

INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY • 22 MAY 2006
PROTECT BIODIVERSITY IN DRYLANDS



ACHIEVING THE 2010 BIODIVERSITY TARGET!

International Day for Biological Diversity 22 May 2006



Preface



At the first meeting of the Conference of the Parties to the Convention on Biological Diversity, in Nassau, the Bahamas, in 1994, Parties agreed to establish the International Day for Biological Diversity (IBD) as an annual event to raise global awareness of the importance of biodiversity to all life on earth, and to establish the role of the Convention in ensuring a sustainable future for us all. This decision was endorsed

by the United Nations General Assembly.

Throughout the years, the International Day for Biological Diversity (International Biodiversity Day) has become a major tool, not only to enhance public awareness of the Convention, but also as a way to mobilize the international community in support of the implementation of the three objectives of the Convention - the conservation of biological diversity, the sustainable use of its components and the equitable sharing of the benefits from biodiversity – and its 2010 Biodiversity Target.

The landmark Millennium Ecosystem Assessment Report, conducted by 1360 scientists from 95 countries, provides ample evidence that achievement of the 2010 Biodiversity Target requires the global community to redouble its efforts. As evidenced by the historic Curitiba meetings held in March 2006, these findings come at a time when the Convention with its Cartagena Protocol on Biosafety, is embarking on an enhanced phase of implementation. Recognizing that world-wide celebration of International Biodiversity Day can be a major contributing factor to the success of the new phase of the Convention, a number of initiatives have been mobilized to encourage even greater and more extensive celebrations. A key initiative is the establishment of an interagency task force comprising the other biodiversity-related conventions and sister agencies already committed to the 2010 target.

Celebrating International Biodiversity Day as an international community with the support of sister agencies can be a key instrument in achieving the 2010 target. Every year, 22 May offers an ideal opportunity for policymakers and citizens to come together to celebrate the richness of the world's biological diversity and the crucial role it plays for all life on earth. Out of these celebrations is sure to emerge a broad awareness as well as a renewed commitment to the need to conserve, sustain and share this wealth. This year marks the first time that the Secretariat has prepared a report on the celebrations by Parties of this major event in the life of the Convention. Similar brochures will be issued each year.

I take this opportunity to call on all 188 parties to the Convention to celebrate International Biodiversity Day 2007 with the theme: Climate Changes Biodiversity.

Ahmed Djoghlaf, Executive Secretary

International Day for Biological Biodiversity: Introduction

Created by the United Nations for the purpose of heightening the awareness and understanding of the critical issues surrounding biological diversity, the International Day for Biological Diversity is celebrated by an ever-growing number of countries around the world each year on 22 May. For 2006, the Executive Secretary of the Convention on Biological Diversity (CBD), Mr. Ahmed Djoghlaf, invited citizens from around the world to mark this special occasion by

focusing attention on the issues related to this year's theme – *Protecting Biodiversity in Drylands*.

The International Day for Biological Diversity (IBD) provides a wonderful opportunity for people of all ages, backgrounds and nationalities, to participate in biodiversity-related activities that help educate, publicize, and focus attention on the importance of preserving biological diversity for a vital and healthy planet.

Background: The United Nations proclaimed 22 May the International Day for Biological Diversity (IBD) to increase understanding and awareness of biodiversity issues. When first created by the Second Committee of the UN General Assembly in late 1993, 29 December (the date of entry into force of the Convention of Biological Diversity), was designated The International Day for Biological Diversity. In December 2000, the UN General Assembly adopted 22 May as IBD, to commemorate the adoption of the text of the Convention on 22 May 1992 by the Nairobi Final Act of the Conference for the Adoption of the Agreed Text of the Convention on Biological Diversity. This was partly done because it was difficult for many countries to plan and carry out suitable celebrations for the date of 29 December, given the number of holidays that coincide around that time of year.

More than 30 countries reported on a variety of events held to commemorate IBD in 2006. Countries held workshops that emphasized the importance of biological biodiversity, organized outreach activities for school children, presented seminars, organized walking tours, staged exhibits, and held events designed

to interest and educate media. In addition, the European Commission adopted a communiqué which set out an ambitious policy approach to halt biodiversity loss by 2010. All of these national initiatives are published on the CBD Website at: <http://www.biodiv.org/programmes/outreach/awareness/biodiv-day-2006-ctrs.shtml>.

The theme for IBD 2006 was chosen to complement the decision of the United Nations General Assembly to proclaim 2006 the International Year of Deserts and Desertification, which reflecting the critical pressures faced by drylands ecosystems around the world.

Some 47% of the Earth's land surface is comprised of drylands. This include semi-arid lands such as the Karoo and the Horn of Africa, savannah landscapes such as the Eurasian steppes and the North American Great Plains, and Mediterranean landscapes. Home to a richness of biological diversity, they are also critical to the livelihoods of some two billion people. But because drylands ecosystems receive very erratic rainfall, they are extremely fragile.

Biodiversity in these ecosystems is under constant threat from a variety of human activities. The transformation of habitats for human use, mostly agricultural, and increases in overexploitation, including overgrazing, has led to the degradation of up to 20% of drylands ecosystems – with stark results:

- Desertification and drought
- Thousands of endangered species
- Over 40 billion dollars a year in lost agricultural production, resulting in increased social, economic, and political tensions.

Poverty has forced populations dependent on natural resources to

overexploit already marginal lands in order to sustain their livelihoods. Existing incentive frameworks do not encourage the sustainable use of resources.

Parties to the Convention on Biological Diversity are committed to the conservation and sustainable use of biological diversity in drylands, and are working to ensure equitable sharing of the benefits from the use of genetic resources in these ecosystems.

Actions can be taken to reduce human impacts and thus decrease the rate of biodiversity loss in dry and sub humid lands, and they include:

- Reduce overgrazing in delicate ecosystems
- Reduce pollutants produced by intensive agriculture
- Slow the conversion of grassland and savannah systems to agriculture and urban settlement
- Take steps to control the introduction of invasive alien species into these ecosystems
- Help build institutions that will alleviate poverty and allow the poor to realize sustainable livelihoods.
- Mobilize sufficient financial and technical resources, particularly for developing countries, to achieve the Millennium Development Goals and the 2010 Biodiversity Target.

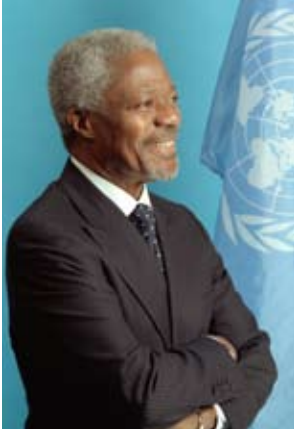
By taking these and other actions, we will achieve concrete results. If we act now, it is within our power to achieve the 2010 Biodiversity Target and halt the loss of biodiversity in dry and sub-humid lands. By highlighting the importance of

protecting the planet's biodiversity, especially among the world's youth, we are sowing the seeds for a better and healthier environment, and a better future for us and for generations to come.



Tuareg Nomads in the Sahara, Mali (*Michael Martin*)

Message of United Nations Secretary-General Kofi Annan



Biodiversity permeates the entire spectrum of mankind's activity and habitation, and is directly linked to the well being of our planet and long-term human progress.

Yet this vital pillar of life is under relentless attack. The Millennium Ecosystem Assessment, a four-year undertaking by more than 1,300 scientists, provides clear evidence of the damage being done to our world: Earth's environment has changed tremendously in the last half century. The findings point to the need for decisive action to protect our planet.

This year's observance, "Protect Biodiversity in Drylands", highlights an area in particular need of urgent attention. The degradation of drylands—which constitute 40 per cent of the planet's land surface—is having dramatic effects: some 2,300 species endangered or facing extinction, significant losses in agricultural output, and an economic cost estimated at more than forty-two billion dollars a year.

These consequences are especially troubling because they are borne disproportionately by the world's poorest and most vulnerable people. Drylands host eight of the ten least-developed countries in the world, and developing nations are home to the overwhelming majority of the two billion people who rely on dryland ecosystems. As a result, their decline has far-reaching implications for our efforts to fight poverty, hunger and disease.

Indeed, significant steps to preserve drylands will help determine whether we will achieve the Millennium Development Goals. One such step is the need to reverse desertification, a process which not only exacerbates poverty but is also partly caused by it. This year's biodiversity commemoration coincides with the International Year of Deserts and Desertification. These two complementary observances illustrate the strong links between environmental issues, and highlight the need for a comprehensive and global approach to address these concerns.

On this International Day for Biological Diversity, let us resolve to do more to protect the biodiversity on which our planet depends. Let us commit ourselves to safeguarding our drylands, and let us work together to achieve the goal of a significant reduction in the rate of biodiversity loss by the year 2010.

Message of Ahmed Djoghlaf, Executive Secretary of the Convention on Biological Diversity,

Protect Biodiversity in Drylands



The logo for this year's International Day for Biological Diversity includes a cactus flower, symbolizing, as the writer and photographer Randall Henderson said, "courage that triumph[s] over appalling obstacles". Too often, discussions of drylands evoke images of barren sands and parched earth, devoid of life. Instead, we need to note Henderson's words: "For those seeking beauty the desert offers nature's rarest artistry."

