

The ecosystems we live within and the biodiversity that enriches them form the web of life on which every human being depends. This vibrant and amazing shared home has endured and evolved for millennia. But the seven billion humans alive today are collectively exploiting the Earth's resources at increasing intensity and its biodiversity is being lost at unprecedented rates.

As humanity develops this planet rapidly, we can easily forget how completely our lives and future depend on nature's priceless web. Protected areas not only conserve biodiversity, they also secure the wellbeing of humanity itself.

More than 2,500 marine and terrestrial protected areas and indigenous and community conservation areas—covering 353 million hectares in 102 countries—have benefited from GEF-financed UNDP-supported investments in governance, management effectiveness and livelihood generation.

2012-2020, is to unlock the potential of terrestrial and marine protected area systems so they are effectively managed and sustainably financed, and contribute to sustainable development.

Better managed, better connected, better governed and better financed protected areas will benefit us all and can be engines for local and national development.

This exhibit presents the multiple contributions of protected areas to human wellbeing and sustainable development. It also presents successes from the protected area projects financed by the Global Environment Facility (GEF) and supported by the United Nations Development Programme (UNDP).

Protected areas also have a role to play in addressing many 21st century challenges—by securing livelihoods, mitigating climate change and promoting resilience. But to fulfil their potential protected areas need to be effectively governed and managed, and sustainably financed.

UNDP with financing from the GEF supports countries to expand and strengthen protected area networks. UNDP's strategy, following UNDP's Biodiversity and Ecosystems Global Framework



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LIFE

DEVELOPMENT

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PHOTOGRAPH BY KIERAN DODDS

Travelling nomads and their yak herd criss-cross the hills of the Sanjiangyuan National Nature Reserve on the Tibetan Plateau, China. Nomadic herders have lived in the high mountain landscapes of Central and North Asia for millennia, relying on pasture to graze their livestock for their main livelihood. But overgrazing, climate change and other threats have degraded traditional pasturelands, threatening their livelihoods. Like hundreds of millions of other people who directly rely on ecosystems and biodiversity, they stand to lose the most from environmental degradation



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HOME

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Like any home, the biodiversity found within protected areas—the species, ecosystems and ecological processes that compose the natural world—provides clean air, water, food and shelter. As well as providing for the people who live within their borders, protected areas support many who live beyond their boundaries. It is home to all.



PHOTOGRAPH BY TIMOTHY ALLEN

An aerial view of a Bajau village, Tun Sakaran Marine Park, Sabah Malaysia. For most of their history the Bajau people, an indigenous group of the Southeast Asian seas, have lived a nomadic life at sea. Many of the Bajau have now abandoned boat-living for piling houses in coastal shallows. At least a few thousand Bajau people live within the marine park, which encompasses eight islands.



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PHOTOGRAPH BY MARC FOGGIN

Sanjiangyuan National Nature Reserve (SNNR), in Qinghai Province, China, sits on the Tibetan plateau at the edge of the Himalayas. One of the highest and most extensive wetland protected areas in the world, SNNR holds the headwaters of the Yangtze, Yellow and Mekong Rivers and tributaries that supply water to billions of people downstream. Altogether, the rivers and wetlands that originate on the Tibetan plateau supply water to more than one-third of the world's population.

UNDP, with GEF financing, is working with the Government of Qinghai Province to strengthen the protected area system that harbours the important headwaters of the Tibetan plateau. Special attention will be given to strengthening the Sanjiangyuan National Nature Reserve (SNNR)—which, at 15.2 million hectares, is larger than England and Wales combined—and four other nature reserves in the province. The project aims to improve the effectiveness of the protected areas system to address many threats through several strategies. At the provincial level, the project aims to integrate biodiversity and protected area concerns into other government sectors and planning processes. The project also works collaboratively with local Tibetan herding communities to strengthen conservation and sustainable use of natural resources.

As the SNNR demonstrates, protected areas are a vital source of clean water. But their influence is also felt by many who live far beyond their realm. One third of the world's largest cities obtain a significant proportion of their drinking water directly from protected areas.

Altogether, the rivers and wetlands that originate on the Tibetan plateau supply water to more than one-third of the world's population.



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FOOD SECURITY

DEVELOPMENT

PHOTOGRAPH BY FRANS LANTING

Vezo girl collecting squid in a lagoon in Andavadoaka, a small coastal village in Madagascar. Squid, fish and other marine resources are the sole source of protein and livelihood for most of Andavadoaka's population. Andavadoaka villagers have been recognised by the UNDP-implemented Equator Prize for their efforts to create a Locally Managed Marine Area that has replenished octopus stocks and is rooted in local traditional codes of conduct.

Marine protected areas play a vital role in sustaining marine food security: they protect the mangroves that provide nursery grounds for young fish, coral reefs that house one-quarter of the world's fish species, and the open ocean where large pelagic fish such as tuna live and reproduce. It has been estimated that a global marine protected area system, accounting for the closure of 20 percent of total fishing area and resulting in a lost profit of USD 270 million per year, would help sustain fisheries worth USD 70-80 billion per year while creating one million jobs.

