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MELTING ICE - A HOT TOPIC?



© Nick Cobbing / Still Pictures

ask...



a polar bear



a farmer



an islander



an insurer



an indigenous person



yourself!



WORLD ENVIRONMENT DAY • 5 June 2007

UNEP Governing Structure

The UNEP Governing Council was established in accordance with UN General Assembly resolution 2997 (XXVII) of 15 December 1975 (Institutional and financial arrangements for international environmental cooperation). The Governing Council reports to the General Assembly through the Economic and Social Council. Its 58 members are elected by the General Assembly for four-year terms, taking into account the principle of equitable regional representation. Full information on the composition, functions and responsibilities of the UNEP Governing Council and the Committee of Permanent Representatives, formally established and strengthened as a subsidiary organ to the Governing Council by decision 19/32 of 4 April 1997, is available at www.unep.org/governingbodies.

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* Members whose terms expire on 31 December 2007.

** Members whose terms expire on 31 December 2009.

A Year of Change, a Year of Reform

by Achim Steiner

The UNEP annual report for 2006 is as much my predecessor's as it is mine, both literally and intellectually. Klaus Toepfer, who retired at the end of March 2006 after eight years in charge of UNEP, helped to stabilize the organization and expand its operations, for example in the development of a first-class post-conflict assessment branch, which was again called into action following the recent conflict in the Lebanon and is increasingly being requested by governments in Africa. Above all, Klaus succeeded better than anyone during his two terms of office in articulating the link between environment and development. It is upon this legacy that the organization is evolving, both in its traditional areas and into new and challenging arenas.

For my first term in office, I have set out four broad themes where I want to see UNEP develop greater capacity, take intellectual leadership and, above all, generate targeted action. These are: environment and economics as they relate to ecosystem services; reform of the organization within the wider landscape of UN reform; partnerships with civil society and the private sector; and, last but not least, more effective and efficient management. As I write, almost all the new directors of UNEP's divisions have been appointed following a major recruitment drive. Furthermore, a series of task forces have been reporting on areas ranging from information technology to the more efficient and effective running of the Executive Office.

It is now well over six months since I took over as Executive Director, and I have to say it has been a whirlwind time full of new challenges, possibilities and surprises. Surprises because, despite having considerable familiarity with UNEP before arriving here, I have been astounded by the sheer scope of activities being undertaken across so many fields—at headquarters, in the regions and with our partnerships. This wealth of activity is reflected in this 2006 annual report.



UNEP Executive Director, Achim Steiner

I also mentioned challenges, because fully integrating this welter of activities so that they pull together in a seamless and fruitful direction is one area that needs urgent attention. Challenges also as a result of the Secretary-General's reform agenda, which requests that UNEP and the rest of the UN system work ever more closely and effectively together in common cause towards sustainable development. These challenges present real possibilities and opportunities, perhaps not seen for a generation. The environment, from being on the margins of political debate, has now moved ever closer to the centre, with governments, business, the scientific community and civil society looking to the UN and to UNEP for guidance and, more importantly, solutions, as never before.

It is a fascinating time to be taking up the post of UNEP Executive Director. There is a revitalized interest in the environment as a source for long-lasting development—if it is sensibly managed—as well as a growing understanding of its potential as a source of conflict if it is not. This is in no

Introduction by the UNEP Executive Director

small part due to the widespread realization that we are all living on borrowed time, with many of the planet's ecosystems and nature-based goods and services in decline.

The environmental community of scientists, civil society and concerned citizens had, until very recently, been widely portrayed as the purveyor of alarmist statements and predictions. This is changing. Past warnings of over-exploitation of finite natural resources and the unsustainable use of national, regional and global goods and services provided by natural systems are now seen to be true across a wide range of issues—from biodiversity loss, water scarcity and collapsing fisheries up to the overarching concern about climate change.

The Millennium Ecosystem Assessment (MA), the work of around 1,300 scientists from 95 countries in which UNEP played an important part, not only confirmed longstanding concerns, it went further. Its first report, published in March 2005 in advance of the World Summit held later that year, concluded that approximately 60 percent of ecosystem services are being currently degraded or used unsustainably.

The MA was also seminal in that it advanced straightforward recommendations on how to reverse the decline alongside some compelling economic arguments—arguments that I see as pivotal to UNEP's work over the coming years. For instance, it says that an intact wetland in Canada is worth \$6,000 a hectare, versus \$2,000 a hectare for one cleared for intensive agriculture. Intact tropical mangroves, coastal ecosystems that are natural pollution filters and coastal defenses, as well as nurseries for fish, are worth around \$1,000 a hectare. Cleared for shrimp farms, the value falls to around \$200 a hectare.

The second Africa Environment Outlook, published in 2006, echoes the MA's themes. It builds a case that the region—popularly perceived as poor—is in fact rich in natural and nature-based resources, if only they could be more sustainably developed. Take the wetlands of the Zambezi Basin. It is estimated that the economic value of these wetlands in terms of crops and agriculture is close to \$50 million a year; fishing: nearly \$80 million a year; maintaining grasslands for livestock production: more than \$70 million; wetland-dependent ecotourism: \$800,000

annually; natural products and medicines: over \$2.5 million a year; and so on. It is this deepening awareness of the costs of environmental degradation, allied to the growing recognition that nature-based resources have large and increasingly quantifiable economic value that is now shaping UNEP's strategy as the global environmental authority.

In many ways nature is the wealth of the poor. One element of UNEP's reform agenda is the Poverty and Environment Initiative with the UN Development Programme (UNDP), which we are taking forward into 2007. The basis of this relationship was a joint report, released at the 2005 World Summit, which explicitly makes the economic case for the environment in poverty eradication. It says, for example, that every dollar invested in fighting land degradation and desertification may conservatively generate more than three dollars in economic benefits, helping to fight poverty among the billions of people living on fragile lands. Meanwhile, every dollar spent on delivering clean water and sanitation is likely to give impressive rates of return of up to \$14.

Economics is also increasingly a feature of the climate change debate. The UK Government's Stern Report, released in advance of the UN climate change meeting at the UN offices in Nairobi in November 2006, stated that, if no action is taken, average temperatures may rise by up to 5 degrees centigrade from pre-industrial levels, with a commensurate minimum loss of 5 per cent of Gross Domestic Product annually.

In contrast, the costs of action to reduce greenhouse gas emissions to avoid the worst impacts can be limited to around 1 per cent of global GDP each year. The Stern Report also estimates that reducing emissions would actually make the world better off—one estimate indicates that, over time, a shift to a low-carbon global economy would trigger benefits of \$2.5 trillion a year.

Regrettably, whatever measures are taken to tackle climate change, some level of impact is now inevitable, which is why we must also focus on adaptation as an immediate priority—particularly in developing countries. At the Nairobi climate change meeting, UNEP and UNDP, again in the spirit of reform, launched a joint initiative to boost developing countries' participation in the Kyoto

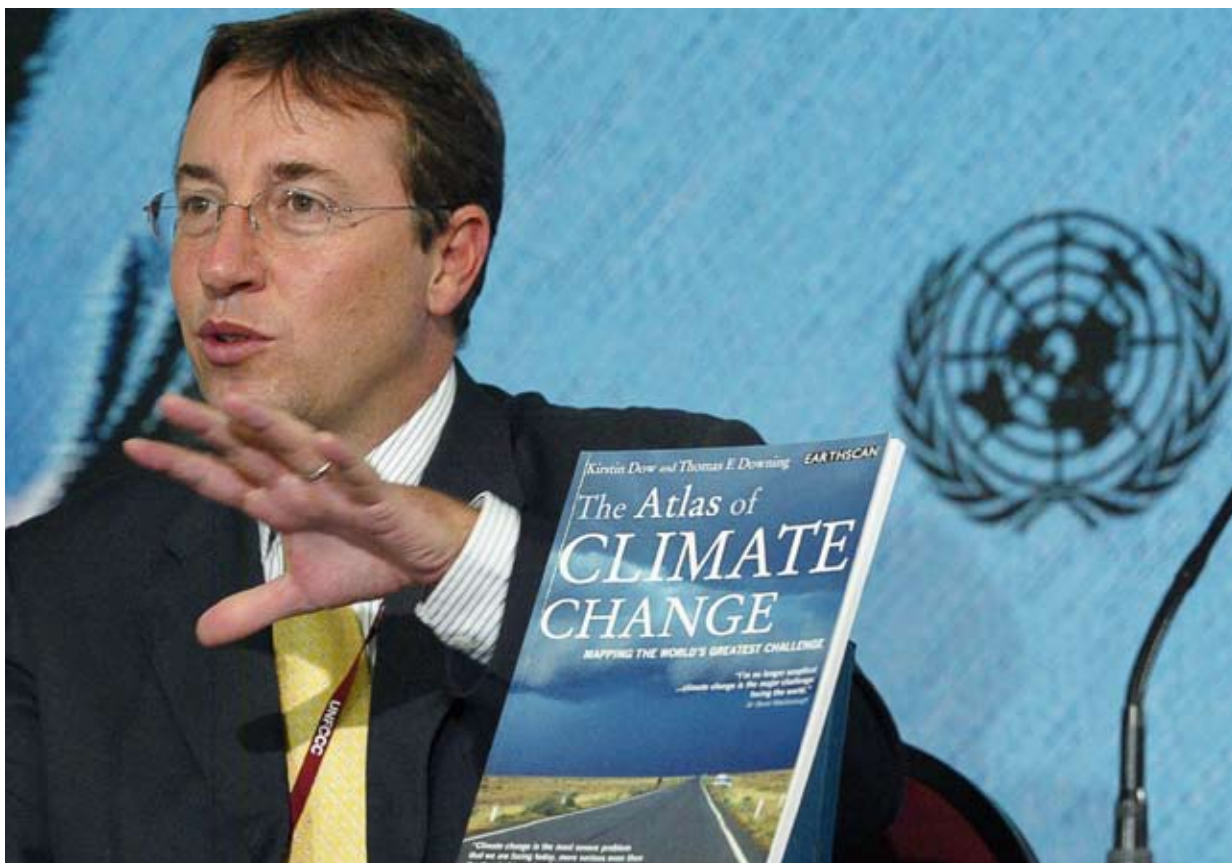
Protocol's clean development mechanism and help developing countries adapt their agriculture and health care infrastructure in a climatically altered world.

2006 was also a year in which it became evident that addressing the world's major environmental and sustainable development challenges is no longer broadly divided down the lines of developed and developing countries. We now have the phenomenon of rapidly developing countries, such as Brazil, China and India. UNEP must be relevant to this constituency within the context of a globalized world of more than six billion people whose aspirations for reasonable lifestyles for themselves and their families require reforms in the way we all consume and produce. The rapidly developing

economies, whose ecological footprints now extend beyond their national borders, are also requested to show international leadership in this new century.

While this annual report looks back over the past year it also points to the future—one in which decisive and wide-ranging decisions need to be made, not least on the overarching issue of climate change and the need to mainstream environment into poverty reduction and development strategies in order to meet the Millennium Development Goals. UNEP looks forward to playing a significant role, strengthened in the certain knowledge that its mandate reflects the calling of our time with environmental issues more pressing and solutions more self-evidently needed than at any time in history.