Drylands are teeming with a spectacular parade of unique and well-adapted biodiversity. From vast grassland habitats where birds abound, to lush Mediterranean landscapes dominated by endemic succulents, drylands are the cradle of much of the richness of our planet. The Cape Floral Kingdom in South Africa for example, covers less than 0.5 per cent of the area of Africa, but accounts for almost 20 per cent of the continent's flora.

The beauty of drylands diversity is also manifested in its importance to the communities who live in these regions. In drylands-dominated Senegal, wild resources and non-timber forest products provide 50 per cent of rural household incomes. In general, the biodiversity of drylands provides critical ecosystem services on which humanity relies for food, shelter, and livelihoods. In fact, drylands biodiversity helps maintain 44 per cent of the world's cultivated land. The biodiversity in these regions also supplies essential products for our health. One third of the plant-based drugs in the United States are derived from drylands biodiversity.

The Parties to the Convention on Biological Diversity recognized the value of drylands when they adopted the programme of work on the biological diversity of dry and sub-humid lands at their fifth meeting. Since then, we have made some progress in protecting this unique biodiversity. In sub-Saharan Africa, for example, there has been a steady increase in the populations of grassland and savannah herbivores within protected areas. Unfortunately, outside the boundaries of protected areas, these positive trends have yet to be achieved, and more than 2,300 known drylands species remain threatened or endangered.

While drylands species have developed a number of unique adaptations to dry conditions, the impact of climate change is emerging as an unprecedented challenge to all life in drylands. For the more than one billion people affected by drought and desertification, adaptation to climate change will be a matter of survival. The speedy implementation of the mutually supportive programmes of work of the Rio conventions—the Convention on Biological Diversity, the Convention to Combat Desertification, and the United Nations Framework Convention on Climate Change, is the solution to addressing the root causes of desertification and alleviating the escalating risks of famine and disease resulting from the failure of dryland ecosystems.

The implementation of the three objectives of the Convention on Biological Diversity is of critical importance to the achievement of the Millennium Development Goal of halving the rate of poverty in the world by 2015. In 2005, at the United Nations Millennium Summit, drylands were identified as an essential factor for the achievement of sustainable development. Eight of the world's ten poorest countries contain a majority of drylands and, as such, actions to conserve and maintain the health of drylands are intimately linked to the achievement of the Millennium Development Goals (MDGs).

It is for this reason that we have a responsibility, through the adoption of the 2010 Biodiversity Target and the Millennium Development Goals to improve the quality of human life and biodiversity in drylands.

It is for the same reason that 2006 was named the International Year of Deserts and Desertification. It is also the reason that this year's theme for the celebration of the International Day for Biological Diversity is "*Protect Biodiversity in Drylands*". And it is for the same reason that 122 Ministers and other Heads of Delegation attending the eighth meeting of the Conference of the Parties in Curitiba, Brazil, demonstrated their solidarity and support to the affected countries and their people by marking the celebration of the International Year of Deserts and Desertification.

The International Day for Biological Diversity provides us with a unique opportunity to renew our commitment as a community of nations bound by a common, long-term, ecological destiny.

"To those who come to the desert with tolerance it gives friendliness; to those who come with courage it gives new strength of character." I invite you all to courageously support concrete actions to conserve and sustainably use the biological diversity of dry and sub-humid lands. Only by acting with courage, conviction and a sense of collective solidarity will we achieve the 2010 target in dry and sub-humid lands and save life on Earth.

Message of Hama Arba Diallo, Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD)



I am very pleased to deliver this message on the occasion of International Biodiversity Day and I do warmly welcome the choice of 'Protection of biodiversity in drylands' as the theme for this year's celebration.

The loss of biodiversity is threatening the ability of dryland ecosystems to support life and livelihoods. In fighting this threat, the CBD and UNCCD are joined in a common effort to preserve our natural ecosystems, which are crucial to sustaining all forms of life, be they plant, animal or human.

Drylands make up 47% of the land surface of the Earth and provide a habitat for major animal and plant species. One of the main causes of biodiversity loss in dry and sub-humid lands is desertification and drought, with tremendous consequences in terms of extinction of species that for millennia have survived harsh climatic and ecological conditions.

In addition to the loss of plant and animal species, dryland degradation affects agricultural productivity, in turn causing people dependent on the land for their livelihood to over-exploit it, thus creating further damage. This vicious spiral can and must be broken. It is essential to remind everyone that in protecting our environment, we preserve the diversity of our natural world as well as help secure the livelihoods of millions.

I greatly appreciate the support that this year's theme for International Biodiversity Day lends to the International Year of Deserts and Desertification. It also underlines the highly important synergy between our Conventions and their respective objectives.

The CBD Programme of Work on the biological diversity of dry and sub-humid lands and the Joint Work Programme with the UNCCD are major steps forward in this regard. They set out to achieve important common goals: to curb desertification sustain biodiversity in drylands and reduce the rate of biodiversity loss by the year 2010. In doing so, they emphasize our interrelated objectives and set the course for greater synergy in the implementation of the Rio Conventions. The UNCCD is fully committed to working towards strengthening the Joint Work Programme, including

increased efforts to achieve the relevant 2010 biodiversity targets.

Indeed, the three Rio Conventions, while each addressing specific environmental concerns, all share a common objective – to achieve sustainable development. In this regard, they play a major role in achieving another set of targets, the Millennium Development Goals (MDGs), which recognize the connection between ecosystem preservation and equitable development. This link is particularly strong in the drylands, with special regard to the first MDG, that of eradicating extreme poverty, where promoting the sustainable use of biodiversity resources plays a key role. Greater synergy among the Rio Conventions can also have a considerable impact, through development of joint activities, particularly at national level.

Protecting biodiversity clearly has significance not only for the environment, but also for human well-being. The activities launched by the CBD during the International Year of Deserts and Desertification represent a strong commitment towards preserving both life and livelihoods in unique and vulnerable drylands of the world. I welcome the fact that our Conventions are firmly on a common path to provide solutions to this important challenge.

Thank you

DESERTIFICATION DEFINED

Desertification is the degradation of land in arid, semi-arid and dry sub-humid areas (often referred to as “drylands”), where the soils are especially fragile, vegetation is sparse and the climate particularly unforgiving. Approximately one fifth of the world’s population lives in drylands and depends on these for their livelihoods. Desertification results mainly from climate variations and from human activities, including inappropriate land use and specific socio-economic and political factors, such as the movement of refugees during periods of conflict.



Desert rock formation, Hoggar, Algeria (*Ministry of Land Planning and the Environment of Algeria*)

The following are the most commonly cited forms of unsustainable land use:

- Overcultivation: exhausts the soil
- Overgrazing: removes the vegetation cover that protects it from erosion
- Deforestation: destroys the

- trees that bind the land to the soil. Wood is the main source of domestic energy for lighting and cooking in many arid areas, and
- Poor irrigation practices: raises salinity, and can dry the rivers that feed large lakes; the Aral Sea and Lake Chad have shrunk dramatically in this way.

Seventy percent of the world’s drylands (excluding hyper-arid deserts), or some 3,600 million hectares, are degraded. While drought is often associated with land degradation, it is a natural phenomenon that occurs when rainfall is significantly below normal recorded levels for a long time. However, the intensification of human activities creates an increased greenhouse effect, contributing to global warming. Because drylands respond quickly to climatic fluctuations, they are thought to be especially vulnerable to rises of temperature during the 21st Century.

By definition, drylands have limited freshwater supplies, and precipitation can vary greatly during the year. Wide fluctuations can also occur over years and decades, frequently leading to drought. Over time, dryland ecology has become attuned to this variability in moisture; plants and animals can respond to it rapidly. For example, satellite imagery has shown that

the vegetation boundary south of the Sahara can move by up to 200 kilometres when a wet year is followed by a dry one, and vice versa.

specific economic conditions or from inappropriate land laws or customs. In many cases, unregulated access to land resources may lead some individuals to maximize their own



Women carrying water, Rajasthan, India (Michael Martin)

Given that the biological and economic resources of drylands, notably soil quality, freshwater supplies, vegetation, and crops, are easily damaged, humans must also adjust to these natural fluctuations. People have learned to protect these resources with age-old strategies such as shifting agriculture and nomadic herding. However, in recent decades these strategies have become less practical due to changing economic and political circumstances, population growth, and a trend towards more settled communities. When land managers cannot or do not respond flexibly to climate variations, desertification is the result. The overuse of land may result from

gains by overexploiting the land at the expense of the community as a whole. Poor people, particularly poor women, often lack access to the best land, depending instead on the most fragile areas and resources. Their poverty may give them little alternative but to extract what they can from the scarce resources available to them, even though this degrades the land.

International economic forces can encourage people to overexploit their land. International trade patterns can lead to the short-term exploitation of local resources for export, leaving little profit at the community level for managing or restoring the land. Similarly, the

development of an economy based on cash crops, or the imposition of taxes, can distort local markets and promote overexploitation of the land.

Ignorance, errors, and natural and man-made disasters can also contribute to land degradation. Ignorance of the natural environment played an important role in the United States during the infamous Dust Bowl of the 1930s; among other errors, during a time of drought Midwestern farmers used ploughs better suited for the more temperate latitudes of Western Europe. In recent decades, similar mistakes in the choice of policies or technologies have led to land degradation in many countries, both developed and developing. Disasters such as wars and national emergencies also destroy productive land by displacing its managers or causing heavy concentrations of migrants to overburden an area. Natural disasters such as floods and droughts can have a similar effect.