Facing severe threats, marine, coral and mangrove ecosystems are seriously under-represented in the global protected area estate. Nations have agreed that at least 10 percent of coastal and marine areas need to be under marine protected areas by 2020 (Aichi Target 11) as part of global efforts through the Convention on Biological Diversity to stem biodiversity loss. Currently, only about 235 million hectares, 0.65 percent of the world's oceans and 1.6 percent of the total marine area within Exclusive Economic Zones, are protected.

More than 3 billion people rely on fish as a major source of protein.



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MARINE RESILIENCE



PHOTOGRAPH BY AQABA MARINE PARK AND UNDP

A diver painstakingly translocates coral to a marine protected area. Coral reefs in Jordan are among the most threatened in the Red Sea because they are shallow, easily accessible, and adjacent to a major population and industrial centre. With the support of UNDP and GEF finance, several hectares of coral reef threatened by the construction of a new harbour in the Aqaba Special Economic Zone have been moved into the nearby Aqaba Marine Park, with a high success rate.

GEF finance, through UNDP, supports countries to expand and strengthen their marine protected area systems so that they are effectively managed and sustainably financed, and protect critical threatened ecosystems. In Madagascar, a project implemented jointly with the World Bank, has worked with local communities to establish community-managed protected area support zones that have maintained the health of key coral reef, lagoon and mangrove ecosystems. The project helped establish sustainable fisheries management measures at the project sites, which have resulted in increased community catches and improved the incomes and standard of living of the fisherfolk targeted.

In the Maldives, GEF finance through UNDP supported the establishment of Baa Atoll as a UNESCO Biosphere Reserve with ten core protected areas. The experience and knowledge gained through the project is now being used by the Government of the Maldives to declare the whole of the Maldives a Biosphere Reserve over the next five years. Expansion and strengthening of marine and coastal protected areas will help countries replenish fish stocks, prevent further degradation of these ecosystems, manage climate risk, and meet conservation targets.



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COMMUNITIES

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Services provided by protected areas are often a lifeline for local and indigenous communities. An economic assessment of the value of Ethiopia's protected areas system showed that it is worth millions of dollars in clean water supply and medicinal plants to the country's poor rural communities.



PHOTOGRAPH BY JOSHUA COGAN

Men winnow grain in the Ethiopian highlands. Sometimes called the "Roof of Africa" for its height and expanse, the Ethiopian highlands encompass two national parks: Simien and Bale Mountains. These spectacularly diverse landscapes, which rise from lush forest to sharp ridges and peaks cut by deep valleys, are of significant biodiversity value. They are also of immense value to Ethiopia's people.

An economic assessment of the contribution of Ethiopia's protected areas system to the economy found that the main values of protected areas are the environmental services they provide to poor rural communities, many of whom do not have food security. According to the assessment, protected areas are worth USD 432 million in hydrological services, USD 266 million in water quality control services and USD 13 million in medicinal plants to these communities. These values dwarf recreational use; current park entrance fees brought in only USD 19,000 in 2008.

The results clearly show that the economic value of protected areas is of immense benefit to the sustainable development of the Ethiopian economy and plays a significant role in the fight against poverty. The assessment was commissioned as part of Ethiopia's protected area system plan being developed by the Government with GEF finance and UNDP support, and is being incorporated into the country's national poverty strategy, which sets the development priorities that guide government and donor funding flows. As the assessment highlights, the services provided by protected areas are a lifeline for Ethiopia's rural communities, as they are for many local and indigenous communities around the world.



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INDIGENOUS PEOPLES

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PHOTOGRAPH BY DENR-PAO
FOR NEWCAPP/UNDP

Menuvù children in traditional dress. In the Philippines, with support from UNDP and financing from the GEF, two ICCAs have been formally established and recognised in the ancestral lands of the Menuvù and the Ayta Abellen peoples, as well as local community conserved areas. The formal recognition of these areas is a source of pride to the tribe says Menuvù elder Nonoy Nunay, "Our community is known not just locally but now globally via the ICCA registry."

Indigenous peoples' and local communities' conserved territories and areas (ICCAs) harbour significant biodiversity, ecological and cultural value. One estimate suggests the area voluntarily conserved by indigenous peoples and local communities may rival the area currently covered by formally designated protected areas. Despite their significant value, most ICCAs are currently not formally recognised.

In recognition of their fundamental role in conservation, GEF, through UNDP and the UNDP-implemented Small Grants Programme has been working for over five years to protect ICCAs and sacred natural sites. In the Philippines, the New Conservation Areas Project is supporting indigenous communities to conserve their ancestral domain lands, by helping them to map, inventory, formally establish and manage ICCAs in their traditional territories. The project aims to expand and strengthen the country's protected areas system.