UNEP Executive Director Achim Steiner at the United Nations Framework Conference on Climate Change (UNFCCC) meeting in Nairobi, 7 November 2006, at the launch of the UNFCCC publication, 'The Atlas of Climate Change: Mapping the World's Greatest Challenge' compiled by the Stockholm Environment Institute with assistance from UNEP. UNEP's work on climate change ranges from assessment, including the Intergovernmental Panel on Climate Change (IPCC), which it administers jointly with the World Meteorological Organization, and a wide range of capacity building activities. UNEP works closely with the UNFCCC on outreach, and helps developing countries to participate fully in the Convention. UNEP is also assisting countries to benefit fully from the various mechanisms of the Kyoto Protocol, such as the Clean Development Mechanism. © Simon Maina/AFP/Getty Images



CLIMATE OF CHANGE

UNEP entered a period of transition in 2006. It said farewell to Klaus Toepfer, who had led the organization for eight years, and welcomed Achim Steiner as the new UNEP Executive Director in June. Mr. Toepfer described his successor as “an outstanding individual among a field of outstanding candidates,” and said he was “delighted that Achim Steiner has accepted this important international post at an organization that has a key role in delivering sustainable development, fighting poverty, realizing social justice and achieving stability in the 21st century.”

Mr. Steiner, who had previously served as Director General of the World Conservation Union (IUCN) from 2001 to 2006, took up office with a call to UN member states to put the environment at the heart of economic policies, noting that recent reports, including the UNEP-supported Millennium Ecosystem Assessment, were increasingly emphasizing the “enormous wealth” of ecosystem services. “They also underline that far too many are becoming limited as a result of abuse, poor management and over-exploitation,” he added. Mr. Steiner said one of the main challenges for his first term as UNEP Executive Director is to work to end this “antagonism between economic and environmental policy”. He said he would be focusing on how markets, economic incentives, and international treaties and agreements can be made to work in a way which is “pro-environment, pro-poor and thus pro-sustainable development”.

DELIVERING AS ONE

Mr. Steiner also said that among his many targets for making UNEP even more relevant to the challenges of the 21st century was achieving stronger and more streamlined ties with other UN organizations, civil society and the private sector. “The challenges are so immense that only by working together in mutual self interest can we realize internationally agreed goals and deliver a stable, just and healthy planet for this and future generations,” he said.



Working together, especially at the country level, was the overriding recommendation of the UN Secretary-General’s High-level Panel on UN System-wide Coherence in the Areas of Development, Humanitarian Assistance and the Environment. The panel’s report, entitled ‘Delivering as One’, presented in November 2006, as well as the UN General Assembly’s ongoing informal consultations on the institutional framework for the UN system’s environmental activities, represent, in Mr. Steiner’s words, “real opportunities that we must all seize.”

The Secretary-General’s High-Level Panel was instituted in February 2006 in response to the outcome of the 2005 World Summit,



Klaus Toepfer, Executive Director of UNEP between February 1998 and March 2006, speaking at the Zayed Prize award ceremony, held as part of the ninth Special Session of the UNEP Governing Council/Global Ministerial Environment Forum, in Dubai, United Arab Emirates, 7–9 February 2006. The Governing Council session, which saw the largest-ever gathering of environment ministers, was Mr. Toepfer's last. He was succeeded in June 2006 by Achim Steiner, who had previously held the position of Director General of the World Conservation Organization (IUCN). 2006 also marked the final year of Secretary-General Kofi Annan's decade of service at the helm of the United Nations. During his two terms of office, Mr. Annan consistently highlighted the importance of environmental sustainability to the UN's broader development goals, something that UNEP has both echoed and taken a leading role in articulating. © UNEP

where members of the UN General Assembly emphasized the central role of environmental sustainability in achieving UN objectives, including global security and the Millennium Development Goals. The Summit outcome also highlighted “the need for more efficient environmental activities in the United Nations system, with enhanced coordination, improved policy advice and guidance... and better

integration of environmental activities in the broader sustainable development framework at the operational level, including through capacity-building.”

Working more closely with UN system partners to build capacity at country level lies at the core of the Bali Strategic Plan for Technology Support and Capacity Building, which was adopted by

The six signatories of the January 2006 Declaration—Burkina Faso, the Gambia, Kenya, Lesotho, Rwanda and Tunisia—have already participated in pilot projects implemented by UNEP in collaboration with the UN Development Programme (UNDP) to mainstream the environment into national development planning and national poverty reduction strategies. Launched at the 2005 World Summit, the projects built on existing assessments to develop a Strategic National Capacity Building and Technology Support Plan for each country. The results are currently under review.

EFFECTIVE DELIVERY

Implementing the Bali Plan is a long-term endeavour. Equipping UNEP and its partners to deliver it requires an incremental, systematic and strategic approach. With the Bali Plan increasingly informing all UNEP's activities, one of the new Executive Director's first initiatives was to constitute a task force to make recommendations on how to harmonize and align UNEP's 2008–2009 programme of work with the Bali Plan, including looking at administrative issues and management efficiency.

Progress in implementing the Bali Plan during 2006 includes follow-up to the UNEP-UNDP Bali Plan pilot project in six African countries, with analysis of lessons learned and the selection of two countries per region for further joint UNEP-UNDP comprehensive or sectoral needs assessments. At the same time, UNEP began a comprehensive review of existing needs assessment methodologies. As required by the Bali Plan, UNEP has also developed a comprehensive database of its capacity building and technology support activities. The database is available online and has links to databases of the Global Environment Facility, UNDP, the World Bank and the secretariats of the multilateral environmental agreements (MEAs). It captures the main headings of the cross-cutting and thematic issues defined in the Bali Plan and lists UNEP activities in the different countries and regions.

UNEP also started to implement South-South cooperation activities in 2006. Strategic and operational guidelines have been formulated to integrate South-South cooperation into the 2008–2009 UNEP programme of work, and a global clearing-house has been developed for exchanging

information on technologies, expertise, tools, advisory services, training, networks, and best practices to match available solutions to identified capacity building needs. In addition, UNEP initiated consultations with external partners. Dialogue with the UNDP Special Unit for South-South Cooperation focused on identifying potential joint activities in Africa and Asia-Pacific, collaboration on the global 'South Report' on South-South Cooperation, and links to the UNDP knowledge base. UNEP has also been working with the secretariat of the NEPAD Environment Initiative to incorporate South-South cooperation in activities for 2007, and with the China-Africa Cooperation Forum to identify further opportunities for supporting capacity building and technology support.

Work has also commenced with the Brazilian Ministry of Foreign Affairs to identify opportunities for strategic alliances for identifying, formulating and implementing capacity building and technology support projects in the broader framework of cooperation among the emerging economies of India, China and South Africa. In the context of biodiversity conservation, UNEP has also been working with the Convention on Biological Diversity to develop a multi-year plan of action on South-South Cooperation to strengthen institutional capacity for implementing the objectives of the Convention and the achievement of the 2010 biodiversity target.

MANAGEMENT EFFICIENCY

Implementing the Bali Plan effectively will also mean changes within UNEP. The Executive Director has indicated that he will be working hard to improve UNEP's own efficiency to make UNEP a modern multicultural organization for the 21st century that is responsive, flexible, efficient and service-oriented. To achieve that he has embarked on a process to capitalize on existing and potential ability within the organization, and to identify areas where the organization's activities can and must be improved or streamlined.

As part of a structured timeline of reform, the Executive Director outlined a 3-12-24 process, whereby it is envisaged that at the end of a 39-month period UNEP's position as the global environmental authority will have been reinforced by instituting better programmatic focus with demonstrable impact, coupled with stronger

Climate of change

operational partnerships inside and outside the UN system. Among the indicators of the success of this programme should be an expanded financial resource base for the organization and increased staff satisfaction.

As a first step towards achieving organizational strengthening, the Executive Director instituted a number of task forces to examine essential areas such as administrative and human resources issues, information technology, and programme implementation related to the Bali Plan. UNEP also undertook a wide-ranging recruitment drive for vacant professional and senior management positions, using traditional media in all regions as well as a large number of networks targeting civil society, academia, the private sector, governments and other partners. By the end of the year new directors had been found for UNEP's Divisions of Technology, Industry and Economics, Environmental Policy Implementation, and Early Warning and Assessment, as well as a new Chief of the Secretariat of the Environmental Management Group. Structural reform was also embarked on, with the devolvement of a number of branches formerly associated with the now-disbanded Division of Policy Development and Law into other divisions, as a first step towards a divisional structure that more closely reflects UNEP's functional elements.

POVERTY AND ENVIRONMENT

The Bali Plan and the 2005 World Summit have given UNEP renewed confidence and a broader mandate to promote the integration of environmental considerations in country-level development strategies. At the national level, UNEP will work closely with UN Resident Coordinators, with a focus on capacity building for science and assessment, environmental policy development and implementation as well as technology and industry. UNEP will forge strategic partnerships with national environment agencies, help establish and strengthen civil society networks and assist governments to build mechanisms for civil society participation in decision-making processes. At the subregional level, UNEP will work closely with established bodies and processes to identify common needs. UNEP will also advocate the participation of civil society groups in subregional, regional and global environment and sustainable development forums.

Eradicating extreme poverty and hunger is the first among eight time-bound and interlinked Millennium Development Goals which guide the UN's Country Team strategies. UNEP believes that the seventh goal—ensuring environmental sustainability by integrating the principles of sustainable development into country policies and programmes and reversing the loss of environmental resources—is the foundation on which all the other goals can be achieved.

This principle is central to the UNEP-UNDP collaboration, especially the Poverty and Environment Initiative, a global partnership established in 2005 to support the integration of environmental sustainability into national development processes. Under the initiative, joint capacity building projects are being implemented in Kenya, Rwanda and Tanzania, and UNDP country offices are also closely involved in UNEP's activities in other pilot countries: Mali, Mauritania, Mozambique and Uganda.

During 2006, UNEP and UNDP continued to hold high-level policy meetings on implementing the UNEP-UNDP Memorandum of Understanding and establishing areas of cooperation, which include a proposed new Joint Poverty and Environment Facility based in Nairobi, and a proposal for a partnership within the framework of the annual UNDP Human Development Report.

ENVIRONMENT FOR DEVELOPMENT

The Poverty and Environment Initiative has provided practical experience and lessons on how UNDP and UNEP can most effectively work together at the country, regional and global levels. To further strengthen the cooperation between the two organizations, the proposed Joint Poverty and Environment Facility in Nairobi will provide technical support to regional UNEP and UNDP centres as well as directly to country projects, especially in Africa. The proposed scaling-up should lead to a significantly increased number of country programmes for mainstreaming environment into national development processes and poverty reduction strategies. In the Pan-European region, the UNEP and UNDP Regional Offices are joining forces to ensure cost-effective joint programming and delivery of assistance to countries with economies in transition at the subregional and country level, and in particular in

the area of mainstreaming environmental concerns in national sustainable development policies and programmes.

Work is also underway to harmonize both organizations' administrative and financial systems and to reinforce UNEP's engagement in the UN Development Group (UNDG) through the appointment of a senior staff member in the UNEP New York Office with the sole responsibility of representing UNEP in the UNDG. UNEP has been a member of the UNDG, an interagency body chaired by the UNDP Administrator dedicated to improving the effectiveness of UN development work at the country level, since 2004. UNEP has chaired a working group on Non-Resident Agencies, focusing on helping UN Country Teams to involve members of the UN family that do not have field-level presence, and contributes to all UNDG working groups and task teams, including those on Capacity Development and Post-Conflict Assessment.