The causes of desertification are complex, and the relationship between two variables such as population and desertification is not clear-cut. For example, population decline can result in desertification since there may no longer be enough people to manage the land adequately. Many hillside terraces in Yemen have fallen into disrepair with the exodus of labour to neighbouring oil-rich

countries. Examples can also be cited of areas that support large concentrations of people without much degradation, such as around the city of Kano in Nigeria.



Souk in Assuan, Egypt (Michael Martin)



Syria (Dr. Akram Eissa Darwish)

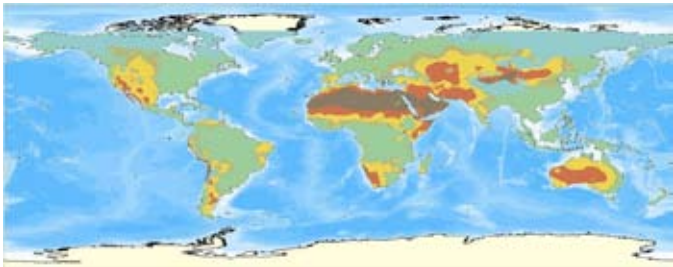
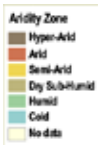


Prickly Pear Cactus, Canada (Erl Svendson)

Facts and Figures

Home to more than two billion people, drylands cover approximately 47% of the Earth's landsurface, with the largest drylands areas to be found in Australia, China, Russia, the United States and Kazakhstan. Encompassing ecosystems as diverse as arid and semi-arid lands, grasslands, savannahs, and Mediterranean landscapes, drylands are found throughout the world and contribute greatly to the global economy.

- There are 6 countries with at least 99% of their area classified as drylands: Botswana, Burkina Faso, Iraq, Kazakhstan, the Republic of Moldova, and Turkmenistan
- Approximately 44% of the world's cultivated systems are found in drylands
- Urban areas account for only 2% of the world's drylands but house approximately 45% of the global drylands population.



Tree at Makgadikgadi Pan, Botswana (*Michael Martin*)

Drylands support a vast array of unique and well-adapted wildlife. For example, in Sub-Saharan Africa, the Serengeti grasslands support an annual migration of approximately 1.3 million blue wildebeest, 200,000 plains zebra and 400,000 Thomson's gazelle; the Mediterranean Basin contains 11,700 plant species that

do not grow naturally anywhere else in the world; and the Succulent Karoo region of South Africa and Namibia, with more than 1,700 leaf-succulents, contains the richest succulent flora on Earth. In addition, several of Earth's best-known and common animals, such as horses, sheep, goats and cows, all originated in drylands



Top: Desert flower and blue lizard, Saudi Arabia (NWRC, Taif, Saudi Arabia); Center: Arabian Oryx, Saudi Arabia (KKWRC, Thumana, Saudi Arabia); Cactus at Pinacate Volcano, Mexico (Michael Martin), Bottom: Desert vulture, Saudi Arabia (NWRC, Taif, Saudi Arabia); Camels in Archi, Ennedi Mountains, Chad (Michael Martin)

Drylands biodiversity is of critical importance to people. Besides providing ecosystem services, such as the provision of food and fodder and the regulation of nutrient and water cycles, drylands biodiversity decreases human vulnerability to famine and disease that may be brought on by the frequent hazards that often characterize drylands areas. Even beyond the borders of dry areas, drylands biodiversity is highly valued and widely used.

Some of our most important food crops, including wheat, barley, and olives, originated in dry and sub-humid lands, with these lands providing genetic sources for one third of the plant-derived drugs available in the United States. But drylands face increasing threats. As the impacts of pollution, overuse, climate change and invasive species menace dry and sub-humid areas, people and biodiversity suffer.

While estimates vary, between six and 12 million square kilometers of dry and sub-humid lands are affected by desertification, thus directly threatening the livelihoods of more than one billion people worldwide. Today, eight of the world's ten poorest countries are located in dry or sub-humid lands. In developing countries, infant mortality in dry and sub-humid lands is twice as high as in all other areas. Animals are equally affected. The IUCN Red List of Threatened Species lists 2,311 threatened species in dry and sub-humid lands including the California Condor, the Black Rhinoceros, and the African Wild Dog, in addition to the 15 known dry and sub humid land species that are either extinct or extinct in the wild, including the Wild Horse, the Arabian Gazelle and the Wyoming Toad. Flora and fauna face the same threat. As an example, the extent of tall grass prairie in North America decreased by 97% between 1830 and 1994.



Algeria (*The Ministry of Land Planning and the Environment of Algeria*)

The Convention on Biological Diversity's (CBD) programme of work on the biological diversity of dry and sub-humid lands is currently working towards achieving the 2010 Biodiversity Target within drylands and the implementation of this programme has already yielded some success.

The Cape Mountain Zebra faced extinction from hunting, reaching a low of seven females in 1950. Although still endangered, the current population is estimated at 1,200. Zambia,

Zimbabwe, and Mozambique have developed a trans-boundary elephant management plan. Since its inception in 2001, the elephant population has increased by 8% in Zimbabwe and Mozambique and an astounding 400% in Zambia. Captive breeding programmes have increased the population of the critically endangered California Condor from 25, in the 1970s, to more than 100 today. Yet despite this encouraging progress, there is much that remains to be done.

Conserving Biodiversity and Reducing Poverty in Drylands

With the adoption of the Millennium Development Goals (MDGs) by the 192 member States of the United Nations a global responsibility to provide for the needs of the poor was acknowledged. Each of the eight MDGs has an important role to play in global development, and all must be addressed if positive results are to be achieved by the 2015 target date.

The role of conservation and sustainable use of natural resources was emphasized through the adoption of MDG 7: Ensuring environmental sustainability. However, biodiversity conservation cannot be considered in isolation. Many basic human requirements, including those in the MDGs, rely on the provision of ecosystem services.

Perhaps nowhere is this more evident than in drylands, where the harsh and fragile nature of the environment is so closely linked to MDG 1: eradicating extreme poverty and hunger.

- 8 of the 10 world's poorest countries are located in drylands
- 90% of the people living in drylands are located in developing countries
- The livelihoods of an estimated 1 billion people are threatened as a result of the degradation of drylands.

The Millennium Ecosystem Assessment identifies a number of services provided by ecosystems including: supporting services (nutrient cycling, soil formation, etc), provisioning services (food, fuel, etc.), regulating services (climate

and flood regulation, etc.), and cultural services (educational, spiritual, etc.). These services are all closely linked to the alleviation of poverty and hunger in drylands, where a large portion of the population relies on biodiversity resources. These biodiversity resources are, however, limited by water shortages, soil quality and the constant threat of drought.

Drylands biodiversity, for example, provides more than 50% of rural households incomes in Sénégal, and in the Middle East and North Africa an area classified as 90% drylands, over 40 million people base their livelihoods on the use of biodiversity resources.

The prevalence of poverty and resource dependence in drylands has resulted in the integration of biodiversity conservation and sustainable use issues within development planning. There are many examples of such integration in Brazil where the Government has implemented a number of local development programs based on biodiversity conservation for income generation and food security. One such example can be found in the poverty-stricken drylands of Northeast Brazil.

Brazil's Northeast contains the single largest concentration of rural poverty in Latin America. Over 17 of the estimated

42 million people living in Northeast Brazil live below the poverty line. The region's life expectancy is seven years less than in Southern Brazil and adult literacy rates are 33% lower.

- The Caatinga region in Northeast Brazil contains up to 4,000 endemic plant species and is one of the most populated semi-arid regions in the world
- 70% of domestic energy in Northeast Brazil is supplied by fuel wood
- There are more than 100,000 square kilometers of protected areas in Brazil's Northeast
- Northeast Brazil is home to some unique species including the Giant Anteater, which can grow to almost two meters in length, and the critically endangered blue-eyed ground dove.



Giant anteater (Michael Chen)

Local women in Brazil's Northeast have been working to conserve threatened medicinal plants, the harvest of which is an important source of income. An association of local women established two medicinal plant nurseries in the Caatinga region and their products are now being sold at local and city markets. In another instance of biodiversity conservation contributing

to poverty alleviation, men in the same region have implemented a charcoal production action plan to ensure the sustainable use of fuel wood. This initiative, which focuses on improving the quality of charcoal production while maintaining local biodiversity, in addition to meeting local demand in a sustainable manner provides a new source of income through the sale of excess production.



Traditional farming in Brazil (Ministry of External Relations, Cultural Department, Brazil)

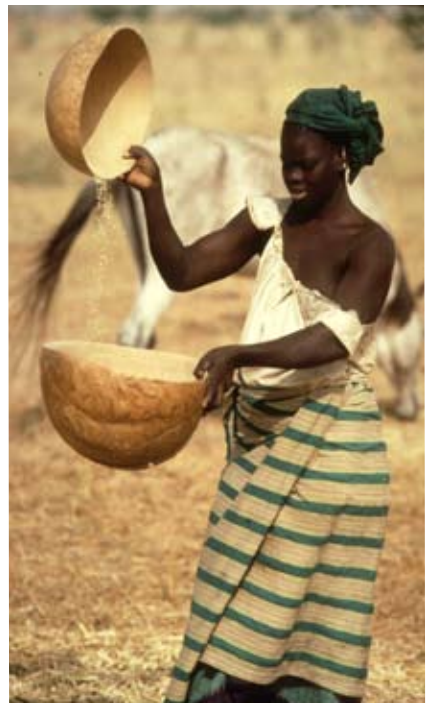
Preserving Traditional Knowledge in Drylands

Drylands are home to some of the most widely recognized indigenous groups in the world. The Masaii, Bedouin and Berbers, amongst others, have been immortalized in many popular books and films. Many indigenous groups in drylands have retained specialized traditional knowledge and a close association with biodiversity resources.