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SPIRITUAL LIFE

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PHOTOGRAPH BY JESSE MONTES

Prayer flags rustle in the breeze above Phajoding Monastery on the outskirts of Jigme Dorji National Park, Bhutan. For centuries a strong religious and cultural ethos based on Buddhism and respect for all forms of life has provided a safe refuge for the extraordinary biodiversity found within this small, beautiful Himalayan Kingdom. The concept of protected areas has existed here, as in many other countries, for at least several thousand years in the form of sacred areas—Bhutan's highest mountains are sacrosanct. Gangkhar Puensum, the highest mountain in Bhutan at 7,570 metres, remains one of the world's highest unclimbed peaks out of respect for these spiritual beliefs.

Conservation is enshrined in both the country's constitution and its national philosophy. Bhutan's philosophy of Gross National Happiness formulated in 1972 by the "Fourth Dragon King", Jigme Singye Wangchuck, rests on four pillars: promotion of sustainable development; preservation and promotion of cultural values; conservation of the natural environment; and the establishment of good governance. In keeping with these goals and principles, the country's constitution mandates maintenance of "at least sixty percent of the total land under forest cover at all time". Current forest cover is more than 70 percent and more than half of the country's land is designated as protected areas and biological corridors to connect them.

Between 2003 and 2008, a GEF financed collaboration among UNDP, the Ministry of Agriculture and Forestry, and WWF Bhutan advanced Bhutan's biological corridors. The project identified suitable corridors, helped create the institutional framework that will be needed to implement and manage them, and piloted management approaches with local authorities and communities in the corridor linking Thrumshingla National Park with two others. It also strengthened links between staff in Forest Divisions and protected areas. Further work is planned to fully operationalise the corridors on the ground across the country. By creating linkages among key habitats, the corridors should contribute to reaching tiger population targets set under the National Tiger Recovery Programme.



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LIVELIHOODS

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Many of the 1.2 billion people living in severe poverty, on less than one US dollar a day, depend directly on nature for their basic needs, livelihoods and subsistence and one sixth of the world's population directly depends upon the biodiversity within protected areas for their livelihoods.

PHOTOGRAPH BY FRANS LANTING

Machiguenga man carving canoe in Manu National Park, Peru. Like many indigenous and local people, the Machiguenga people have depended on the biodiversity of tropical forests to sustain their livelihoods for centuries. Indeed, many of the 1.2 billion people living in severe poverty, on less than one US dollar a day, depend directly on nature for their basic needs, livelihoods and subsistence and one sixth of the world's population directly depends upon the biodiversity within protected areas for their livelihoods. Protected areas also sustain livelihoods for many living beyond their borders by protecting biodiversity and ecosystem services.

UNDP with GEF finance assists communities to adopt more sustainable livelihoods and countries to promote practices and incentives needed to shift development trajectories to those that conserve long-term natural capital and unlock sustainable development. These projects promote collaborative management approaches that empower communities as stewards of their own resources.

In Peru, GEF finance through UNDP has promoted sustainable livelihoods based on agro-forestry for indigenous communities in the Central Andes. These agro-forestry production systems integrated a variety of crops, plants and trees, which collectively conserve valuable genetic diversity and also provide food, medicine and income for the local communities. By working with indigenous communities to promote these systems and collaborative management of protected areas, the project benefitted people while reducing pressure on natural resources.

A project has integrated sustainable livelihoods into management plans in the Tonle Sap Biosphere Reserve of Cambodia. The management plans were developed in collaboration with local communities and include provisions for floating gardens, aquaculture and ecotourism to sustain local livelihoods. The project also helped establish 22 community savings groups, a pilot vehicle for promoting rural enterprises.



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JOBS

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The employment that protected areas generate directly and indirectly through park management, tourism, outdoor recreation, scientific research, environmental education, sustainable uses including forestry, fisheries and more, can play a key role in local development and poverty alleviation.



PHOTOGRAPH BY FLOWER VALLEY
CONSERVATION TRUST/SLINGSHOT MEDIA

Sustainable harvesting of wild flowers from the Agulhas Plain, South Africa. Protected areas create jobs. For example, in Namibia, tourism contributes 6 percent of GDP and more than 70 percent of this tourism is linked to protected areas and nature. Hard data are scant, but the Great Barrier Reef alone generates 54,000 full-time jobs per year and contributes USD 5.1 billion to the Australian economy. There are almost 200,000 protected areas in the world. That's potential for a lot of jobs!

The Cape Action for People and the Environment Programme (C.A.P.E.) demonstrates the power of well managed protected areas to generate jobs while conserving biodiversity and contributing to sustainable development. The programme was established to protect the outstanding biodiversity of the Cape Floristic Region (CFR) of South Africa, which harbours more than 9,600 different species of plants—70 percent of which are found nowhere else. The 20-year programme was developed by the Government of South Africa with GEF finance, and joint support from UNDP and the World Bank during its establishment and first six years of operation through the C.A.P.E. Biodiversity Conservation and Sustainable Development Project. The project, executed by the South Africa National Biodiversity Institute with South African National Parks, CapeNature and the Wilderness Foundation, was the result of a large collaboration among more than 23 partners, all of whom played a role in activities.