In December 2006, UNEP collaborated with UNDP on the launch of the UNDP report 'Making Progress on Environmental Sustainability: Lessons and Recommendations in over 150 Country Experiences', which documents the progress countries have made towards environmental sustainability. While the report makes clear that most countries are not yet on track to reach MDG7 by 2015, it also demonstrates that they can make meaningful progress when they adopt the principle of environmental sustainability, and then adapt their development plans to their own specific ecosystems.

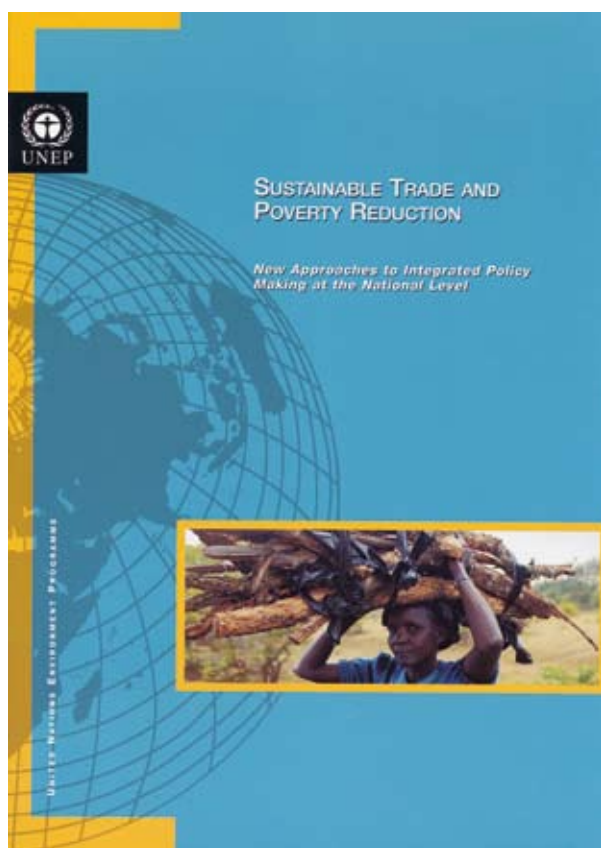
SUSTAINABLE GLOBALIZATION

Achieving environmental sustainability is not only a national concern. It has significant international dimensions. Countries can achieve a great deal by mainstreaming environment into poverty reduction and development strategies. However, national environmental degradation is also inextricably linked with trading regimes, economic instruments and the values placed on nature-based goods and services within a globalized world. One of UNEP's fundamental challenges is to change the mindset of people, businesses and governments who still regard natural capital either as an inexhaustible common resource, or a luxury whose preservation can be postponed in favour of short-term development goals. Such attitudes

explain current environmental crises, such as declining marine fish stocks, tropical deforestation and global warming, as well as the reluctance to effectively address them.

Underlying much of society's failure to act is the myth that environment and economics are at loggerheads. UNEP is working with governments and private sector partners to demonstrate that economics is a tool that can be used to promote environmental sustainability. Speaking at a World Trade Organization meeting in September 2006, UNEP Executive Director Achim Steiner noted that "environmental policy—far from being a brake on trade—is emerging as a powerful new force generating new kinds of trading opportunities." Most of the MEAs linked with UNEP have significant trade dimensions. Examples include the Convention on the International Trade in Endangered Species (CITES), the Montreal Protocol on Substances that Deplete the Ozone Layer, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Since its ratification, the Kyoto Protocol on Climate Change has taken the notion of trade as a force for sustainable development into new realms. At its heart are trade-based flexibility mechanisms, such as Joint Implementation, Emissions Trading and the Clean Development Mechanism (CDM), that are triggering new flows of funds from developed to developing countries. The United Nations Framework Convention on Climate Change (UNFCCC) estimates that the CDM alone could generate some \$100 billion for developing countries, well as improving the lives and livelihoods of billions of people in the developing world who currently lack access to electricity. UNEP maintains that, by bringing development and wealth to the poor, environmental treaties can create billions of new consumers in Africa, Asia and Latin America who can genuinely participate in the global market place. It is a vision of 'intelligent' globalization that produces sustainable markets through sustainable trade in the certain knowledge that this is where long-lasting profits and genuine livelihoods can be made.



'Sustainable Trade and Poverty Reduction: New Approaches to Integrated Policy Making at the National Level' is a synthesis of nine country studies from around the world. It summarizes the results of a capacity building process to integrate environmental, social and economic considerations into public policies, with a focus on sustainable trade and poverty reduction.

ENVIRONMENT AND TRADE

To promote this vision, UNEP has a wide and growing network of partnerships with trade and business organizations and other private sector groupings. At the top of the pyramid lies the World Trade Organization (WTO), whose rules and decisions on trade carry enormous weight and have far-reaching implications for environmental sustainability. Given this, UNEP believes it is critical that WTO agreements and MEAs are mutually supportive. In 2006, UNEP organized a number of informal meetings among representatives from MEA secretariats to discuss the ongoing WTO negotiations and exchange relevant information and experiences. As an observer to the WTO Committee on Trade and Environment negotiations, UNEP also provided a number of statements and briefings during 2006 to trade negotiators, including on UNEP's work related to the use of trade-related measures in MEAs and the liberalization of trade in environmental goods and services.

UNEP and the UN Conference on Trade and Development have also joined forces under the UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF). Through support for country projects, thematic research, policy dialogues, and capacity building workshops at the national and regional levels, the CBTF enhances the capacity of governments to address issues at the interface of trade, environment and development. Since its launch in 2000, the CBTF has provided capacity building and technical assistance to nearly 1,000 policy makers from more than 30 countries and supported more than 30 training workshops, 10 country projects and eight thematic research studies. The CBTF has identified organic agriculture, environmental goods and services, and the relationships between trade and MEAs as current capacity building priorities.

UNEP has also partnered with several MEA secretariats on projects to ensure that trade and environmental policies are mutually supportive. The first is a four-year initiative launched in 2005 in collaboration with the Secretariat of the Convention on Biological Diversity (CBD) to build national capacity in Africa, the Caribbean and the Pacific (ACP) to assess, design and implement policies that maximize development gains from trade in the agricultural sector while minimizing the impact on biodiversity. The initiative, which is being launched in six ACP countries, responds directly to calls by the CBD Conference of Parties to support assessments of the impacts of trade liberalization on biodiversity. In 2006, UNEP also initiated a two-year project, implemented jointly by the UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development, the CITES Secretariat and the Geneva-based Graduate Institute of Development Studies, to enhance the capacity of developing countries and countries with economies in transition to assess, design and implement effective national wildlife trade policies. This project was also developed to respond directly to calls by the CITES Conference of Parties to support national wildlife trade policy reviews.

In 2006, CBTF, together with the International Federation of Organic Agricultural Movements, facilitated the assessment of the organic sector and the harmonization of organic agriculture

standards in Kenya, Tanzania and Uganda under the East Africa Organic Agriculture initiative. In addition, CBTF commissioned a paper to review the experience of MEA secretariats and their Parties in identifying and facilitating the transfer of technology and to examine whether these experiences can provide useful insights for the current WTO environmental goods and services negotiations. UNEP's Economics and Trade Branch, in collaboration with the International Institute for Sustainable Development, also updated the popular Environment and Trade Handbook to enable governments to develop practical approaches to integrating policies in these two sectors.

VALUING NATURAL CAPITAL

Many of today's environmental challenges stem from insufficient appreciation of the importance and the fragility of environmental resources that are so often taken for granted. Examples of such 'natural capital' include water storage and filtering services provided by forested watersheds and wetlands, diverse natural ecosystems that support pollinating birds and insects, microscopic below-ground fauna that promote soil fertility, and warm and cold water coral colonies that support a wide variety of marine life, including commercial fisheries.

Currently the prognosis for commercial marine fisheries is increasingly worrying, with some scientists maintaining that if seafood species continue to decline at the present rate through over-fishing and pollution there will be little left within four decades. Among the hardest hit will be 90 per cent of the world's fishermen and women who operate in near-shore waters and account for over half the global fish catch. For instance, the growing phenomenon of economic migrants from West Africa seeking sanctuary in southern Europe is commonly attributed to failing coastal fish stocks that have been depleted by subsidized industrial trawlers.

In May 2006, the UNEP Roundtable on Fisheries Subsidies expressed the need to look closely at fisheries access agreements. A report is being prepared to explore the political economy and sustainability concerns related to these agreements, including fisheries management and monitoring, control and surveillance aspects, taking into account

the perspective of developing coastal and island states, as well as of distant water fishing nations. Participants also discussed the importance of taking sustainability into consideration in the development of new disciplines on fisheries subsidies at the WTO as well as at the national and regional level. UNEP's work is focused on developing sustainability criteria for granting subsidies. These would judge the health of relevant fish stocks and the quality of the management system. The aim would be to bring such criteria into the WTO and prohibit subsidies that are granted in over-exploited waters or in the absence of effective management. Elsewhere, a new Global Environment Facility (GEF) project, which is helping shrimp fishermen in developing countries to test new nets and trawls, is reducing bycatch by up to 70 per cent in some cases.

The bottom line is that governments need to realize the full value of their natural capital, and the social and economic implications of the environmental changes that human activities are causing. In order to help them do so, UNEP is promoting the concept of Green Accounting, which incorporates the effect of environmental changes into national accounting frameworks. Over the years, UNEP has collected abundant materials on this issue, and has made it available via a virtual resource centre, a searchable database with web links that also complements the objectives and programme of work of the UN Committee of Experts on Environmental-Economic Accounting.

In September 2006, UNEP's Economics and Trade Branch and IUCN, in consultation with the Secretariat of the Convention on Biological Diversity (CBD), also organized a technical discussion among experts on international Payments for Ecosystem Services. The discussion took stock of the experience in this field, identified gaps and constraints, and proposed a collective action plan to scale Payments for Ecosystem Services to transboundary and international levels with a particular focus on biodiversity. Biodiversity was also the focus of a CBTF collaboration with CITES on a two-year process to enable governments to review national wildlife trade policies against socio-economic and conservation criteria.

KNOWLEDGE FOR CHANGE

Understanding environmental change is the first step to drafting effective environment, trade or other development policies. UNEP leads, supports or collaborates in a wide range of environmental assessments, including the Global Environment Outlook (GEO), the Intergovernmental Panel on Climate Change (IPCC), administered with the World Meteorological Organization (WMO), the Global International Waters Assessment (GIWA), the International Assessment of Agricultural Science and Technology for Development (IAASTD) and the Millennium Ecosystem Assessment (MA), for which UNEP has provided both financial support and coordination.

Following the release of the MA synthesis reports during 2005, a series of technical assessment volumes were published during 2006, namely: 'Ecosystems and Human Well-being: Our Human Planet (Summary for Decision-makers)'; 'Ecosystems and Human Well-being: Current State and Trends'; 'Ecosystems and Human Well-being: Scenarios'; 'Ecosystems and Human Well-being: Policy Responses'; and 'Ecosystems and Human Well-being: Multiscale Assessments'.