Dryland species, such as lions, figure strongly in traditional cultural practices such as rites of passage. About 70% of the traditionally used wild plants in North Africa have potential economic value. Seeds from the senna plant (*Cassia italica*) have long been used in the Middle East as a laxative, and Milkweed (*Calotropis procera*) has traditionally been used to fill hollow teeth, produce charcoal and heal rheumatism.

Traditional knowledge is widely employed in drylands where water scarcity, poor soil conditions, and frequent drought present unique challenges to local livelihoods. Many dryland management techniques are based on centuries-old traditions. The irrigation of agricultural land in the Sahara, for example, is based on a water collection and distribution process first employed in 800 BC.

Traditional nomadic livelihoods in drylands typically blend herding with hunting and gathering and small-scale agriculture, while more sedentary oasis communities in desert regions have long relied on date and olive crops and the grazing of small livestock. Common property and access regimes are more common in drylands than in any other ecosystem.



Small-scale traditional agriculture, Africa

Traditional knowledge of drylands is, however, coming under threat as government incentives and land laws can act as perverse incentives against their propagation. Furthermore, as populations continue to increase in dryland areas, previously sustainable management practices become unsustainable.

Recognizing the value of traditional knowledge to the conservation and sustainable use of drylands biodiversity a number of Governments are stepping up efforts to preserve this valuable information. Uganda has developed an indigenous knowledge management plan, while Burkina Faso, Malawi, Kenya and Tanzania aim to develop similar plans.

In Shinyanga, one of Tanzania's poorest and driest regions, land degradation resulted in a decline of harvest and income for the Sukuma people who have cultivated the land for centuries. The Shinyanga Soil Conservation Programme, otherwise known as the HASHI project, based its efforts to restore the land on reviving ngitili, natural resource enclosures based on the indigenous land management system. Ngitili was originally developed by the Sukuma people in response to acute animal feed shortages caused by droughts, the loss of grazing land to crops, and declining land productivity.

To restore ngitili, local populations used residual natural seed and root stock, and trees were planted around homesteads. Trees were also planted on field boundaries and farm perimeters, improving soil fertility while providing firewood.

The benefits of ngitili restoration are undeniable. The cash value benefits derived from ngitili in Shinyanga are estimated to be US\$14 per person per month - the average monthly spending per person in rural Tanzania is US\$8.50. Maintaining ngitili has enabled some villagers - mainly through sales of timber and other wood products - to pay school fees, purchase new farm equipment, and hire agricultural labor. The income generated by communal ngitili has been used to build classrooms, village offices, and healthcare centers. In 1986, approximately 600 ha in Shinyanga were under the ngitili land management system, but by the late 1990s, ngitili covered approximately 78,000 ha.



Barley grain heads

Restoring Degraded Drylands

The process of restoring degraded drylands can take many forms depending on the type of degradation. Where vegetation



Khejadi tree, Rajasthan, India

loss causes dust storms and soil erosion, restoration often involves the reseedling of degraded land, the planting of green belts or the establishment of live fences, which simultaneously capture eroding soil and provide enclosures and fodder for livestock.

When poor land management causes a reduction in soil quality, restoration programmes often include a combination of increased fertilization especially with manure, the direct treatment of degraded soil using gypsum and other such products, and changes in cropping systems to allow for longer fallows.

When biodiversity has been degraded as a result of threats including habitat loss and

competition from invasive alien species, restoration can be very complex. In such cases species reintroduction must be combined with actions to address threats such as the eradication of invasive alien species or the establishment of protected areas.

A well-functioning dryland ecosystem supports a broad range of life. In fact, dryland plants and animals play a significant role in supporting livelihoods and reducing the vulnerabilities of dryland populations to hazards such as drought, flood, and famine.

- 44% of global agricultural production takes place in drylands
- In Ghana, Mali, Nigeria and Zambia, the first line of treatment for 60% of children with high fever resulting from malaria is the use of plant-based medicines at home
- The genetic diversity of African cattle, the vast majority of which are grazed in drylands, is higher than anywhere else in the world.



African cattle in a farm enclosure

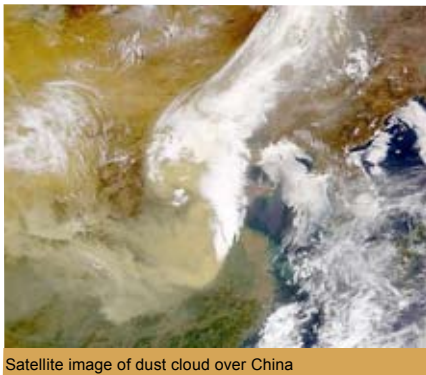
When dryland ecosystems become degraded, however, valuable biodiversity services are lost. As animal species are pushed from their habitat, drylands people lose an important source of protein and income. As native plants are over-harvested or displaced by non-native species soil is exposed and is blown or washed away. Overall vulnerabilities increase as people and biodiversity alike are subjected to increasingly harsh conditions.

A recent drought in East Africa affected an estimated 15 million people and it is expected that northeastern Kenya will take 15 years to recover from the effects. In fact, it is estimated that annual economic losses as a result of the degradation of drylands worldwide are US\$ 42 billion.

Degraded drylands also present a number of ongoing threats. Bare soils can cause devastating dust storms with effects crossing international borders. In 2002, for example, a dust storm originating in China's arid northern region

affected more than 100 million people in China and caused the closing of schools and airports in South Korea. Chinese dust storms have even crossed oceans. In April 2001 NASA tracked a dust cloud across the Pacific, which reached 2000 km in length, and as recently as April 2006, more than 300,000 tons of sand fell on Beijing.

China, with more than 38% of its total land mass classified as drylands, and more than half of that affected by degradation and desertification, has initiated extensive restoration programmes to reseed degraded areas and create green belts. To answer any concerns that dust storms originating in the arid north could disrupt the 2008 Beijing Olympics, China has dedicated US\$6.8 billion for the restoration of degraded areas. The China Loess Plateau project funded by the World Bank (1993-2001) restored over 3,000 square km of degraded drylands and, as a result, more than halved the poverty rate in the project area.



Satellite image of dust cloud over China

Restoration in drylands can be very complex, as few species have developed the adaptations required to thrive in water-scarce, drought prone areas. Hence restoration programmes in drylands often rely on local species. In India, for example, a number of GEF-supported projects in Rajasthan emphasize the local preservation of native species of plants, including medicinal and sacred plants.

- Approximately 130 million ha of drylands in India are degraded
- The Government of India has treated 30 million ha of degraded drylands
- In the arid regions of Rajasthan accounts for 10% of India's total land area but only 1% of India's water resources.

Restoration efforts in Rajasthan center on native species of cultural and economic importance such as those found in 'orans' - sacred groves typically comprised of 'khejadi' trees (*Prosopis cineraria*), which have high value as suppliers of fodder, fuel, fruit, and the stabilization of sand dunes.

The effects of desertification are not only felt by those directly affected. As a consequence of desertification, not only are the marginalized people living in drylands hit the hardest with the

aggravation of poverty, worsening of health and a lack of food security, but as they are forced to seek other means of livelihood, conflicts and mass migration spill over to urban centers and abroad. According to the United Nations Convention to Combat Desertification (UNCCD), 135 million – the equivalent to the population of Germany and France combined - are at risk of being displaced as a consequence of desertification. Some 60 million people are expected to eventually move from the desertified areas in Sub-Saharan Africa towards northern Africa and Europe from 1997 to 2020. Long-term studies on West Africa project a constant migratory flow from Sahelian regions to coastal cities, whose population is expected to grow 3.5 times the numbers in 1997 to 271 million in 2020.

Desertification is also closely linked with the theme for next year's International Day for Biological Diversity 2007 - climate change. Land may be further degraded and eroded due to severe droughts and flooding from climate change. According to a synthesis report published in 2001 by the Intergovernmental Panel on Climate Change, "Meeting the needs for increased agricultural production has the potential to increase global rates of biodiversity loss, climate change, and desertification."

Desertification is a wide-ranging problem as it has both natural and human dimensions.

It generates environmental degradation and the depletion of natural resources that leads to

global poverty and hunger. To combat desertification is to contribute to the eradication of poverty, and everyone one of us can get involved at our own level to combat desertification.



Piali Village, West Bengal, India (*Kushal Gangopadhyay*)

The CBD Secretariat Celebrates International Day for Biological Diversity

The celebration of International Day for Biological Diversity (IBD) 2006 by the Secretariat consisted of various activities that reflected the beginning of the new phase of enhanced implementation of the Convention on Biological Diversity (CBD).