Although the CFR is home to some of South African's most productive farms, unemployment is high. Conservationists face the dual challenge of preserving priority habitats while ensuring that the land remains productive and provides new livelihood opportunities for the region's disadvantaged communities. The project and its partners expanded and consolidated the areas under formal management agreements in three protected areas in the CFR. Through innovative environmental management and biodiversity conservation strategies initiated in and around the protected areas, the project increased the number of jobs directly associated with conservation and nature-based tourism in the project sites by more than 20 percent.

The Agulhas Biodiversity Initiative (ABI), a C.A.P.E.-established and GEF financed initiative, established a sustainable regime for harvesting wildflowers on 30,000 hectares of land, thereby maintaining natural habitat. Employment for certified flower pickers and packers doubled within three years. The area of land under legally binding conservation management agreements in productive landscapes was increased by 120,000 hectares. ABI continues today, sustaining the work catalysed by the project.



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TOURISM

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Tourism is one of the most widely recognized economic benefits of protected areas, and is a major source of jobs and livelihoods for those living in and around protected areas.



PHOTOGRAPH BY FRANS LANTING

An African elephant herd cross a swamp in the Okavango Delta, Botswana. The world's largest inland delta, the magnificent Okavango sustains abundant life in the heart of a desert. At the core of the delta lies the 488,800 hectares Moremi Game Reserve and, beside it, a Wildlife Management Area zoned for different uses. The great concentrations of diverse animals and birds found here attract thousands of tourists each year. Tourism generates more than USD 200 million per year, making it the largest economic activity in the delta.

As the economies of many developing countries depend heavily on tourism revenue associated with protected areas, governments increasingly consider protected areas to be true engines of local development. However, balancing tourism and associated livelihoods with the protection of the biodiversity that tourists travel to see will require policies that create clear standards and outline best practices.

In the Okavango Delta of Botswana, gradually rising anthropogenic pressures—including impacts of the tourism sector—are slowly eroding the integrity of this wetland. In response, a UNDP supported GEF financed project worked with the government to create governance systems, institutions, economic incentives and techniques to ensure that production practices within the Okavango Delta in three sectors—including tourism—are compatible with sound biodiversity management objectives. The project developed a Botswana Ecotourism Certification System and ecotourism standards in partnership with the Botswana Tourism Board; these voluntary certification standards are among the most rigorous in the world and—with the project's partners continuing this work—could eventually become compulsory.



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SCIENCE

Protected areas provide important opportunities for science, exploration and untapped genetic potential for future development.

DEVELOPMENT



PHOTOGRAPH BY JAKE BRYANT

Production still from the film, *Il était une forêt*, directed by Luc Jacquet / Wild-Touch

Botanist making notes in the canopy of a Moabi tree in Ivindo National Park, Gabon. Scientists are still discovering new species and new uses for nature. In fact, one estimate suggests that some 86 percent of species on Earth and 91 percent of species in the ocean are yet to be described. Many parks include critical 'outside laboratories' for scientific research on the functioning of ecological systems and processes. Research, expeditions and monitoring in protected areas enhances human knowledge about our planet. As well as giving humankind intellectual food for thought, this knowledge can be used to improve protected area management and enhance the services they provide.

Supporting sound science, monitoring and learning

UNDP protected areas work builds the capacity of countries for research and monitoring in protected areas that can be used to enhance their management. For example, GEF finance through UNDP is supporting the Governments of Cameroon, the Republic of Congo and Gabon to improve transboundary biodiversity conservation in one of the last intact forest areas in Central Africa. Although five protected areas already exist in the region, these are not managed collaboratively. With support of a multi-country project in the Minkebe-Odzala-Dja Interzone, spatial and temporal data on wildlife observations and poaching activities collected through inventories and monthly monitoring is being compiled into a shared GIS-linked database. Protocols for data sharing have been established with project partners.

The monitoring systems established have already provided information used to identify transboundary elephant migration routes and other wildlife corridors across the countries. The data collected will be used to enhance anti-poaching activities and park management. The project is also training park staff and local people in data collection, monitoring and analysis protocols and systems, building capacity in the protected areas for research and monitoring.

Supporting access and benefit sharing

Protected areas also harbour significant untapped potential for discovery and development of useful nature-based products such as medicines, foods, chemicals and other products. UNDP supported GEF financed projects assist countries to build the capacities needed to explore, identify, safely develop, use, transport and derive and equitably share benefits from nature-based products that they house, in line with international biodiversity conventions on Access to Genetic Resources and Benefit Sharing and Biosafety. For example, UNDP is working with the Government of Panama to build national capacity for discovery of nature-based products from Panama's protected areas, including compounds for new medicines and agriculture. The project focuses on establishing an operational framework on access and benefit sharing in Panama, transferring state-of-the-art technology for bio-prospecting to Panamanian institutions; improving research infrastructure and capacities in Panama and enhancing the capacities of local institutions to negotiate access and benefit sharing agreements.



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EDUCATION

Many protected area concessionaires support education and local development as part of their contributions to park management.