During 2006, UNEP continued consultations with governments and other stakeholders on strengthening the scientific base of UNEP. On the basis of these consultations, the Executive Director has now shifted the focus of the Environment Watch proposal, which was first presented to the UNEP Governing Council in 2005, from a system to a multi-year strategy. 'Environment Watch Strategy: Vision 2020' sets out a bottom-up and incremental approach to achieving, by 2020, enhanced institutional, scientific and technological infrastructures and capacity for cooperation on keeping the state of the environment under review and providing timely, accurate, credible, relevant and consistent environmental data and information for environmental governance. The strategy is generic and based on three tried and tested approaches: capacity building and technology support; networking and information sharing; and assessments.



UNEP's flagship assessment process is the Global Environment Outlook (GEO), instituted in 1995 by the UNEP Governing Council. to fulfil UNEP's mandate of keeping the world's environment under review. Based on a world-wide consultative process, GEO provides information for decision-making, supports early warning, and builds assessment capacity at global and subglobal levels. Over the years GEO has evolved into a series of



comprehensive global integrated environmental assessments that analyze environmental changes, causes, impacts, and policy responses. As well as the main GEO assessment, the process also produces an increasing number of regional, national, city and technical reports, manuals, educational materials, a comprehensive set of data and indicators, as well as capacity building tools.

Hideaki Motoyama, project leader of the National Institute of Polar Research, holds a million-year-old ice sample in Tokyo, 18 April 2006. Drilled from three kilometres deep under the Antarctic ice cap, the sample could yield vital clues on climate change. UNEP uses a broad range of research to provide policy-relevant information for decision making. © Toru Hanai/Reuters/The Bigger Picture

The ongoing GEO-4 assessment process represents the latest comprehensive report in a new five-year production cycle mandated by the UNEP Governing Council. Due for publication in September 2007, its theme is 'Environment for Development', emphasizing the role of the environment and natural capital for human well-being. GEO-4 will present global and regional issues in the context of the development of international environmental governance and their relation to international development goals and targets. It will assess the state of the global environment and progress and barriers towards meeting commitments under multilateral environmental agreements. It will also look at the effectiveness of policy responses 20 years after the Brundtland Report 'Our Common Future' first issued its recommendations and crystallized the idea of sustainable development. Extensive intergovernmental and multi-stakeholder consultations have strengthened the assessment and science base of the process.

CAPACITY BUILDING

Capacity strengthening and interactive consultation with collaborating centres provides the keystone of the GEO process. In West Asia UNEP continued to support the preparation of national state of the environment reports in Bahrain, Qatar, Syria, Yemen and the Emirate of Abu Dhabi, and is also working with the League of Arab States on a State of Environment Report for the Arab Region as a whole. It also provided support to the Regional Organization for the Protection of the Marine Environment (ROPME) to revise and enhance national guidelines for the preparation of a State of Environment Report for the ROPME sea area. Training was conducted in Qatar on integrated environmental assessment and reporting, and work continued on customizing the GEO training modules for the region and translating two of the modules into Arabic.

UNEP also convened a regional meeting for the South-South network of GEO Collaborating Centres for integrated environmental assessment and reporting and helped coordinate and support ongoing work on the Arab Millennium Ecosystem Subglobal Assessment to be published in 2007. The Bali Plan establishes South-South Cooperation as a key mechanism for its implementation, and stresses the need to intensify efforts directed towards institutional

capacity building, including through the exchange of expertise, experiences, information and documentation to develop human resources and strengthen the institutions of the South. To this end, UNEP, through the support of UN Development Account, has initiated the South-South Network of GEO Collaborating Centres project, which supports the innovative use of information and communication technology in integrated environmental assessment for effective policy formulation and decision making at regional and subregional levels.

The success of UNEP's GEO integrated environmental assessment methodology and training in the last ten years also led to a collaboration between UNEP, the International Institute for Sustainable Development (IISD) and about 40 experts around the world to prepare a new 'GEO Resource Book: A Training Manual on Integrated Environmental Assessment'. The manual is intended as a key tool for training workshops and post-training support to enhance the capacity of governments to conduct regional and subglobal environmental assessments. The manual, which is a follow up to an earlier training resource developed by UNEP and IISD, consists of eight modules that can be used individually for specialized training or as a full package.

ASSESSMENT IN THE REGIONS

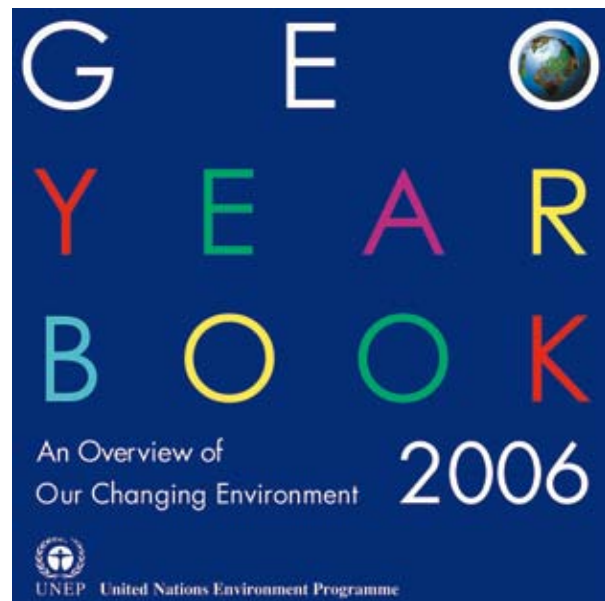
After almost a decade of assessment work in the region, GEO processes in Latin America and the Caribbean (LAC) are focused on improving the quality of information, strengthening partnerships and creating impact. GEOs make an important contribution in the development of the Common Country Assessments and UN Development Frameworks, in Mexico and Brazil, for example. UNEP and its partners also continue working towards better information for sound decision making by assisting more countries—for example Belize, Ecuador, and Uruguay—that have chosen to carry out national environmental assessments using the GEO methodology. In all three cases, the national government is working very closely with its technical, non-governmental partner, to produce an unbiased environmental outlook.

During 2006, the second GEO Peru report and the third GEO Chile report were launched. An outstanding development in these countries is that the GEO report has either been adopted

or is being considered as the official national state of the environment report, thus helping the countries to fulfill specific mandates established in their national environmental laws. Another GEO participant, Cuba, embarked upon its second assessment, aiming to take it to a next level, with a well-developed scenario analysis and an innovative analysis of interlinkages. Scenarios can be a great tool in providing an attractive package of information and message, but their construction requires special techniques and tools. UNEP, with the help of GEO Collaborating Centres and partner institutions, organized scenario training sessions for GEO LAC 2007, GEO Amazonia, GEO Belize, GEO Cuba (Cuba, 7-10 August), for GEO MERCOSUR, and GEO Central America. The third GEO assessment process for Latin America and the Caribbean began in July 2006, and the final report will be presented during the sixteenth meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, in November 2007.

In Africa, the second Africa Environment Outlook report (AEO-2) was launched in May 2006 at the 11th session of the African Ministerial Conference on the Environment (AMCEN), held in Brazzaville, Congo. AMCEN also gave the AEO process a fresh mandate and requested UNEP to support the preparation of AEO-3, to be launched in 2010. The report, subtitled 'Our Environment, Our Wealth' says that the region is only realizing a fraction of its nature-based economic potential which, if used effectively, fairly and sustainably, could provide a way out of poverty for most of Africa's 800 million people. To enhance national capacity in data and information management to support reporting, the Africa Environment Information Network has been extended to an additional 22 countries beyond an initial 12 which were involved in the pilot phase.

In the Asia-Pacific region, UNEP is helping to strengthen the capacity of national governments in data processing, modelling and analysis. With financial support from the Norwegian government, national state of the environment reports were prepared for Bangladesh, Bhutan, DPR Korea, India, Maldives, Nepal, Sri Lanka, Lao PDR, and Viet Nam. UNEP is also assisting Tajikistan, Turkmenistan, Kyrgyzstan, Iran, Sri Lanka and Bhutan to prepare national state of the environment reports. A state of the environment report for city of Dhaka was also completed



Published every year, in time for the UNEP Governing Council meeting, the GEO Year Book provides an annual update of the state of the global environment, and identifies trends and emerging issues.

in 2006. At the subregional level, UNEP has published indicator reports and priority papers for the five Asia-Pacific sub-regions so policy makers can use benchmarks and assess trends in 30 economic, social and environmental areas. A regional state of the environment Report for South Asia and a youth version of the report by the South Asia Youth Environment Network were also produced. These reports feed into the global GEO process.

HAZE AND DUST

Also in Asia-Pacific, UNEP has brought together an international science team to study the impacts of aerosol pollution on regional climate, the hydrological cycle, agriculture and human health. The Atmospheric Brown Cloud Project aims to address concerns around a three kilometre-deep pollution blanket that forms over parts of the Asian continent during the dry monsoon season. Forest fires, the burning of agricultural wastes, fossil fuels in vehicles, emissions from power stations, industry and millions of inefficient stoves burning wood, cow dung and other 'bio fuels' form the haze, which is a mass of ash, acids, aerosols and other particles. Satellite data reveal that a thick haze layer is also found in other polluted regions.

Initial scientific results suggest that the brown haze is reducing the amount of sunlight reaching the earth's surface by as much as 10 to 15 per

Knowledge for change

cent. It may also be affecting monsoon weather patterns, triggering droughts in western parts of the Asian continent and increasing flooding in parts of Bangladesh and India. There are also indications that the haze may be reducing winter rice harvests in India by as much as 10 per cent. A UNEP commissioned report suggests that pollution from the haze could be leading to “several hundreds of thousands” of premature deaths from respiratory diseases. In 2005, capacity building activities were implemented through the establishment of observatory stations and training programmes for Asian scientists. By 2006, Atmospheric Brown Cloud observatories were operational in India, Japan, Republic of Korea, Maldives, Nepal, and Thailand. A team for assessing impacts on agriculture, water supply and public health was also established.

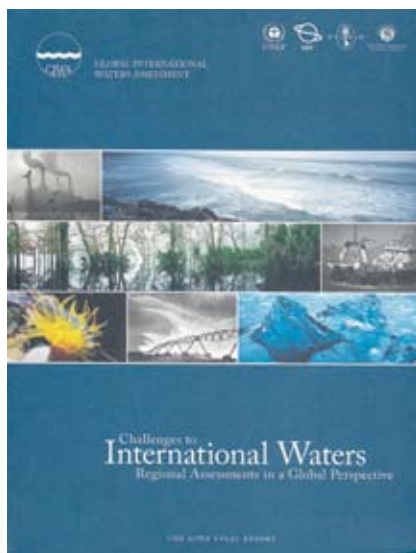
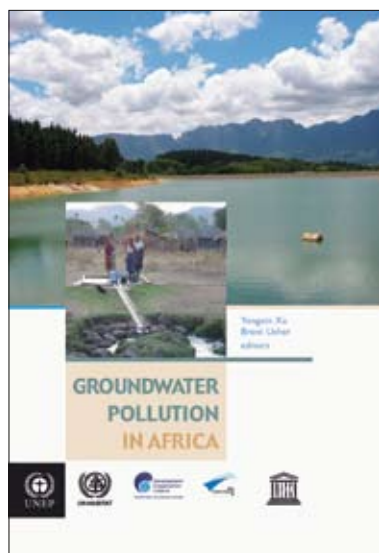
In northeast Asia dust storms and sandstorms have occurred for thousands of years. However, their frequency, scope and intensity has grown over the past 50 years, and they have become a serious environmental problem, disrupting communications and economic activity, affecting health and in some cases, threatening lives. In response to requests from governments in the region, UNEP, the Asian Development Bank (ADB), the UN Economic and Social Commission for Asia and the Pacific (ESCAP) and the UN Convention to Combat Desertification (UNCCD) developed a Global Environment Facility (GEF) and ADB-funded project on Prevention and Control of Dust and Sandstorms. The project established an institutional framework for regional cooperation and a master plan to guide

cooperation that includes the establishment of a regional monitoring and early warning network, led by UNEP, and the development of an investment strategy to strengthen mitigation measures under ESCAP’s leadership.