On 9 January, CBD Executive Secretary Mr. Ahmed Djoghlaif sent a notification to all Parties inviting them to begin preparations to celebrate the Day under the theme of *Protect Biodiversity in Drylands*, echoing the focus of the International Year of Deserts and Desertification. The official logo for IBD 2006 was made available at the same time on the IBD page of the CBD Website (<http://www.biodiv.org/programmes/outreach/awareness/biodiv-day-2006.shtml>) for all celebrants to download, along with a number of suggested activities. Additional materials, including fact sheets on the biodiversity of drylands, were posted subsequently.

Later, Parties whose countries encompass desert areas were invited to provide pictures for posting on the Secretariat's Website "to highlight the beauty of these barren lands and reveal the wonders they conceal." The beautiful photographs are available

on the Website for all to enjoy. All Parties were encouraged to submit reports and photographs of activities organized for IBD. By mid-July the Secretariat was delighted to have received over 30 extensive and informative reports, many with photographs, from Parties around the world, and all are posted on the IBD Celebrations page at: <http://www.biodiv.org/programmes/outreach/awareness/biodiv-day-2006-ctrs.shtml>.

In addition to the School outreach programme for the Montreal area which has been a successful and enjoyable experience for Secretariat staff and local students for several years (see separate report), this year's activities included an event-filled day hosted at the Secretariat on 23 May, as 22 May was a national holiday in Canada.



Meerkats in the Kalahari Desert

Dedication of the Joke Waller-Hunter Conference Room

The morning started with a solemn and touching ceremony. In the presence of members of the diplomatic corps, representatives of the City of Montreal, the Government of Québec, international organizations, universities and research centres, the staff of the Secretariat, and members of the press, as the Secretariat's large conference room was dedicated as the Joke Waller-Hunter Conference Room in memory of the late and beloved Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC). The Executive Secretary, Mr. Ahmed

Djoghlaf, introduced Mrs. Betske Goinga, who represented the family of Mrs. Waller-Hunter and gave a personal tribute: "My friend Joke, a remarkable person and professional." The Consul General, Mr. Albert Moses, then spoke on behalf of the Netherlands, thanking the Executive Secretary for his thoughtful gesture, and a message from Mr. Richard Kinley, Officer-in-Charge, UNFCCC, was also read. A portrait photograph of Mrs. Waller-Hunter and a plaque at the entrance to the conference room were unveiled.



Dedication of the Joke Waller-Hunter Conference Room of the Secretariat. Mr. Ahmed Djoghlaf, Ms. Betske Goinga and Mr. Albert Moses, Consul General of the Netherlands, stand next to the portrait of Mrs. Waller-Hunter.

Celebration of IBD and Announcements

The dedication ceremony was followed by celebration of the IBD, opening with welcoming remarks by the Executive Secretary. The animation “Action NOW for Life on Earth” was then shown, followed by a reading of the message from the Secretary-General of the UN and a reading of the Executive Secretary’s Message on the occasion of the International Day for Biological Diversity.

Mrs. Helen Fotopulos, a Member of the Executive Committee of the City of Montreal spoke on behalf of the Mayor of Montreal, Mr. Gérald Tremblay, and announced the formation of a joint City of Montreal- SCBD Committee on Biodiversity. The committee will facilitate the meshing of efforts of Montreal’s institutions and organisms while at the same time helping the City Administration to clarify its own actions in this field.

Following the special video statement delivered by Hama Arba Diallo, Executive Secretary of the United Nations Convention to Combat Desertification, His Excellency Smail Benamara, Ambassador of the People’s Democratic Republic of Algeria, underlined Algeria’s role and activities as host country for the principal celebrations of World Environment Day 2006, under the theme, *Deserts*

and Desertification: Don’t Desert Drylands!

The Secretary General of the International Civil Aviation Organization (ICAO), Mr. Taïb Chérif, spoke on behalf of the United Nations and international organizations in Montreal and emphasized the concrete steps taken by ICAO to protect the environment by reducing the ecological footprint of aircraft and airports throughout the world.

Representing the Government of Québec, Mr. Patrick Beauchesne spoke on “the role of the Government of Québec and its partners in the NGO community in the implementation of the Convention on Biological Diversity” and presented the recently published Biodiversity Atlas of Quebec.

Also on behalf of the Québec Government, Mr. Beauchesne made the official presentation to the Secretariat of the sculpture *Planète Captive*, the contribution of the Government of Québec to the CBD Museum of Nature and Culture.

Mrs. Jocelyne Néron of the Institut Hydro Québec en environnement, développement et société, launched the new Biodiversity portal and data base on the environmental conventions developed by the Institut.

Other interventions and remarks were made by Mr. El Habib Benesahraoui, Executive Director, Institut de l'Énergie et de l'Environnement de la Francophonie; Mr. Marc G. Fortier, President of Montreal International; Mr. John Herity, Director, IUCN Canada, who spoke on "The role of non Governmental organi-

zations in the achievement of the 2010 Biodiversity Target"; and the President of the Secretariat Staff Association, Mr. Ryan Hill.

Following a short press conference, a luncheon co-hosted by the Ministry of International Relations of Québec was held at the Secretariat.

Roundtable discussion on collaboration between SCBD and Universities and Research Centres

At the Executive Secretary's invitation, representatives of Concordia University, McGill University, the Université de Montréal and the Université du Québec à Montréal, Université Laval in Québec City and Carleton University in Ottawa met for a roundtable discussion on Collaboration between SCBD and Universities and Research Centres. The meeting was the first of its kind.

Noting that universities and research institutions are essential partners in meeting the 2010 Biodiversity Target, as they have both the expert knowledge

and technical capacity to develop and promote effective actions for the conservation and sustainable use of biodiversity, Mr. Ahmed Djoghlaif hailed the outcome of the meeting – signature of an agreement with the Secretariat to join forces in order to mobilize the scientific and technical community of the host country in support to the enhanced implementation phase of Convention. Several other major Canadian institutions have since expressed interest in joining in this unique partnership.



Representatives of major universities and research institutes gather in the Joke Hunter-Waller Conference Room to sign Letter of Intent on scientific collaboration.



Mr. Ahmed Djoghlaif with Mr. Gilles Vincent, Director of the Montréal Botanical Garden

Agreement was also reached with the representative of Montreal Nature Museums, comprising the Botanical Gardens, the Biodôme, the Insectarium, and the Montreal Planetarium, to join forces to support the implementation of the Secretariat's outreach and communication activities.

School Report: International Day for Biological Diversity 2006

In honor of this year's International Day for Biological Diversity (IBD), the Secretariat of the Convention on Biological Diversity (SCBD) continued to build on the success of its school outreach program by contacting several Montreal Area schools and offering them a biodiversity-related presentation, focusing on this year's theme of *Protecting Biodiversity in Drylands*.

There were no set guidelines to follow when choosing a school, but key factors were:

- Availability and interest
- Environmental concerns
- Overall academic profile which encourages students to play an interactive role with the educators
- Schools already involved in greening projects.

Presentations were made to the following three schools in the Montreal, Canada area:

- Moving in New Directions (M.I.N.D.)
- Royal Vale Academy
- Roslyn Elementary School

Presentations were made in both English and French to approximately 200 students ranging between the ages of 11 and 16. A short video introduced the students to the "Myriad forms of Life on Earth known as Biodiversity." Staff members then began their lectures by giving a brief introduction on answering the "5 W's":

- What is biodiversity?
- Why it is important to preserve it?
- Who benefits from ecosystem services?
- Where can biodiversity be found?

- What can we do to live sustainably?

Staff members engaged students in a lively question and answer period, provoking their curiosity on the importance of preserving biodiversity. Students were quite familiar with the environmental threats facing our world today, and were very keen to understand what the CBD is doing to help solve the environmental problems we all face.

A PowerPoint presentation highlighting dryland life was another very successful tool used to introduce students to drylands around the world. Pictures of plants and animals endemic to these mysterious lands sparked vivid tales of how they survive on very little water, and how these species adapt to a climate that is often unforgiving. Dryland species also served as teaching tools to describe the complex interactions between different forms of life on Earth. Fact Sheets prepared by the Secretariat were given to the teachers to use as teaching material.

The Secretariat recognizes the importance of promoting increased awareness of the value of biodiversity, and the impact of its loss on our everyday lives. We hope that the active participation of enlightened educators worldwide will enable us to reach our goal of spreading biodiversity messages that not only contribute to public knowledge, but

also encourage and promote the personal involvement of students and, through them, of the wider community at large to explore, celebrate and protect our planet's amazing web of life.

Taking this opportunity, the Secretariat would like to thank all the teachers for their assistance and collaboration and for allowing us this opportunity to disseminate the message about the diversity of life and its importance in maintaining the life support systems on earth.

As the Secretariat continues to promote biodiversity education and awareness as part of the school curriculum, the extremely positive feedback we have received is an encouraging indication that we are moving in the right direction.

International Day for Biological Diversity: Celebrations

The International Day for Biological Diversity can be celebrated in a variety of imaginative, inspired and informative ways. The following are a selection of how some countries around the world commemorated the 2006 theme Protect Biodiversity in Drylands.

