activities for the United Nations system as a whole. Through such coordination, UNDP seeks to ensure the most effective use of UN and international aid resources.

## ABOUT UNDP-GEF

## ABOUT UNDP-GEF

The Global Environment Facility team of UNDP (UNDP-GEF) is headquartered in New York and has six regional coordination units located in Thailand, Slovakia, Lebanon, Panama, Senegal and South Africa.

Working with other international organizations, bilateral development agencies, national institutions, non-governmental organizations, private sector entities and academic institutions, the UNDP-GEF team supports the development of projects and oversees a mature portfolio of projects in all six GEF focal areas of biodiversity, climate change, international waters, land degradation, persistent organic pollutants (POPs) and ozone depleting substance (ODS) phase-out (managed by UNDP-MPU).

UNDP also manages corporate programmes on behalf of the GEF partnership. Two of these are the Small Grants Programme (SGP) and the GEF National Consultative Dialogue Initiative, which strengthens country ownership and involvement in GEF activities through multiple stakeholder dialogue.

GEF-funded projects and activities are mainstreamed into the UNDP programme. As of February 2008, UNDP's GEF-funded projects amounted to approximately US\$ 7.47 billion (US\$ 2.04 billion in GEF Grants and US\$ 5.43 billion in co-financing) representing over 560 full and medium-sized projects as well as more than 530 enabling activities. The SGP, which supports small-scale activities in GEF focal areas and the generation of sustainable livelihoods by non-governmental and community-based organizations in more than 100 developing countries, and has a portfolio of over 7,000 community-based projects, is worth another US\$479.7 million (US\$ 402 million in GEF grants and US\$77.7 million in co-financing)

## ABOUT THE GEF

The Global Environment Facility (GEF) unites 178 member governments in partnership with international institutions, NGOs, and the private sector to address global environmental issues while supporting national sustainable development initiatives. As an independent financial organization, the GEF provides grants to developing countries and countries with economies in transition for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. These projects benefit the global environment by linking local, national and global environmental challenges, and promoting sustainable livelihoods in local communities.

In just 16 years, the GEF has evolved into an effective and transparent entity with a solid track record of getting results. Today, the GEF is the largest funder of projects to improve the global environment and has allocated US\$ 7.4 billion, supplemented by more than US\$ 28 billion in co-financing, for more than 1,950 projects in more than 160 developing countries and countries with economies in transition.



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