Air quality also provided the Feature Focus in the 2006 GEO Year Book, UNEP’s annual survey of the changing global environment, which was launched at the February Governing Council meeting in Dubai. The Year Book, which is linked to the GEO process, provides a bridge between science and policy, drawing attention to new emerging challenges, highlighting important environmental issues and presenting global and regional overviews and trends. It also provides an annual core set of GEO Indicators which present global headline trends in major environmental issues, such as climate change, biodiversity, forests and governance, to give a snapshot of humanity’s progress in sustainably managing our planetary habitat.

EARTH AND WATER

As well as highlighting the environmental, socio-economic and public health impacts of energy-related air pollution, the GEO Year Book looked in detail at the emerging scientific and policy challenges of farming fish and shellfish without damaging marine ecosystems, and crop production in a changing climate. Agriculture also provides the focus for another assessment in which UNEP is involved. The multi-stakeholder International Assessment of Agricultural Science and Technology for Development (IAASTD)



Freshwater availability and quality are central issues for sustainable development and the achievement of the Millennium Development Goals. UNEP assessments and policy advice help local and national governments make environmentally sound water resource management decisions.

is completing a single global assessment and five sub-global assessments of the role of agricultural knowledge, science and technology in reducing hunger and poverty, improving rural livelihoods, and facilitating equitable, environmentally, socially and economically sustainable development. After a nomination and selection process in 2005, authors produced a first draft of each assessment for government and expert peer review, which took place between August and October 2006. A second round of peer review will take place in April-May 2007. The six assessments are due to be finalized by the end of 2007, and the findings submitted for final approval, adoption and acceptance by governments during an intergovernmental plenary, which will be held at UNEP headquarters in January 2008.

The Global International Waters Assessment (GIWA), which concluded in 2005, published its final report 'Challenges to International Waters: Regional Assessments in a Global Perspective' in January 2006. The GIWA assessment, led by UNEP with GEF funding, and hosted and executed by Kalmar University in Sweden, divided the continents and shallow-water seas of the world into 66 natural regions consisting of one or more international river basins and their adjacent large marine ecosystems. Subregional assessment reports covering GEF-eligible countries were published between April and June 2006, covering the Mekong River, the Sea of Okhotsk, the Oyashio Current, the Caribbean Sea, the Humboldt Current, the East African Rift Valley and the Caspian Sea.

The UNEP Global Environmental Monitoring System (GEMS) Water Programme has a twin goal of improving water quality monitoring and assessment capacity in participating countries, and determining the state and trends of regional and global water quality. These goals are implemented through the GEMS/Water data bank, GEMStat, with water quality data from more than 100 countries, and over two million entries for lakes, reservoirs, rivers and groundwater systems. On World Water Day, 22 March 2006, GEMStat expanded as an Open Web Service. The GEMS Water Data Integrity programme has also completed a study evaluating the reliability and comparability of water quality data from laboratories in United Nations member states worldwide.

ASSESSING RISK

During 2006, the Environment and Security Initiative (ENVSEC), a partnership between UNEP, UNDP, the Organization for Security and Cooperation in Europe (OSCE), the Economic Council for Europe and the Regional Environment Center for Central and Eastern Europe, in association with NATO, continued its work in the Caucasus, Central Asia and southeastern Europe. The purpose of the Initiative is to offer the combined political and technical expertise and experience of the partners in assessing and addressing environmental problems that raise security concerns within and between countries.

At the request of Belarus, Moldova and Ukraine, ENVSEC initiated an environment and security risk assessment in this eastern European subregion. As well as some of the environmental consequences of the Chernobyl disaster, stocks of rocket fuel and obsolete pesticides from Soviet times were identified as areas for urgent attention in future ENVSEC work in the region. In Central Asia, an assessment has been made of environment and security challenges on the east coast of the Caspian Sea, while in another new project, Afghanistan, Tajikistan, and other downstream countries, such as Uzbekistan and Turkmenistan, are being assisted in preventing and mitigating water management problems in the Amu Darya river basin. In southeastern Europe, UNEP and its partners continue to promote environmentally sound mining practices, through training, assessment and demonstrating legacy rehabilitation, aimed at reducing transboundary and other security risks. ENVSEC is also promoting cross-border cooperation on nature protection through the establishment of protected areas and parks.

Among the 2006 ENVSEC-supported peace-building efforts was the OSCE-led Environmental Assessment Mission to wildfire-affected territories in the 'frozen conflict zone' of Nagorno-Karabakh in the South Caucasus, as called for by UN General Assembly Resolution 60/285 of 7 September 2006 on "the situation in the occupied territories of Azerbaijan." The Mission made recommendations on how to rehabilitate the fire-affected areas and prevent the recurrence of such fires. The Mission also concluded that the environmental operation requested by the resolution presented an opportunity for regional cooperation, confidence building and ultimately reconciliation of the conflict in Nagorno-Karabakh.

2006 also marked the 50th anniversary of the Vienna-based UN Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), which is functionally linked with UNEP. Born in the aftermath of the atomic bomb horrors of Hiroshima and Nagasaki and amid a proliferation of atmospheric nuclear weapons tests, UNSCEAR has moved from assessing the lingering and deadly impact of nuclear warfare to the wider task of gauging the effects of radiation whatever its cause, be it medical, natural or industrial.

THE BIG PICTURE

A central component of UNEP's assessment and early warning system is the network of autonomous Global and Regional Integrated Data (GRID) Centres. UNEP's partnership with the GRID network provides and facilitates access to environmental data and information for decision making and policy setting, underpinning UNEP's review of the state of the world's environment and providing early warning on emerging environmental threats. Bringing GRID 'into the 21st century' was the goal of a meeting held at UNEP-WCMC in October 2006. The meeting—the first in 11 years to bring together all UNEP's centres and partners working on environmental and related data and information—discussed the development of the environmental data infrastructure for UNEP, including the knowledge base, capacities and tools available in the GRID and other partner data centres.

Among key initiatives under development to increase access to environmental data and information is the web-based platform 'ecoMundus' (www.unep.org/ecomundus), which will serve as a mechanism for finding key environmental information and data resources scattered across the World Wide Web. Five regional workshops on ecoMundus were convened throughout 2006 to bring key partners on board. Producing a comprehensive inventory of environmental assessment processes and outputs from global to city level, as well as across different thematic areas, is a challenging task. To date more than 800 metadata records and over 500 assessment reports have been added to the system, named PEARL (Prototype Environmental Reporting and Assessment Landscape). In order to help countries to share environmental data and information UNEP has also initiated a global partnership to identify, classify, organize and provide electronic access

to environmental data and information from a country perspective. Inter-agency collaboration was mobilized in 2006 to contribute content. The next step is to engage national level institutions.

In an effort to bridge the knowledge gap between developed and developing countries, UNEP has been working with partners to develop the Online Access to Research in the Environment (OARE) initiative, which was launched in October. OARE is a partnership with Yale University, the World Health Organization (WHO), the Food and Agriculture Organization (FAO) and more than 35 publishers to make global scientific research in the environmental sciences available online for free or at nominal cost to tens of thousands of environmental scientists, researchers, and policy makers in the developing world. By providing access to advanced and up-to-date peer-reviewed research literature, OARE is helping to fulfil the Bali Plan mandate to strengthen national capacity for data collection, research and analysis. OARE, whose collection is valued at nearly \$1 million, also represents a truly global public-private partnership for development, providing access to essential information so local experts can find solutions to local environmental issues. Three months after the launch of OARE, 198 institutions in 54 countries had already registered.

Another new initiative that will help to bring the results of UNEP assessments to a global audience was launched in September, when the popular Internet site Google Earth introduced more than 100 satellite images from UNEP's best-selling 'One Planet, Many People: Atlas of our Changing Environment' and 'Africa's Lakes: Atlas of our Changing Environment', which was released in 2006, on its 'featured content' section. The content, which will be frequently updated as new information becomes available, allows users to 'fly' round the planet and zoom in on environmental hotspots to see how human activities have brought about environmental change.

UNEP AT THE POLES

UNEP's science-based work will become more widely available via the Tara project. On 20 July, the Tara—the biggest polar schooner in the world—set off on the ambitious Arctic Drift project, Tara Arctic 2007–2008, which is supported by UNEP. As part of International Polar Year, which commences in March 2007, Tara has



The world's largest polar schooner, the Tara, enclosed in ice for the Arctic winter. The 2007–2008 Arctic Drift project will provide valuable data on the fast-changing Arctic environment. © F. Bernard/taraexpeditions.org

set out on a two-year expedition to the Arctic. Locked in the ice, the boat will drift across the region providing an unprecedented platform for scientific observations and research—including the European DAMOCLES—on how the Arctic environment is changing. It will relay these findings to scientists, policy makers and the general public. Tara's progress can be followed on the expeditions pages of the UNEP website.

UNEP's work in the polar regions is led by the UNEP GRID-Arendal centre in Norway. Norway will host the 2007 World Environment Day celebrations, under the theme 'Melting Ice: A Hot Topic?', with a link to International Polar Year. The Polar regions are some of the most beautiful places on Earth. They are also nature's early warning systems, where issues like climate change, the thinning of the ozone layer and the impacts of persistent chemical pollution manifest themselves first. The Arctic is also increasingly becoming a new economic powerhouse for minerals, oil and gas extraction and shipping—partly as a result of the receding ice, due to climate change. Both Polar regions are seeing increased interest from tourism and the fisheries industry keen to exploit their vast and abundant fish stocks. All these issues present opportunities

and threats to indigenous peoples living in the Arctic region and for the world as a whole.

The importance of the polar regions as barometers of global changes and the emerging understanding of feedback mechanisms that link polar regions to the rest of the biosphere underpin UNEP's increasing interest in them. Over the last few years, UNEP has been submitting technical papers on emerging Antarctic issues to the Antarctic Treaty Consultative Meetings, which aim to review and further promote the implementation of the Antarctic Treaty and its Protocol on Environmental Protection. Tourism and biological prospecting are two of the key emerging issues that have received increased UNEP attention. The tourism industry has increased tremendously over the last decade, while biological prospecting is a strongly emerging issue. UNEP technical papers aim to bring focus on those commercial activities and help ensure that they do not detract from on the successes of the Antarctic Treaty system, in particular in securing Antarctica as a natural reserve, devoted to peace and science. For the International Polar Year 2007–2008, UNEP is preparing a number of publications, including a GEO for the ice-covered regions that will be launched in Norway in June 2007 for World Environment Day.