Algeria

Host country for World Environment Day 2006, Algeria presented activities for the International Day for Biological Diversity that included a *Biosafety and Desertification* study day, organized by the Ministry for Regional Planning and the Environment; guided tours of the Réghaia Game Park and the Djel-fa Game Reserve, and for children and adolescents, guided tours of the Chréa National Park and the biological station situated in the El –Frine commune of Ain–Assel. Many people also participated in a clean-up of the Lake Tonga and Sénalba recreational forests. The provinces of Bouira, Batna and M’sila staged environmental exhibits. The heads of Algeria’s Agricultural Services, Forest Conservation, the Direction of the Environment, the Direction of Mines and Industries, the Direction of Tourism, Office of the Ahaggar National Park and the National Institute of Forest Research participated in a round-table with various associations and local radio; a marathon was run; posters and brochures created; educational

material was distributed in schools and colleges; students participated in biodiversity-related quizzes and drawing contests; and articles on biodiversity were published in local media.

Argentina

Argentina released a brochure explaining what the Convention on Biological Diversity does to help combat desertification, and provided an overview of the issues surrounding desertification and conservation of soil in Argentina. The brochure also outlined the country’s National Strategy Action Plan against desertification, with its focus on introducing provincial, interprovincial and regional programs of action, organizing a national network with information on the fight against desertification, creating educational materials, and raising public awareness of issues comprising environmental protection.

Austria



To raise public awareness of the threats facing drylands, Austria linked the global theme of protecting biodiversity in drylands to its own dry area grassland vegetation, the Pannonian Plain. Featuring the music, products and wine native to the Pannonian region, the Botanical Garden of the University of Vienna (HBV) hosted several events especially geared towards the International Day for Biological Diversity. These activities, sponsored by the Ministry of Agriculture, Forestry, Environment and Water Management, and by the University of Vienna, Natural Heritage-Initiative of the Faculty of Life Sciences, included the dissemination of information about the Pannonian dry area grasslands, a display of Pannonian plants, and carriage rides for children through the garden area. Visitors were provided with information on ex-situ activities to protect dry area plant species of the HBV, and how to create natural ponds and meadows in private yards. Information was disseminated through various

means; information kiosks, posters and information sheets, a special program for kids (developed and managed by HBV's "Green School") and a guided tour by a scientist from the Faculty Center of Botany of the University of Vienna.

Barbados

To celebrate the International Day for Biological Diversity, the Ministry of Energy and the Environment dedicated the entire week of 22 to 26 May to promoting the value of biological diversity to primary level school children in Barbados. Given this year's focus on drylands, the students were given a tour of the Soil Conservation Unit (SCU) based in the Scotland District, on the northeastern edge of the island. The SCU primarily focuses on preventing and, in some cases, reversing the effects of soil and land degradation. The visit gave the children first-hand experience of many of the issues typical to this region of Barbados, which are not necessarily common in other parts of the country. Students were particularly impressed to learn that the methods used by the SCU produced varieties of trees that produce fruit at an earlier stage in their life cycle, and grow to a more manageable size and produce a more reliable crop. The children also visited a hothouse and made a field visit.



Belgian fact sheet fan on invasive species

Belgium

Week-long Biodiversity activities in Belgium included visits to nature reserves and the botanic garden, and the launch at the Museum of Natural Sciences of the Biodiversity campaign. The Belgian National Focal Point launched a press release in French and Dutch elaborating on the theme put forward by the CBD Secretariat and enumerating the different biodiversity-related mutually supportive activities undertaken by various organizations in Belgium around 22 May. In the margin of the International Biodiversity Day, the National Focal Point launched its Website at <http://www.naturalsciences.be/biodiv>. Furthermore, the National Focal Point, together with the Federal Public Service for Health, Food Chain Security and Environment, organized a press conference on 22 May in the Royal Belgian Institute of Natural Sciences. A fan, each of whose panels is a fact sheet on invasive species, a Website and an interactive Internet game on biodiversity in the backyard

as well as some post cards were presented to the journalists and launched for the general public.

Brazil

Host country of the eighth meeting of the Conferences to the Parties (COP 8) to the Convention on Biological Diversity (CBD) and the third Meeting of the Parties to the Cartagena Protocol on Biosafety (MOP 3), held March 2006 in Curitiba, Brazil's Ministry of Development, Industry and Commerce marked the International Day for Biological Diversity by releasing a *Non-Exhaustive List of Names Associated with the Customary Use of Biodiversity in Brazil*. The list will be sent to patent offices worldwide to help prevent patents and trademarks being granted that involve the unlawful use of names of components of Brazilian biodiversity. Additional activities included a Memorandum of Understanding on Brazilian participation in the Global Invasive Species Programme (GISP);

a public opinion survey, *What Brazilians think about Biodiversity*, prepared and released by the Ministry of the Environment; acts establishing two new Extractive Reserves in the Brazilian Amazon; launch of the *Brazilian Initiative for Zero Extinctions*, and ratification of the *Agreement on the Conservation of Albatrosses and Petrels* under the Convention on Migratory Species (CMS). Brazil announced its priorities for the presidency of the COP to the Convention during the intersessional period to COP 9, and the Secretariat of Biodiversity and Forests and the Ministry of the Environment released a booklet summarizing COP 8 and MOP 3 results. A series of publications were also issued, including the *Third National Report to the Convention on Biological Diversity; Guidelines and Priorities for the Action Plan for the Implementation of the National Biodiversity Policy*; and a *Governmental Initiative on Biodiversity, Food and Nutrition*.

Cameroon

The International Day for Biological Diversity spawned a week of activities throughout Cameroon's 10 provinces. Chaired by the Governor or a representative, and running from 16 to 22 May, these events included a one-day workshop launched by the Minister of the Environment and Nature Protection that saw papers delivered on the theme of protecting drylands

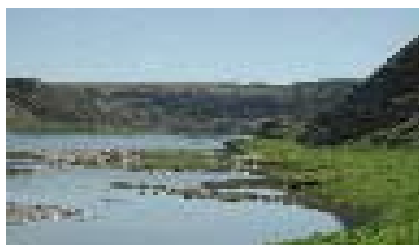


Celebrations in Cameroon, 2006

biodiversity. Several activities especially geared towards children included a biodiversity quiz, and the staging of a play titled, *Let us prevent the Marriage between the Sahara and Kalahari*. An awards ceremony was held afterwards for the children who took part. More than 100 delegates participated in a round-table discussion on outreach in Yaoundé. Several biodiversity-related broadcasts aired on national radio and television. Sponsors of the weeklong activities included the Center for International Forestry Research (CIFOR), African Policy and Research Networking (APREN), the United Nations Development Program (UNDP), and the Government of Cameroon.

Canada

Canada's drylands are home to some of the country's most unique biodiversity, and are vital for its cropland, rangeland, orchards, and vineyards. These ecozones provide critical breeding, staging, and nesting habitat for more than half of North America's migratory waterfowl.



South Saskatchewan River, Canada (Bill Bristol)

To mark International Biological Diversity Day in Canada, the host nation of the Secretariat of the Convention on Biological Diversity, the Government of Canada presented an exhibit on biodiversity and drylands on 17 May in the lobby of the headquarters of the Canadian International Development Agency (CIDA) in Ottawa, and on 18-19 May in the lobby of the headquarters of Environment Canada. The government also created a Biodiversity page on the Canadian Biodiversity Information Network Website at <http://www.cbin.ec.gc.ca/>.

China

On the occasion of the International Day for Biological Diversity, China staged a ceremony in the Great People's Hall of Beijing to launch the China-European Union (EU) biodiversity project and the China Biodiversity Partnerships Framework Project. The China-EU biodiversity project is the biggest ever project in the field of biodiversity between China, EU and the United Nations Development Program (UNDP). Headed by the State Environmental Protection Agency

(SEPA), the project is designed to strengthen China's capacity to implement the CBD. Participants included representatives from the World Bank, Food and Agriculture Organization of the United Nations (FAO), UNDP; embassies, including those of the United Kingdom, France, Finland and Norway; non-governmental organizations (NGOs); the private sector; and member departments of the National Coordinating Committee for Implementing the CBD. A media seminar, organized by the Biodiversity Conservation office of SEPA and the China Forum of Environmental Journalists, heard experts present papers to members of the Beijing media corps on the theme of protecting drylands biodiversity. SEPA also held a *2006 Ecological Films Week for University Students* and helped launch Beijing Forestry University's environmental Website "Green Space." Other activities included the first digital photography competition on the conservation and utilization of biodiversity; a workshop on High and New Technology for Biodiversity Conservation; five television programs on biodiversity conservation; and posting of biodiversity-related information on the SEPA and the China Biodiversity Exchange Websites.

Colombia

Various activities geared towards sensitizing participants to Colom-

bia's natural heritage were organized to celebrate the International Day for Biological Diversity. These included lectures on traditional knowledge, educational videos and games for adolescents, and a workshop on Strategic Mountain Ecosystems Biodiversity. Most of the activities emphasized the crucial role of ethnic groups in the conservation of biodiversity, and the importance of preserving the knowledge inherent to ethnic groups and local communities regarding the conservation and sustainable use of biodiversity.