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PHOTOGRAPH BY JESSE MONTES

A child practices the English alphabet at a school funded by tourism proceeds from Chitwan National Park, Nepal. Resort owners that feel an obligation to give back to the Chitwan community provide funds voluntarily.

UNDP projects support integration of environmental education within school curricula and awareness raising activities. These programmes aim to increase general understanding and appreciation of the values of biodiversity, protected areas and cultures. They also deliver specific messages to change behaviour and attitudes of a defined target group in order to improve outcomes within and beyond protected areas.

A project to improve landscape management in and around the protected areas of Nepal's Western Terai organised an impressive number of events to raise awareness about conservation and the contribution it makes to livelihoods. In total, 18,137 people attended 380 awareness events, carried out in partnership with community organisations, stakeholders and government agencies.

In Kazakhstan, targeted and well-designed awareness programmes have been critical to the success of a project to improve the integrity and viability of priority wetlands. An imaginatively designed visitor centre established within one of the nature reserves is probably the first of its kind in Central Asia and became a model for similar centres in the region. School curricula covering wetland topics were developed and children's eco-clubs established. A national level awareness-raising programme improved understanding and appreciation of wetlands among the wider public and decision makers.



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DISASTER RISK REDUCTION

DEVELOPMENT



PHOTOGRAPH BY ZAFER KIZILKAYA

Mangrove forest underwater in Tunicate Cove in South Water Caye Marine Reserve, Belize. Belize's coral reefs and mangroves protect coastlines from erosion and wave-induced damage, providing an estimated USD 231 to USD 347 million worth of services in avoided damages per year.

Protected coral reef ecosystems alone contribute the equivalent of more than USD 9 billion per year in coastal protection around the world.

Protected areas buffer humanity from the worst effects of climate change and disasters. One-half to two-thirds of the world's population live along coastlines. These coastal communities depend on the natural infrastructure of coral reefs, sea grass beds, and mangroves to buffer them from erosion, sea-level rise and increased storm surges. The world's inland communities depend upon the natural infrastructure of healthy forests, grasslands and wetlands to buffer them against increased drought, flooding, disease and natural disasters. UNDP is working with governments, communities and civil society organisations to restore and conserve these ecosystems within and beyond protected area networks.

UNDP has provided a series of support to the Government of Belize focused on conservation of Belize's Barrier Reef and on securing the sustainability of the country's national protected area system. The Community Management of Protected Areas Conservation Programme (COMPACT) has worked to conserve the integrity of the Barrier Reef System by developing and supporting a range of conservation and sustainable livelihood activities through partnerships with coastal communities and other stakeholders.

COMPACT, an initiative of the UNDP-implemented GEF Small Grants Programme, the United Nations Foundation and other partners, has awarded 35 grants, totalling USD 1.9 million, to community based organisations and NGOs in Belize since 2001. These grants have funded protection, conservation and sustainable management of resources; and strengthening of management capacities for stakeholders that impact the Belize Barrier Reef Reserve System, a UNESCO World Heritage Site.

GEF finance, through UNDP, is also strengthening national capacity to support the country's protected areas system. The project is working with the Government of Belize to consolidate and improve the sustainability of the country's protected areas. To date the project has expanded protected area coverage of mangroves from 17,000 hectares to more than 28,000 hectares; increased annual government budgeting for protected areas; improved the financial sustainability rating; initiated a national training programme for protected areas staff; and developed cooperative agreements between the Government of Belize and a number of public and private sectors for marine protected area management.



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RESILIENCE

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Establishing effective and connected protected area networks is recognised as a key strategy for increasing the resilience of landscapes to climate change impacts by maintaining ecosystem integrity, enabling species to shift ranges and buffering local climates.

PHOTOGRAPH BY PAUL VAN SCHALKWYK

High red dunes surround the seasonally inundated salt and clay pans of the “Sossusvlei” in the Namib-Naukluft National Park, Namibia—only flooded for a short period each year. Years of good rain demonstrate the remarkable resilience of this unique ecosystem: when water fills the usually parched pans, this desert springs to life. Fishes and frogs emerge from underground; ducks and even flamingos can be seen wading amid red dunes covered with green swathes of grass, as long-dormant seeds erupt into bloom.

But Namibia is expected to be hard hit by climate change. Establishing effective and connected protected area networks is recognised as a key strategy for increasing the resilience of landscapes to climate change impacts by maintaining ecosystem integrity, enabling species to shift ranges and buffering local climates.

Phased support to the Government of the Republic of Namibia through three successive UNDP-supported GEF-financed projects has been designed to strengthen and expand the country’s protected areas system in a strategic manner.

The first project (2005-2012) built a solid foundation by working to strengthen the existing protected areas system and secure sustainable financing. This project conducted a climate change vulnerability assessment for the protected areas system to propose responses to address threats.

Next, an on-going initiative (2011-2016) is strengthening conservation between protected areas. The project supports collaborative management of various protected landscapes to reduce threats. Corridors are managed to cope with predicted impacts of climate change, including strategies for managing fire and hydrological regimes. More than 40 percent of Namibia’s land area is now under conservation management.