MANAGING CHANGE

The purpose of UNEP's environmental assessments is to provide policy-relevant information for use by local and national governments, regional and global governmental forums, international organizations, and the private sector. Underpinning these policies is a vast and growing body of environmental law. Since its establishment, UNEP has been closely involved in helping countries develop and apply environmental law, from the global convention level down to national legislatures and local authorities. Long-term strategic guidance for this work is provided by the Montevideo Programme for the Development and Periodic Review of Environmental Law, which is now in its third decade. In combination with the Bali Strategic Plan for Technology Support and Capacity Building, it provides an important policy framework for UNEP's normative and operational activities in the field of environmental law.

Throughout 2006, UNEP continued its work on the progressive development of environmental law, providing technical assistance to governments to strengthen their capacity to develop and implement national and international environmental law and disseminating environmental law information, with more than 20 developing countries in Africa, Asia, Latin America and Eastern Europe receiving UNEP technical assistance in 2006. As a concrete step to further promote South-South cooperation in the field of environmental law, the Bandung Roadmap for Advancement of Environmental Law in Support of the New Asian-African Strategic Partnership was prepared at a workshop of experts from Asian and African countries, convened in Indonesia by UNEP and the governments of Indonesia and South Africa in December 2006.

CAPACITY BUILDING

One of the standout initiatives of recent years has been the Global Judges Programme, which provides capacity building for judges, prosecutors and other legal practitioners in understanding and



implementing environmental laws. As well as several national workshops in Africa and Central Asia, UNEP convened a special session of the Ad-hoc Advisory Committee of Judges, in Geneva, where judges from around the world reviewed and finalized the 'UNEP Judicial Training Modules on the Application of Environmental Law by National Courts and Tribunals'. In addition, a forum of judges for the environment was held in Helsinki, Finland, and a judicial capacity building seminar for Lusophone countries was held in Sao Paulo, Brazil. UNEP also provides capacity building for parliamentarians, who develop, review, and adopt environmental law.

Central to the application of environmental law is the question of access to information, especially in developing countries and countries with economies in transition. UNEP has been cooperating with the World Conservation Union (IUCN), and the UN Food and Agriculture Organization (FAO), to develop ECOLEX, the largest Internet database on environmental law at



Marina Silva (centre), minister of environment of Brazil and in conversation with fellow women environment ministers and heads of delegation from El Salvador, Lesotho, South Africa, Canada at the high level segment of the eighth Conference of Parties of the Convention on Biological Diversity (CBD), in Curitiba, Brazil, 20–31 March 2006. Minister Silva was the president of the Conference. In April 2002, Parties to the CBD, which is administered under UNEP's aegis, agreed "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national levels as a contribution to poverty alleviation and to the benefit of all life on earth". © ISSD

global level, with more than 100,000 references to documents related to treaties, judicial decisions, national legislation, literature available on the World Wide Web. In 2006, UNEP continued to maintain, refine and develop ECOLEX, with the inclusion of 200 new court decisions on environmental law from more than 30 countries around the world, including 52 decisions from international courts or tribunals. The partners also created a new design for the database with a revised and more dynamic interface, to make ECOLEX more user-friendly.

UNEP also provides education and training in environmental law. In 2006, training courses included the third annual course on international environmental lawmaking and diplomacy, held in South Africa, a regional training seminar on drafting environmental legislation for Francophone African countries, in Mali, a regional seminar on the implementation and enforcement of environmental law in the Francophone African countries, in Gabon, and a six-month training

course on environmental law and diplomacy, implemented jointly with the University of Geneva and the UN Institute for Training and Research (UNITAR).

In recent years, several new developments have taken place on environmental dispute avoidance and settlement at the international, regional and national level. Environmental disputes are increasing, as are the number of environment-related subjects being considered by various judiciary and arbitration bodies. In cooperation with the Permanent Court of Arbitration, UNEP organized an expert group meeting in November 2006 to examine these developments. Among the recommendations were that UNEP should develop guidelines on: access to justice on environmental matters, including public interest lawsuits to apply and implement environmental laws; use of preliminary remedies in environmental disputes; and use of environmental expertise in dispute settlement concerning environmental issues.

SUPPORT FOR AFRICA

In Africa, the Partnership for the Development of Environmental Law and Institutions in Africa (PADELIA) project is supporting the development, implementation, compliance and enforcement of environmental law. PADELIA also contributes to the Environment Initiative of the New Partnership for Africa's Development (NEPAD) and the programme of work of the African Ministerial Conference on Environment (AMCEN). During 2006, PADELIA supported the development of more than 60 national environmental laws and regulations, five environmental law and policy publications, and more than 10 training courses on general environmental law and policy and on specific topics, such as environmental standards, the role of the judiciary and legal practitioners, environmental litigation, international environmental law and the implementation of environmental conventions. The project also contributed to the exchange of comparative experiences for specific countries with the same legal system or background, such as the Lusophone countries, the Francophone countries and the Anglophone countries, and among target groups such as industrialists, environmental law lecturers and government officials.

At the subregional level, PADELIA supported the development and harmonization of laws on issues such as wildlife, forestry, environmental impact assessment, environmental crime, environmental standards, dangerous installations, the management of protected areas and river basins, biosafety, hazardous wastes, chemicals and waste management. Environmental impact assessment guidelines were also developed for transboundary shared ecosystems for the East African Community. As a result of the PADELIA project, environmental law has achieved a high rate of acceptance among relevant stakeholders, rates of enforcement of and compliance with environmental law are up, as evidenced by the number of cases being brought to the courts, and levels of awareness of the dangers of environmental degradation have increased, as have legal interventions to avert such dangers.

Under the leadership of the United Nations Economic Commission for Africa (UNECA), clusters of UN agencies working in Africa have been formed in the context of a coordinated UN system approach in support of NEPAD. UNEP is the lead agency in coordinating environmental issues within Cluster 4: Environment, Population and Urbanization. UNEP continues to be closely involved in the NEPAD process, offering

Access to information is essential for decision making. UNEP is a partner with IUCN and the UN Food and Agriculture Organization on the ECOLEX global database on environmental law. ECOLEX, at www.ecolex.org, provides access to over 100,000 references to documents related to treaties, judicial decisions, national legislation and relevant literature.

ECOLEX A gateway to environmental law

Home About User Agreement Contact us English Español Français

ECOLEX is a database providing the most comprehensive, global source of information on environmental law.
ECOLEX is operated jointly by FAO, IUCN and UNEP.

<p>Treaties</p> <p>Contains references to and extensive information on multilateral legal instruments.</p> <p><input type="checkbox"/> Treaties</p>	<p>National Legislation</p> <p>Covers national jurisdictions around the world and legislation from the state or provincial level.</p> <p><input type="checkbox"/> National Legislation</p>	<p>Court Decisions</p> <p>Contains information on major national and international judicial decisions.</p> <p><input type="checkbox"/> Court Decisions</p>	<p>Literature</p> <p>Contains information on monographs, articles and grey literature.</p> <p><input type="checkbox"/> Literature</p>
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SEARCH

Please note that the Court Decisions database is under development
© 1998-2006 ECOLEX

technical, logistical and financial support. In 2006, UNEP continued to work closely with African subregional organizations to finalize subregional action plans for the NEPAD Environment Initiative. In addition, UNEP, with support from Norway, is providing support to Mozambique, Libya, Ethiopia, Ghana and Cameroon to develop their NEPAD National Action Plans on a pilot basis. These pilot projects will provide key lessons for further implementation in other countries in Africa.

UNEP also provides the secretariat for AMCEN, for which it provided substantive support for the 11th regular session of AMCEN, in May 2006 in Brazzaville, Congo, organized in collaboration with the national government and the African Union (AU). The object of the meeting was so environment ministers could review the implementation of the Action Plan for the Environment Initiative of NEPAD. UNEP also supports the work of the African Ministerial Council on Water (AMCOW), which was established in 2002 to provide political, policy and strategic leadership on water resources.

ASIA AND THE PACIFIC

The Asia Pacific region is home to more than half of the world's population. It accounts for more than 36 per cent of the global economy and has an estimated 70 per cent of the world's poor. Geographically, it ranges from fragile small island developing states of the Pacific to the populous and vast coastal and deltaic plains of South and Southeast Asia and the mountainous, landlocked countries of Central Asia. Expanding populations and dynamic economies are exerting considerable pressures on environmental resources and services of the region. Increased economic development has also led to rapid urbanization, and the region now holds about 45 per cent of the world's urban population. While the region has vast water resources, millions lack access to safe water, while more than half Asia's drylands are affected by desertification.

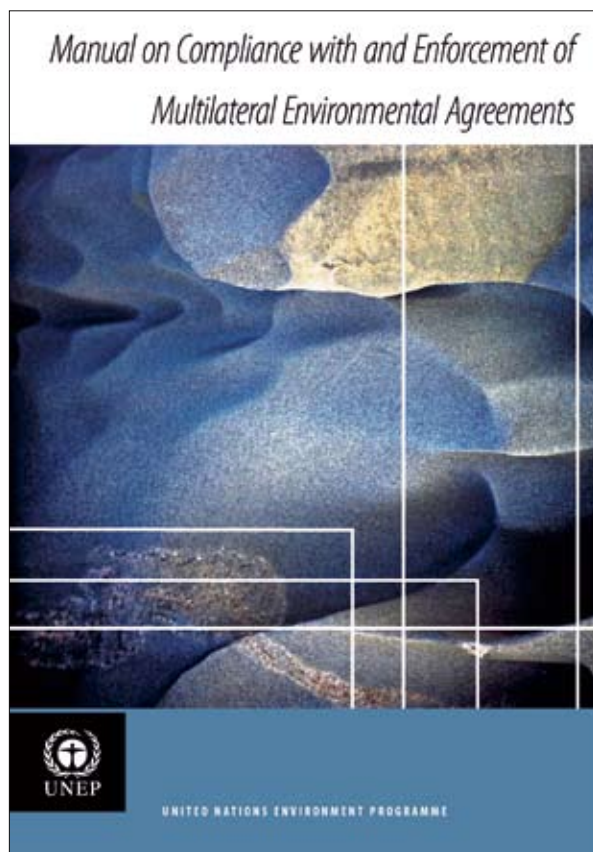
In a region as large (46 sovereign states) and as diverse as Asia and the Pacific, UNEP recognizes the value of working at the subregional level. Asia-Pacific has five sub-regions—Central Asia, Northeast Asia, South Asia, Southeast Asia and the South Pacific—each with its own intergovernmental bodies and processes.

Integrated planning and policy setting is needed to achieve sustainable development goals. While environment agencies have been established in all countries in the region, many lack capacity and resources and remain in the margins of the mainstream planning process. At the request of developing countries in the region, UNEP is implementing the National and Subregional Sustainable Development Strategy and Action Plans towards Mainstreaming Sustainable Development in the Decision Making Process project with the support of the Government of Norway. The project aims to assist 17 countries and three subregions.