Democratic Republic of the Congo

The Democratic Republic of the Congo's Ministry of Environment, Conservation, of Nature, Weather and Forests, commemorated the International Day for Biological Diversity by promoting nature conservation through rallies staged in Kinshasa, and in some of the country's provinces. In a television and radio broadcast to the nation, the Environment Minister explained the state of biological diversity in the country and suggested that it is the responsibility of every citizen to participate in conservation efforts and its ongoing management. A workshop organized by the Associates for Economic Development (AfED) in Goma, included presentations on ecological cohabitation of the natural resources of Lake Kivu, the structural interdependence

between all living things on Earth, the influence of climatic diversity on medicinal plants and food, and the management of ecosystems for the improvement of health.

European Commission

The European Commission (EC) marked the Day by adopting a Communication on *Halting the Loss of Biodiversity by 2010 - and Beyond: Sustaining Ecosystem Services for Human Well-Being*. The Communication sets out an ambitious policy approach to halt biodiversity loss by 2010. Specifically, it provides an EU Action Plan which proposes concrete measures and outlines the responsibilities of EU institutions and Member States. It specifies indicators to monitor progress, a timetable for evaluations, and spells out what needs to be done to halt biodiversity loss in the EU and to meet international commitments to reduce biodiversity loss worldwide. It also creates an advisory mechanism to help decision-makers make better use of existing knowledge. Four key policy areas are identified: biodiversity in the EU, the EU and global biodiversity, biodiversity and climate change, and the knowledge base. Ten priority objectives are proposed in relation to these areas: addressing most important habitats and species; actions in the wider countryside and marine environment; making regional development more compatible with

nature; reducing impacts of invasive alien species; effective international governance; support to biodiversity in international development; reducing negative impacts of international trade; adaptation to climate change; and strengthening the knowledge base.

France

France celebrated International Day for Biological Diversity with a host of activities held throughout the country. In Paris, the Ministry of Ecology and Sustainable Development (MEDD) held an exhibit to promote the French Strategy for Biodiversity, which has as its aims to reduce biodiversity loss in France and its territories, and to meet the 2010 Biodiversity Target. The Ministry also screened seven film documentaries about

biodiversity which were open to the general public, released a biodiversity brochure, and issued a series of posters

detailing the national biodiversity strategy. Various associations for the protection of nature and the environment, grouped together under the name of France Nature Environment (FNE), organized nature walks and pro-environment

demonstrations. The Museum of Natural History in Paris offered a one day free admission to its exhibit titled "Dragons", while its counterpart in Nice organized a visit to an ornithological reserve and presented its botanical collection which is usually inaccessible to the public. The Institut de Recherche pour le Développement (IRD) and the Centre de Recherche en Droit Publique (CRDP) d'Amiens held a seminar on biodiversity and sustainable development which included a videoconference featuring the participation of young people from the cities of Yaoundé in Cameroon, Brasilia in Brazil, and the French cities of Vaujours and Amiens.

Germany

Links to the International Day for Biological Diversity were posted on the Websites of the German Federal Ministry for the Environment, Nature Protection and Nuclear Safety and the German Clearing-House Mechanism. Diversitas Germany, in cooperation with the Secretariats of the United Nations Convention to Combat Desertification (UNCCD) and the Convention on Migratory Species (CMS) staged a one-day press conference in Bonn featuring representatives of ministries, administration and research whose work targets biodiversity



and land use in drylands. In addition to celebrations in Germany, the German Technical Cooperation (GTZ), in cooperation with GEO magazine and the Government of Honduras, held workshops for journalists and field excursions in Honduras.

Guatemala

The National Council of Protected Areas (CONAP) prepared a full week of activities in Guatemala focused on education, culture and science. Non-Governmental Organizations (NGOs) such as Defenders of Nature (FDN), the Association of Rescue and Conservation of Nature (ARCAS), the Aurora Zoo in Guatemala City and the Natural History Museum were active participants. Educational activities directed towards students conveyed the importance of preserving and conserving natural resources and biodiversity through storytelling and promotional material, including a children's book describing the country's biodiversity. Cultural activities included a spiritual ceremony drawing from the Mayan, Garifuna and Xinca cultures. A crafts market was organized, with products derived from the sustainable use of the country's flora and fauna. Conferences and forums were held on topics such as the impact international agreements, commerce and increased globalization have on biodiversity. Another important

theme highlighted the traditional knowledge of Guatemala's indigenous communities and the critical role that knowledge plays in biodiversity conservation.

Guinea-Bissau

The General Direction of Environment, in collaboration with the Biodiversity and Protected Areas Institute (IBAP), NGOs and local communities planned various outreach activities focused on ways to stop desertification. For example, a workshop was held to educate delegates about the country's drylands; members of the National Biodiversity Committee participated in radio talk shows to enlighten people about biodiversity and encourage public debate. Specifically, this debate aims to foster actions to reduce the rate of biodiversity loss in dry and sub-humid lands and to stop desertification in some parts of eastern and northern Guinea-Bissau. An excursion to the Farim Region, one of the drylands in northern Guinea-Bissau, was organized with the aim to witness *in situ* the biodiversity loss and the increase of desertification there. In addition, an article on the International Day for Biological Diversity was published in a local newspaper.

Honduras

Sponsored by the Deutsche Gesellschaft für Technische Zusammen-

arbeit (GTZ) and GEO, some 200 people interested in the conservation of nature—including students, teachers, indigenous people, politicians and the media—participated in International Day for Biological Diversity celebrations in the Río Plátano Biosphere Reserve (BRP). A United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site, the reserve, is situated in one of the few remaining tropical rainforests in Central America and features an abundant and varied plant and wildlife. Forty journalists from Europe, Brazil and Honduras attended a workshop, organized as a media outreach programme, and exchanged experiences on how to best communicate important information on environmental matters.

Hungary

Linking the themes of International Year of Deserts and Desertification with International Biodiversity Day, Hungary held its celebrations in one of the country's driest regions, the Kiskunság National Park in Bugac. On 22 May, the Minister of Environment and Water inaugurated a new nature trail in the National Park. The launch was followed by a guided tour given by the park's director and a forest ranger. The trail features 34 information boards detailing the local flora, and includes various artificial nest-boxes that provide shelter and nesting sites. One month prior to International

Day for Biological Diversity, students interested in biodiversity conservation and journalism were invited to write a short essay about the importance of biological diversity and the role mass media plays in raising environmental awareness. The students then participated in interactive workshops led by professional journalists, where they were given tips on how best to write articles and reports on biodiversity. Divided into small groups of five or six, the students were then told to write an article about Biodiversity Day. These articles were reviewed by the journalists, who then offered advice on how they could be improved. A selection of the best articles was published in Hungarian newspapers.

India



India's Arid Forest Research Institute, an organization of the Indian Council for Forestry Research & Education, planned various activities on the occasion of the International Day for Biological Diversity. Institutions such as the National Museum for Natural History in New Delhi; the Bombay Natural

History Society in Mumbai; the Centre for Environment Education in Ahmedabad; and the CPR Environmental Education Centre in Chennai organized drawing and/or painting competitions for school children, in addition to holding seminars, symposia, and exhibitions. Gujarat Science City, which blends education with entertainment, organized several activities. Some 150 secondary school students from Gujarat and other parts of the country participated in a range of activities, which included a poster exhibition on drylands, various competitions, hands-on activities, interaction with scientists and the screening of biodiversity-related films.

Iran

On the occasion of the International Day for Biological Diversity, Iran's Vice President and Head of the Department of Environment, Dr. Fatemeh Vaez-Javadi, delivered an address on the importance of biodiversity at the opening ceremony of the country-wide Biodiversity Festival. Biodiversity Festivals were staged in 30 provinces. The range of activities included free admission to Iran's Natural History museums and to the Biodiversity Museum of Tehran. There were television and radio broadcasts in Tehran, and on national radio stations on biodiversity-related issues; brochures and banners were printed and distributed

throughout the country; the second national digital photography festival of nature was held; and, there was wide dissemination of information to authorities and familiarizing them with the importance of biodiversity and its challenges.

Ireland

Events highlighting a variety of biodiversity issues affecting Ireland were held across the country in honour of the International Day for Biological Diversity. In Dublin guided walks included a tour of North Bull Island, a popular Nature Reserve and Bird Sanctuary in Dublin Bay. Other activities on and around 22 May included a number of talks and guided walks by experts on birds, bats, seals and on Irish wildlife in general. Many events aimed to increase the environmental awareness of school children. Hence a walk and talk at Mount Temple Clontarf Secondary School, with Mary Tubridy and Bat Conservation Ireland, taught children about the wildlife that exists on their school grounds. In Ballyfermot, primary school students took part in a scavenger hunt, as part of the EU-funded community initiative URBAN II.

Jamaica

In celebration of the International Day for Biological Diversity, the Natural History Division of the Institute of Jamaica, the Focal Point for

Jamaica's Clearing House Mechanism (CHM), organized a Biodiversity Symposium in Kingston comprising six oral presentations and approximately 50 poster presentations on all aspects of biodiversity conservation in Jamaica. More than 100 people attended the event, which was broadcast live on radio.

Nepal

Many of the activities commemorating International Biological Diversity in Nepal were specifically geared towards school-age children. Courses and presentations were given on biodiversity, there was a biodiversity poster contest open to schools at Balkot Bhaktapur, and tree planting programs were carried out at school compounds throughout the country.

Oman

Oman prepared a range of activities in honour of the International Day for Biological Diversity. The Ministry of Heritage and Agriculture staged a biodiversity exhibit, produced and distributed publications on biodiversity and gave several interviews to local radio and television outlets. In addition, an awareness campaign with field visits was conducted in various regions throughout the Sultanate; lectures were given on the importance of biodiversity; and articles on the International Day for Biological Diversity were published in local newspapers.