The third phase, initiated in 2014, is focusing on critical aspects of protected area management to strengthen the capacity of the system to address particularly pressing challenges. The project is designed to address increasing threats from poaching of key species and improve integrated fire management through targeted interventions.



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CLIMATE CHANGE MITIGATION

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PHOTOGRAPH BY ADRIANA DINU

Taiga forest of the Ural Mountains in the Komi Republic, Russian Federation. The virgin forests of the Komi Republic are a UNESCO World Heritage Site and represent one of the most extensive areas of pristine boreal forest remaining in European Russia. They include valuable coniferous stands, particularly important for their high carbon sequestration potential. This potential is under threat, however, from harvesting and degradation of pristine forest ecosystems.

Over 15 percent of global terrestrial carbon stocks are held in formal protected areas, with more in indigenous and community conserved lands, with an estimated value in the trillions of dollars.

An important service that protected areas provide is the ability to help regulate the Earth's climate. A project has supported the Government of the Komi Republic to assess and take actions to improve the effectiveness of the protected areas at managing carbon in forest and peatlands. This work was undertaken with funding from the International Climate Initiative of the German Government, as part of a wider GEF financed UNDP supported project to strengthen the forest protected area system of the Komi Republic. This component has improved infrastructure and built the capacity of local stakeholders in 15 protected areas to mitigate risks from human activity and climate change to the forest. Essential research on carbon fluxes and carbon sequestration potential in pristine forests and peatlands, and on the impacts of forest and peatland fires on carbon emissions, has been conducted with project support. The results are being incorporated into protected area and forest management plans.

Annual carbon sequestration in undisturbed virgin forests of the Komi Republic exceeds 2.7 million tons of carbon. When disturbed by fires and inappropriate management, these forests lose up to 280,000 tons of carbon per year. Therefore, the project has also provided equipment for fire prevention, detection and control and taken other practical steps to reduce the risk of fires. This work has had tangible results says Tatyana Fomitchyova, Director of Iugyd-Va National Park: "The 'carbon component' in Iugyd-Va National Park has become one of the most effective and useful aspects of the project, providing essential equipment for fire-prevention, supporting installation of warning notices on tourist routes and distributing leaflets on fire prevention. Training has been provided for 20 inspectors from the National Park, the Pechoro-Ilychsky Reserve, and also for local residents. The indicative result of this work is the complete absence of forest fires in the National Park in 2011."



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BLUE CARBON

On average, marine ecosystems store three times more carbon removed from the atmosphere than terrestrial ecosystems.

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PHOTOGRAPH BY ZAFER KIZILKAYA

Monitoring marine life in Gökova Bay Marine Protected Area, Turkey. Since 1990, Turkey's National Protected Area System has almost doubled and covers about 5.3 percent of national marine and coastal area. A project to strengthen and catalyse the sustainability of Turkey's marine and coastal protected areas has supported the Government of Turkey in examining how a reconfigured Marine Protected Area network can be designed to protect biodiversity while optimizing the ecological services it provides.

Ocean and marine ecosystems are among the largest sinks of carbon on the planet. The value of reducing emissions by protecting ecosystems storing "blue carbon"—such as mangroves, seagrass beds and saltmarshes—is not currently captured.

Since 1990, Turkey's National Protected Area System has almost doubled and covers about 5.3 percent of national marine and coastal area. A project to strengthen and catalyse the sustainability of Turkey's marine and coastal protected areas has supported the Government of Turkey in examining how a reconfigured Marine Protected Area network can be designed to protect biodiversity while optimizing the ecological services it provides, including the storage of carbon.

One of the key elements of the project is the ongoing work to evaluate the economic valuation of the blue carbon in order to aid decision making and conservation management for strategic spatial planning. An Economic Analysis of Gökova Special Environmental Protection Area commissioned by the project highlighted the economic importance of the protected area's sea grass meadows, for their carbon sequestration and erosion protection benefits. According to the study's preliminary estimate, Gökova's seagrass meadows could generate up to USD 792,000 per year based on a market price of carbon of USD 11.2 / tCO₂-eq for avoiding their loss. This and further site specific studies of carbon sequestration and storage rates, position Turkey to potentially benefit from emerging blue carbon markets.



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WILDLIFE

Protected areas play a vital role in stemming accelerating biodiversity loss by providing habitat and refuge for threatened species.

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PHOTOGRAPH BY MARC FOGGIN

Snow leopard photographed by camera trap in Sanjiangyuan National Nature Reserve, China. Establishing effective, connected protected area networks is particularly important for migratory species and those with large home ranges, such as the snow leopard. The snow leopard is listed as globally Endangered on the IUCN Red List of Threatened Species. There are only an estimated 4,080 to 6,590 snow leopards left in the wild and their population continues to decline. Diminishing and fragmented natural habitats, depletion of their natural prey due to competition with livestock, poaching, illegal trade, persecution as a result of conflict with local people and a lack of conservation capacity, transboundary coordination and awareness are the major threats to this flagship species.