One of the region's growing problems is transboundary haze from forest fires, which has become a yearly problem in Southeast Asia. The 1997–1998 forest fires destroyed about 10 million hectares of Indonesia's forests, exposing more than 20 million people to high levels of pollutants and leading to economic losses of around \$9.3 billion. The 2006 haze, while less severe, caused damage to agricultural production and forests, disrupted transportation, affected tourism and other economic sectors and had long-term health effects in several countries, including Brunei, Philippines, Malaysia, Singapore, and Thailand. With support from UNEP, the ASEAN Agreement on Transboundary Haze Pollution has been in place since November 2003. Six ASEAN member countries have ratified the agreement: Brunei, Malaysia, Myanmar, Singapore, Thailand, and Vietnam. Indonesia has signed the agreement but has yet to ratify it. UNEP is providing support for the implementation of the agreement and is considering providing technical assistance to Indonesia on a legal framework and action plan to combat the problem.

MULTILATERAL ENVIRONMENTAL AGREEMENTS

Full implementation of multilateral environmental agreements (MEAs) is vital to ensure their effectiveness and full value. UNEP provides administrative support for seven global environmental conventions, as well as a number of regional seas agreements and subregional treaties. In 2006 UNEP continued to develop various tools to strengthen the implementation of MEAs in close cooperation with MEA secretariats, governments, NGOs and other stakeholders. A 'Handbook for MEA Negotiators' was developed



UNEP's support to MEAs includes capacity building on compliance and enforcement. Available as an online database and CD-ROM, as well as in hard copy, the Manual supports the effective implementation of MEAs.

and tested during several workshops for Small Island Developing States and, for NGOs, a 10-module 'Training Manual on Negotiation and Implementation of MEAs' was submitted to final peer review.

In June, UNEP launched a 'Manual on Compliance with and Enforcement of MEAs'. The manual complements the 2002 'UNEP Guidelines on Compliance with and Enforcement of MEAs' by providing examples from around the world on how governments, NGOs, the private sector, and other institutions have utilized the various approaches set forth in the Guidelines. It also provides more detailed explanations, checklists, and additional resources to give depth to the specific approaches. It is intended for a wide audience of stakeholders who have a role to play in ensuring the effective implementation of MEAs.

The Manual is also available as a fully-searchable online database and on CD-ROM. UNEP also launched the Colombo Process on Compliance with and Enforcement of MEAs, a working

platform for independent experts, government representatives and representatives from MEAs and civil society to discuss further steps for promoting better compliance with and enforcement of MEAs.

Compliance and enforcement in the area of environmental crime is a priority area for many MEAs which have trade components. Illegal trade of regulated items, for example ozone-depleting substances, toxic chemicals or waste, and products from endangered wild plants and animals and products containing them, is highly lucrative and undermines the effectiveness of those agreements. The role of customs officials in monitoring and controlling flows of regulated items at borders is at the heart of the Green Customs Initiative, a joint project of UNEP, the World Customs Organization, Interpol, and MEA secretariats. In February 2006, the first national Green Customs Workshop was held in Mauritius, following a series of successful regional workshops.

A 'Training Guide for Customs Officers' was also developed and tested. This continuing initiative covers several MEAs, including the Montreal Protocol, the Rotterdam, Stockholm and Basel conventions and CITES. Training provided by the Initiative builds the capacity of customs officers to understand these different MEAs and it complements the specialized training provided under the individual agreements. Recognizing this benefit, secretariats of the Convention on Biological Diversity (CBD) and the Organization for the Prohibition of Chemical Weapons joined the initiative in 2006.

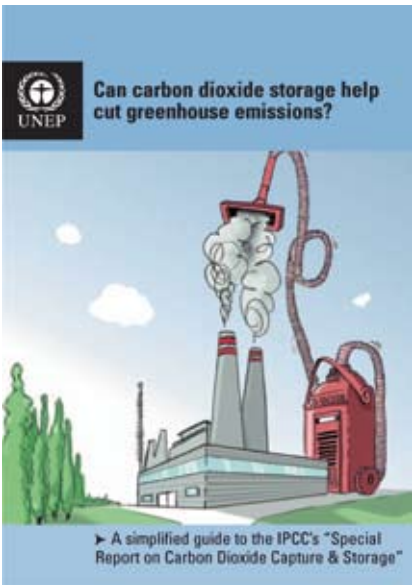
SUPPORT FOR CONVENTIONS

The concept of thematic clustering or grouping of MEAs is being considered as a strategy for improving their implementation by reducing institutional fragmentation, promoting synergies among related MEAs, and reducing overlaps. Clustering of MEAs is therefore proposed and promoted by UNEP as a relevant mechanism to improve compliance with international law in a manner that ensures coordination, consistency in the application of policy, principles, rules and practice, comprehensiveness and efficiency in the use of resources. Based on this concept, UNEP has been working with the Secretariat of the Pacific Regional Environmental Programme (SPREP) and the Government of Tonga on an initiative to

improve the implementation of MEAs related to chemicals and waste management. A similar effort has been undertaken by UNEP in partnership with Green Advocates, the Environmental Law Institute, the US Forestry Service and the Government of Liberia for biodiversity-related MEAs.

Through the Information Unit for Conventions, UNEP supports MEA secretariats in achieving public outreach goals, through the development of public information materials and providing media assistance to MEA meetings. The services provided include formulating media strategies and managing press relations, developing and disseminating public information materials, organizing campaigns, seminars and workshops; and promoting the development of information programmes at the national level. In 2006, the unit published two guides for general audiences: ‘Win-Win Solutions for the Climate and Ozone Layer’ a simplified guide to the IPCC Special Report on HFCs and PFCs, and ‘Can Carbon Dioxide Storage Help Cut Greenhouse Emissions?’.

Various decisions of MEA governing bodies have highlighted the importance of engaging all stakeholders, including the private sector, NGOs, youth, women, academia and the media, for the successful implementation of MEAs. In order to identify and promote the application of practical approaches to ensure effective engagement of local communities in MEA processes, UNEP launched a project on MEAs and Communities in 2006. In October 2006, a brainstorming meeting was organized where representatives from communities, NGOs, research institutions, governments, and international organizations gathered to identify various challenges faced by local communities relating to institutional mechanisms to ensure collaboration between decision makers and communities, sustainable financial mechanisms to support community-based activities and awareness raising. Based on the outcomes of the meeting, UNEP is currently planning follow-up activities, such as demonstration projects on the implementation of specific provisions of biodiversity-related conventions at the community level.



Effective implementation of MEAs means engaging a wide range of stakeholders, from governments to the general public. UNEP supports the production of a variety of information materials, ranging from specialized studies to simplified explanations of the environmental conventions and the issues with which they deal.

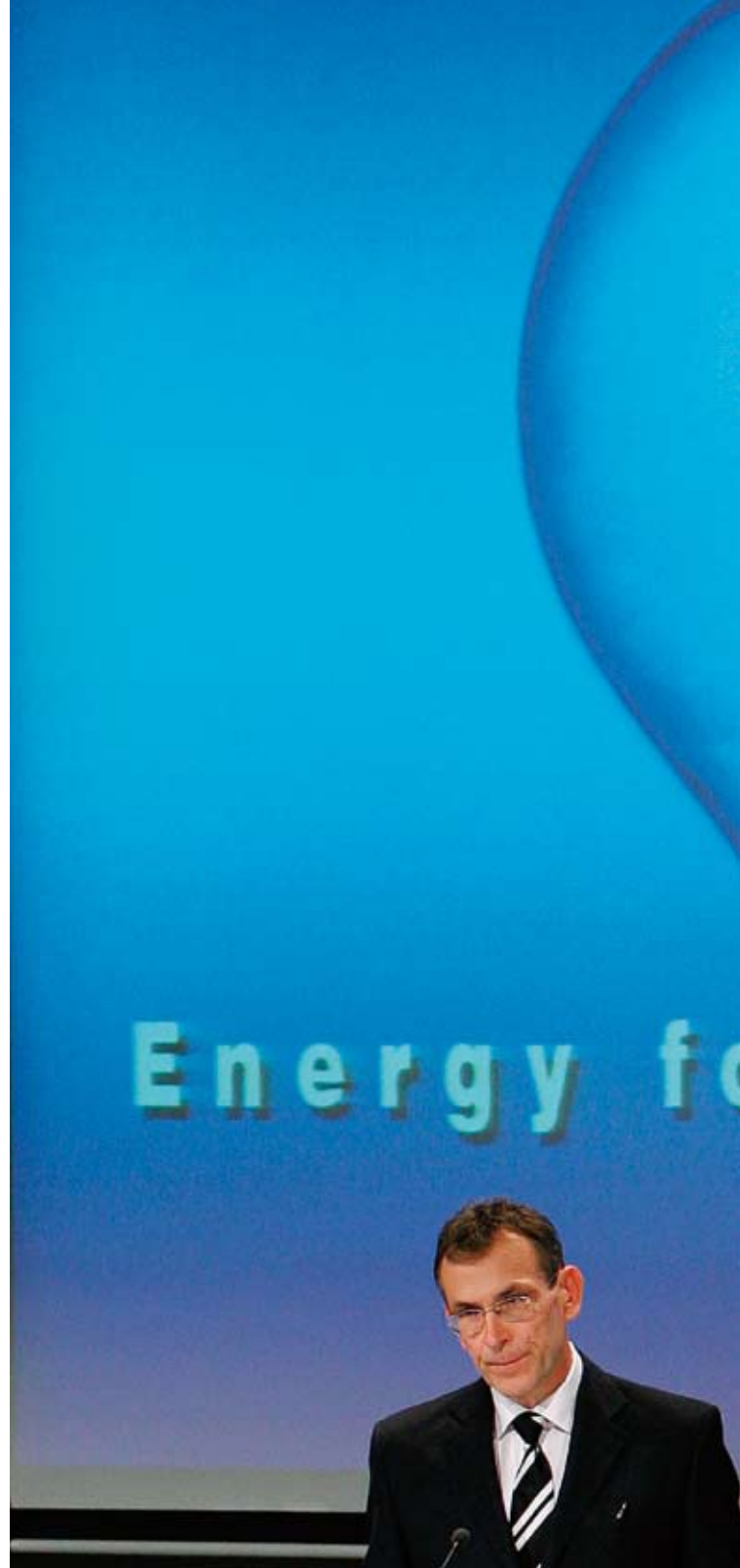


ENERGY FOR CHANGE

The world faces a host of often interrelated environmental challenges. Paramount among them is climate change. Failing to slow global warming trends could hinder or prevent the achievement of environmental sustainability and other sustainable development goals adopted by the international community. Reducing the rate of biodiversity loss, combating land degradation and desertification, restoring the health of ocean ecosystems, alleviating freshwater scarcity and reversing the incidence of malaria and other vector-borne diseases all depend to some degree on a stable climate.

The continent deemed most vulnerable to climate change, and least equipped to adapt and cope with its effects, is Africa. In preparation for the twelfth Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) and the Meeting of the Parties to the Kyoto Protocol, which was held at UNEP's Nairobi duty station in November 2006, UNEP organized an African Climate Change Negotiators meeting. The object of the meeting was to give African negotiators an opportunity to prepare positions on key issues and ensure that the outcomes of the climate change meeting were in Africa's best interests.