Peru

Commemorating the International Day for Biological Diversity in Peru, participants attending conferences on environmental protection, sponsored by the country's National Environmental Council (CONAM), listened to presentations on local experiences and actions taken to reduce biodiversity loss. Topics discussed included the biodiversity of coastal cultures and the importance of protecting biodiversity in arid zones. Exhibits showcased a variety of biodiversity products, particularly the country's flora and fauna. There was also a guided tour of the botanical gardens in Lima.

DarwinNet Peru and Ecuador

Through its partner institutions, the DarwinNet Peru – Ecuador Dry Forest Ecoregion-based Clearing House Mechanism (CHM) conducted various activities in celebration of the International Day for Biological Diversity. In Peru, DarwinNet produced a poster highlighting the perils of forests lost, using the dry forests of north-west Peru as a case in point. Designed and produced by partner organization Nature & Culture International, the poster was sponsored by the British Embassy in Lima. Some 2000 posters were printed and distributed throughout the region and to the CBD National Focal Points in Quito and Lima. An additional poster, highlighting the



Children at Colegio del Norte school, Sullana, Peru, with IBD worksheets

diversity of arid zones in terms of biological and cultural diversity, was designed for use in public displays.

Presentations were given at the University of Peru and at the Regional Government of Tumbes on local experiences in the protection and conservation of biodiversity in arid zones. In Ecuador, 120 environmental students attended each of two presentations given at the National University of Loja, and in Macará y Zapotillo. Topics addressed included Birds of the Dry Forests, Ethnobotany of Dry Forests, and Community Development Experiences in Dry Forests.

Philippines

To the accompaniment of an awareness-raising media blitz, celebrations in the Philippines focused on the theme of restoring biodiversity in degraded lands. To that end, an Alliance Biodiversity Monitoring Protocol was launched,

a Certificate of Appreciation was awarded to major partners in biodiversity conservation, and a free admission was offered to the Ninoy Aquino Parks and Wildlife Center. Additional activities included a trade fair/exhibit on biodiversity, a photo and diorama exhibit, a poster-making contest, a forum on Restoring Biodiversity in Degraded Habitats: Combating Desertification, Land Degradation, Drought and Poverty, and a Biodiversity Conservation Camp for children.

Saint Lucia

In Saint Lucia, articles published in the island's *Voice* newspaper highlighted biodiversity-related issues for two consecutive weeks. One article, authored by a forest officer, addressed the critical issue of saving drylands for sustainable development. Another, by the Fisheries Department, drew attention to the conservation of sea turtles. A biodiversity quiz, focusing on the biodi-

versity of dry forests, was featured in the weekly youth-oriented magazine *YO!*. Two television programs addressing the drylands theme were broadcast, and included interviews with the country's Biodiversity Coordinator and Chief Forest Officer. A couple of radio programs also ran interviews on biodiversity-related issues. Three public service announcements focusing on the protection of species found in dry forests and its related areas--specifically the Saint Lucia iguana, the leather back turtle and the white breasted thrasher--aired on national television. Several lectures were given to schoolchildren, and a tree planting ceremony was carried out at one of the rural schools.

Singapore

In honour of the International day for Biological Diversity, the National Parks Board (NParks) announced the establishment of the National Biodiversity Reference Centre (NBRC), which will serve as Singapore's one-stop centre for biodiversity-related information and activities. A major function of the NBRC is to manage all available information and data on biodiversity in Singapore, and to maximize the usefulness of such information and data by linking them in a single meta-database. By streamlining biodiversity information it will allow for knowledge gaps to be better identified and addressed. In addition, a roving exhibition showcasing

Singapore's rich biological diversity was launched on 22 May, travelling throughout the country.

Sri Lanka

Celebrations in Sri Lanka focused mainly on increasing the environmental awareness of school children. Some 250 children island-wide, from Grades 1 through 12, participated in various activities held at the C. W. W. Kannangara Maha Vidyalaya school in Colombo and organized by the Biodiversity Secretariat, Ministry of Environment of Sri Lanka and the Colombo Children's Book Society of the United Nations Educational Scientific and Cultural Organisation (UNESCO). Activities included a presentation on Drylands Biodiversity Conservation and a quiz for students on their general knowledge of drylands biodiversity. Winners of the quiz received certificates and sets of environment-related books. In addition, a plant sanctuary, with 18 endemic, threatened and culturally important plant species, was opened. A series of articles detailing biodiversity issues was also published.

Syria

An array of media activities was organized in the Syrian Arab Republic in honor of the International Day for Biological Diversity. The Director of the Biodiversity and Protected Areas Directorate prepared newspa-

per articles highlighting the world's, and Syria's, biodiversity in general; and the Syrian drylands in particular. Press releases were sent to all media and all national institutions, emphasizing the importance of Protecting Biodiversity in Drylands. In addition to lectures, two programs on Syrian television broadcast interviews with the Biodiversity and Protected Areas Director of the General Commission for Environmental Affairs, the Deputy Minister of Local Administration and Environment and the Director of Biodiversity and Protected Areas, General Commission for Environmental Affairs, respectively. A program detailing the biodiversity theme was broadcast on national radio.

Thailand

Discussions centering on Thailand's implementation of biodiversity projects and activities were the feature of the Office of Natural Resources and Environmental Policy and Planning's (ONEP) two-day Meeting on the International Day for Biological Diversity. Gathering some 350 participants from the government and public sectors, NGOs, academic institutions, and technicians and scientists, presentations focused mainly on the results of Global Biodiversity Outlook 2 (GBO 2), COP 8, the IUCN Red List data of plant and vertebrates, biodiversity hotspots, laws related to biodiversity use, conservation and Alien Invasive

Species. The National Park, Wildlife and Plant Conservation Department (DNP) launched an exhibition on the International Day for Biological Diversity, presenting project research and implementation outcomes in each of the units under the DNP. The exhibition included the survey and assessment of biodiversity, the study of genetics and taxonomy, research of *ex-situ* conservation and endemic species, and the participation of indigenous communities in conservation and management of biodiversity. A poster exhibit was also organized by the Deputy Director General of the Department of National Parks, Wildlife and Plant Conservation.

Tunisia

To mark the International Day for Biological Diversity, Tunisia organized a national conference on the importance of biological resources and natural ecosystems found in arid regions. Opened by the Minister of Environment and Sustainable Development, topics discussed included such issues as the achievements and challenges of biological diversity in Tunisia, ecotourism and sustainable development in arid regions, scientific research on the conservation of biological diversity, and a presentation discussing the rich biodiversity that is to be found in the southern part of the country.

United Kingdom of Great Britain and Northern Ireland: Scotland

The Urban Biodiversity Working Group, based at the University of Glasgow, organized a series of events on 22 May to celebrate International Biodiversity Day. These included a 30-minute guided walk around the University's Gilmorehill campus and a trip to the top of the University tower to obtain a peregrine's eye view of the biodiversity to be found around the University and the surrounding West End. In addition, a discussion/seminar was presented, titled Planting for Climate Change. Other events included the Scottish launch of the Environmental Association for Universities and Colleges (EAUC) Biodiversity on Campus guide; the presentation of three case studies from the guide; and a discussion on how to initiate biodiversity conservation activity on campus.

The Convention on Migratory Species and the Whale and Dolphin Conservation Society Celebrate Biodiversity Day with Students

To foster a better understanding of the conservation of endangered species, staff members from the Convention on Migratory Species (CMS) and the Whale and Dolphin Conservation Society (WDCS)

celebrated the International day for Biological Diversity with the students of Bonn International School (BIS). With the help of BIS teachers, the students were organized in groups, each one participating in a different set of presentations and activities. One interactive presentation taught students about whales and dolphins, their biology and behaviour, and the threats to their survival. By staging a dolphin rescue exercise, students learned how to become a 'dolphin rescuer.' Others learned about the world of bats directly from the Executive Secretary of EUROBATS. The students were shown a short movie on bats, after which they engaged in a question and answer session. Students also heard presentations on animal migration, focusing in particular on the long-distance travel birds undertake seasonally. Senior students learned about the effects of the 2004 Tsunami on biodiversity in Sri Lanka, and were shown pictures of the devastation inflicted on plants and animals by natural and man-made disasters and phenomena.

According to the CMS, this event greatly helped in assisting its Secretariat to prepare guidelines for similar events in schools across the world to be shared with Parties. CMS intends to work with the BIS to prepare a brochure and Web pages on migratory species to be distributed to all international schools worldwide, and to be made

available to the schools and to the wider public through the CMS Website at <http://www.cms.int/>.

GreenFacts Releases Popularized Version of MEA Report

The release by GreenFacts of the popularized version of the Millennium Ecosystem Assessment Report on Biodiversity was timed to coincide with the International Day for Biological Diversity. It is available on their Web site at <http://www.greenfacts.org/biodiversity/> in English, and soon also in French, Dutch and Spanish. The summary was produced in partnership with IUCN (the World Conservation Union), Countdown 2010 and UNEP World Conservation Monitoring Centre.



Canada (*Bill Bristol*)



Saudi Arabia (*NCWCD, Riyadh, Saudi Arabia*)