In the vast Altai-Sayan Mountains, which straddle Russia, Mongolia, Kazakhstan and China, UNDP with GEF financing has systematically supported transboundary conservation through four national projects since 2005. These projects have resulted in consolidation of national protected area systems and establishment of transboundary collaboration. They have helped expand the protected area network so that it covers key, previously under-represented, snow leopard habitat. Strategic cooperation is important says Alexander Bondarev, the ex-project manager of the Altai-Sayan project in the Russian Federation: "Transboundary cooperation on protected areas has major importance for the conservation of biodiversity generally, and specifically for a number of unique species such as snow leopard".

UNDP is also partnering with the snow leopard's 12 range states and international organisations in direct support of global initiatives to protect and conserve this species and high-mountain ecosystems.



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BIODIVERSITY

DEVELOPMENT

Protected areas are the cornerstone of biodiversity conservation. They provide a safe haven for the spectacular diversity of life on Earth and help sustain the services that this life supports.



PHOTOGRAPHY BY
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The UNDP supported GEF financed Early Action Grant Project for Protected Areas assists countries to take critical actions needed towards achieving effective and sustainable National Protected Area Systems, in line with actions and targets set out for protected areas under the Convention on Biological Diversity. This project has supported countries to complete a range of key assessments required to achieve these targets.

These included "gap assessments" used to design or expand the protected area network so that it meets country protection goals—for example, to ensure the network effectively conserves a representative sample of the species and ecosystems found there. To date, with project support, over 135 products and key assessments have been completed in 46 countries, three-quarters of which are least developed countries or small island developing states.



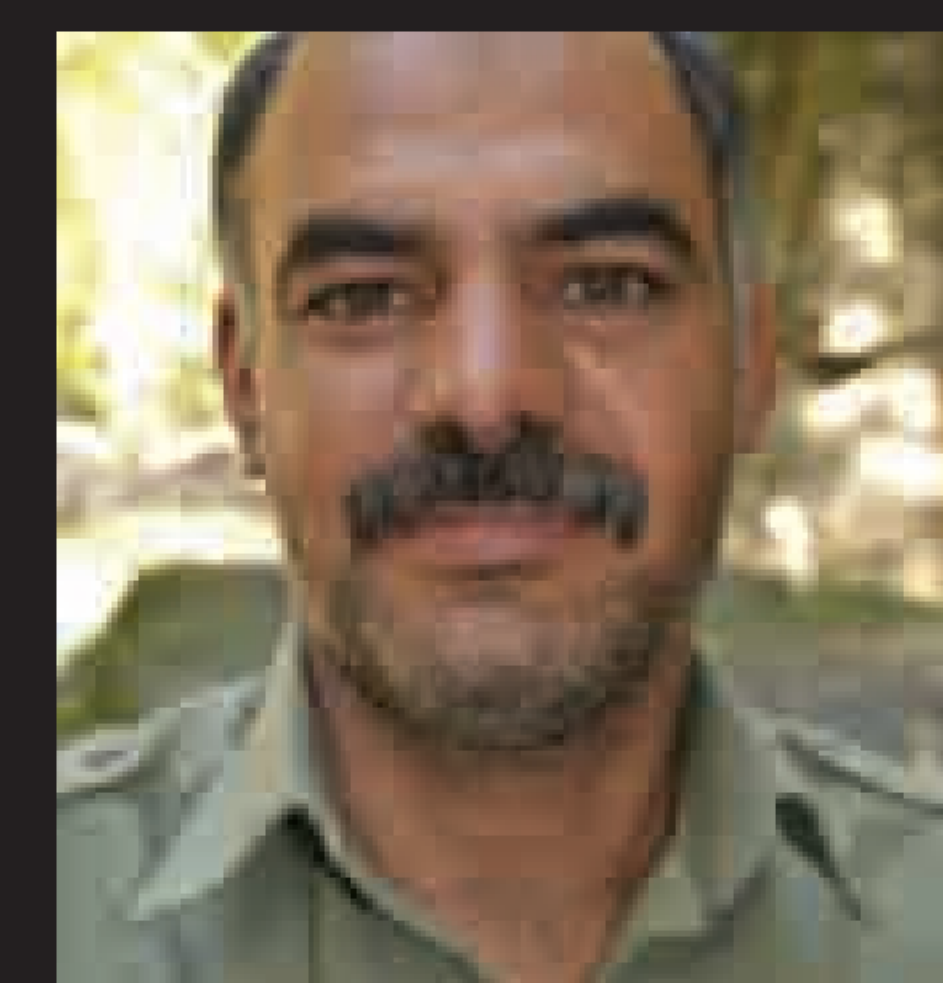
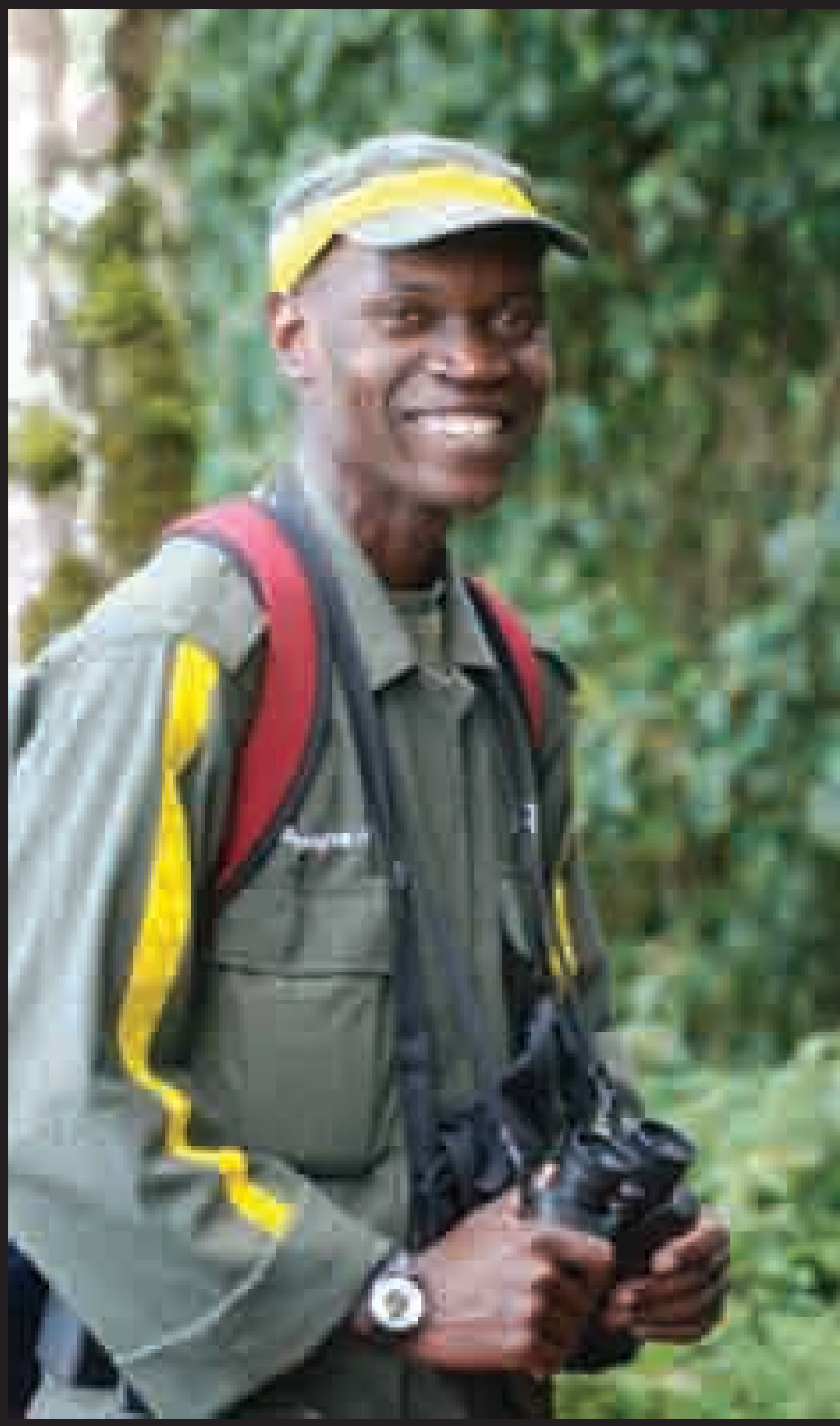
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Resilient nations.

PARKS FOR

PEOPLE

DEVELOPMENT

Protecting the biodiversity and ecosystems that constitute our shared home is essentially about people. Here are some of the 'keepers' of parks and biodiversity—protected area staff working around the world to conserve our natural wealth.



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UNDP SUPPORTED GEF FINANCED CONSERVATION OF IRANIAN WETLANDS PROJECT/IRANIAN DEPARTMENT OF ENVIRONMENT

UNDP SUPPORTED GEF FINANCED CONSERVATION OF ASIATIC CHEETAH PROJECT/IRANIAN DEPARTMENT OF ENVIRONMENT

UNDP SUPPORTED GEF FINANCED COASTAL AND WETLAND BIODIVERSITY MANAGEMENT AT COX'S BAZAR AND HAKALUKI HAOR PROJECT/ BANGLADESHI DEPARTMENT OF ENVIRONMENT

Coming to the end of our story, as the evidence in this exhibit demonstrates, protected areas not only protect biodiversity, they support sustainable development both within and beyond their borders. Protecting the biodiversity and ecosystems that constitute our shared home is fundamental to secure livelihoods and to meet country development priorities, including food and water security and resilience against shocks and the impacts of climate change. Only by protecting our biodiversity and ecosystems will humanity be able to thrive and prosper in the future.

In this way, the work of countries to protect their natural wealth—as presented in this exhibit—is essentially about people. The threats, the problems, the hope and the solutions; all come back to the same source. Us.



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