At the conference, the UNFCCC Secretariat released a report on impacts, vulnerability and adaptation in Africa, which indicated that the continent's vulnerability to climate change is even more acute than had previously been supposed. Based on data from organizations such as UNEP and the World Meteorological Organization (WMO), the report highlighted the importance of helping the countries of Africa, as well as other developing countries, to adapt to the impacts of global warming. To that end, UNEP and the UN Development Programme (UNDP) announced a new global initiative to secure a greater share of the international carbon finance market for the world's poorest countries at the November climate change meeting in Nairobi. The partnership is in direct response to urgent requests from leaders in developing countries, particularly those in sub-Saharan Africa, for assistance in coping with the



climate change that is already affecting them and will increasingly affect them for years to come. The aim is to help reduce the vulnerability of poor countries and communities, and 'climate proof' their economies in areas ranging from infrastructure development to agriculture and health. The initiative also responds to the need to build the capacity of countries to participate in emerging carbon finance funds, such as the Clean Development Mechanism (CDM) of the Kyoto Protocol.



CHANGING AWARENESS

The UNFCCC New Delhi Work Programme on Article 6 (Education, Training and Public Awareness) requests intergovernmental organizations to help Parties in climate change outreach and to support their efforts to launch and implement national climate awareness programmes. UNEP has been a long-standing partner of the Convention in outreach matters and 2006 featured a variety of initiatives to expand assistance to new countries and to follow up with project proposals from existing partners.

European Commission President Jose Manuel Barroso (centre), European Energy Commissioner Andris Piebalgs (left), and Environment Commissioner Stavros Dimas at a joint news conference in Brussels, 10 January 2007, on a common energy policy for the 27-nation European Union (EU). Climate change grew as a central issue for governments throughout 2006. Moves to boost renewable fuels, cut energy consumption and curb dependence on oil and gas are growing themes for governments round the world. © Yves Herman/Reuters/The Bigger Picture

Energy for change

UNEP strengthened collaboration with Kenya and Gambia for climate outreach to key groups, including parliamentarians, the scientific community and the general public. Cambodia conducted a national stakeholders workshop, and in Uzbekistan educational materials were produced in local languages. UNEP also produced an educational course on climate change for universities and higher schools in Central Asia, in partnership with WWF. In Europe, Russia produced a guidebook for decision makers and conducted a high-level workshop, and Armenia started initial Article 6 activities. In the Caribbean, St. Lucia is producing up-to-date information to assist in formulating sound climate policies.

Another important dimension of UNEP's Article 6 programme is engagement with civil society groups. Responding to the needs of youth, UNEP partnered with Scouts Canada and the South African Scout Association to develop a 'Climate Change Programme Implementation Guide', and conducted an awareness workshop for Scouts associations in sub-Saharan Africa. Working with the mass media, UNEP organized a training workshop for journalists in Georgia.

The goal of the Billion Tree Campaign is to raise awareness of climate change and environmental degradation worldwide, and encourage practical action to reverse it.



Non-governmental organizations were the prime target group for a special newsletter commissioned by Climate Network Africa on UNFCCC COP12/MOP2 and its implications for Africa. Lessons learned from national projects and regional workshops on Article 6 were summarized by UNEP in a handbook entitled 'Raising Awareness on Climate Change', which was presented and launched at a special event during UNFCCC at COP12.

AFFORESTATION AND ADAPTATION

Climate change awareness also lies at the core of the UNEP Billion Tree Campaign, launched at the November climate change meeting by Nobel Peace Prize laureate Wangari Maathai, UNEP Executive Director Achim Steiner, and Dennis Garrity, Director General of the World Agroforestry Centre (ICRAF). All sectors of society—from individuals to governments—can enter tree planting pledges on the campaign website www.unep.org/billiontreecampaign, with the goal of planting 1 billion trees worldwide during 2007. The campaign encourages the planting of indigenous trees and trees that are appropriate to the local environment. Advice is available via the website, as well as information about reforestation and other tree-related issues, including links to appropriate partner organizations, such as ICRAF, best equipped to give locally tailored advice.

Despite the fact that tropical deforestation accounts for between 20 and 25 per cent of global greenhouse gas emissions, neither the UNFCCC nor the Kyoto Protocol currently contain any provisions for addressing this. However dialogue started during 2006 and governments and appropriate international experts are discussing potential mechanisms. UNEP, and in particular the UNEP World Conservation Monitoring Centre, are working to ensure that these discussions take full account of the potential for multiple benefits whereby governments addressing climate change objectives by reducing tropical deforestation are simultaneously addressing biodiversity targets and objectives, as well as the Millennium Development Goal of environmental sustainability.

Climate change is also causing the retreat of glaciers around the world, threatening regional water security and increasing the likelihood of

natural disasters. The Hindu Kush-Himalayan region and the Central Asian mountains have been severely affected by regular Glacial Lake Outburst Floods in recent years. The UNEP Glacial Lake Outburst Flood project aims to enhance capacity in vulnerable communities in the region to deal with environmental hazards associated with mountain glaciers and glacial lakes. The project is preparing an inventory of glaciers and glacial lakes, developing early warning systems and identifying adaptation and mitigation measures for each dangerous lake.

CLEAN DEVELOPMENT

Growing awareness and action related to climate change is creating increasing opportunities to develop new and cleaner alternatives to today's fossil fuel energy systems. Many of UNEP's activities in this area are undertaken by URC — the UNEP Risoe Centre on Energy, Climate and Sustainable Development — and targeted at helping developing countries to participate fully in the CDM. Work includes regional and sectoral initiatives and developing new tools, particularly under the Capacity Development for the CDM (CD4CDM) Project, a four-year initiative to help twelve developing countries participate as equal partners in the CDM. From June 2006 to the end of 2008 the project has added nine extra countries. With a total grant of \$12.5 million from the Netherlands, UNEP and URC have jointly become one of the major providers of capacity building support for CDM.

Other projects include the Carbon Finance for Sustainable Energy in Africa, which is developing carbon finance and institutional capacity in Ghana, Zambia, Mali, Cameroon, and Mozambique, and the UNEP Adaptation and Climate Vulnerability Project. This was a one-year effort during 2006 to help develop a methodological framework for integrating climate change into national and sectoral development programmes by linking development goals and climate change to poverty reduction, food production, water resources, energy access, health issues and education. Balancing Development, Energy and Climate Priorities in Large Developing Economies is a partnership with the International Energy Agency (IEA) to broaden the knowledge base on energy demand policies in the large developing economies of China, India, Brazil and South Africa.

Brazil, China and India were also the focus of a four-year UNEP/World Bank project aimed at removing barriers for energy efficiency lending and increase the capability of new and existing financial institutions to package energy efficiency investment projects. The project Developing Financial Intermediation Mechanisms for Energy Efficiency Projects in Brazil, China and India project helped to develop energy service companies (ESCOs) and explored equity funding for energy efficiency projects and guarantee facilities for loans. The project finished in June 2006.

ENGAGING BANKS

UNEP is working to remove market distortions, provide access to energy markets, and accelerate the development and dissemination of technologies and processes to increase energy efficiency. Changing the attitude of mainstream financiers towards sustainable energy and helping them make investments in the sector are key components of this strategy. The Sustainable Energy Finance Initiative (SEFI) is a starting point for UNEP's energy finance work and a platform to provide financiers with the tools, support and networks needed to drive financial innovation that improves the environmental performance of the world's energy systems.

SEFI is managed jointly by the UNEP Energy Branch in Paris, the UNEP Finance Initiative in Geneva, and the Basel Agency for Sustainable Energy. During 2006, SEFI released several new publications including 'Public Finance Mechanisms to Catalyze Sustainable Energy Sector Growth'. SEFI is working to monitor global renewable energy investment trends, promote public capital innovation and investment in the clean energy sector, and assist local credit institutions to engage with the sustainable energy sector. A new initiative, the Seed Capital Assistance Facility (SCAF) is designed to help early stage sustainable energy enterprises access start-up capital from mainstream energy investors. Through SCAF, the finance community will be able to play a more direct role in accelerating growth in the renewable energy sector. SCAF should be operational by early 2007 and will be jointly managed with the Asian Development Bank and the African Development Bank.

Energy for change

UNEP's Indian Solar Loan Programme, supported by the UN Foundation and the UN Fund for International Partnerships, provides an interest rate subsidy for solar home loans through two of India's largest banks, Canara Bank and Syndicate Bank, along with their eight associate Regional Rural Banks (or Grameen Banks—a concept that won their founder, economist Muhammad Yunus, the Nobel Peace Prize in 2006). The three-year programme, which ran through to the end of 2006, has helped to finance 17,300 systems through more than 2,000 participating bank branches, giving 100,000 people access to clean, renewable energy, and prompting 20 other Indian banks to develop similar credit offers. UNEP is also promoting renewable energy investments in the southern Mediterranean via MEDREP Finance, one of three elements of the Mediterranean Renewable Energy Programme (MEDREP) supported by the Italian Ministry of Environment and Territory. Under this partnership, MEDREP launched PROSOL Tunisia, a solar loan facility to help thousands of Tunisian households acquire solar water heaters. Since the launch in April 2005, three partner banks have lent almost \$6 million for the installation of 8,000 solar systems. A similar programme for hotels in Morocco has targeted 80 hotels for new solar water heater systems.

The Rural Energy Enterprise Development (REED) initiative nurtures new, clean energy enterprises in developing countries by providing enterprise development services and early stage seed finance. REED programmes are operating in five countries of West and southern Africa (AREED), northeast Brazil (B-REED) and China's Yunnan Province (CREED). AREED is the most advanced REED programme with debt and equity investments in 32 clean energy enterprises. In Brazil, B-REED has invested in eight enterprises that include PV irrigation, solar drying and solar hot water. CREED's GreenVillage Credit project with The Nature Conservancy is a separate initiative that provides local villagers with household credit to purchase cleaner energy systems, such as solar water heaters, fuel-efficient stoves, and biogas digesters.

POLICY NETWORKS

The Global Network on Energy for Sustainable Development (GNESD) is a collaboration of more than 20 centres of excellence in both developing

and industrialized countries noted for their outstanding work on energy, development, and environmental issues. The GNESD has produced a series of targeted reports on energy access and organized regional workshops with UNEP, UNDP and the International Energy Agency (IEA). In 2006, all participating centres finalized technical reports on local barriers to renewable energy. A new GNESD theme is investigating the links between energy and the Millennium Development Goals.

The Renewable Energy Policy Network for the 21st Century (REN21) is a global policy network on renewable energy to promote the rapid expansion of renewable energy in developing and industrial countries. UNEP co-hosts the REN21 Secretariat with the German technical cooperation enterprise, GTZ. During 2006, REN21 released a series of reports on the renewable energy industry, including an updated *Global Status Report*. One of the key elements of promoting renewable energy is knowing where investments can be viable. The Solar and Wind Energy Resource Assessment (SWERA) is an international collaboration of more than 25 institutions that is mapping the solar and wind energy resources of 13 developing countries in South and Central America, Africa and Asia. After a successful initial phase, SWERA is expanding its mapping and analysis services, including a new Geospatial Toolkit that allows wind and solar maps to be combined with electrical distribution grids and other data to provide high quality information that supports energy planning and policy development, while lowering the risk for renewable energy project developers and reducing project lead times.

ENVIRONMENT AND TRANSPORT

Urban areas, which are now home to half the world's population, generate 80 per cent of all greenhouse gas emissions, just one example of the far-reaching environmental impact that cities have. Emissions from vehicles and transport equipment are rising at a rate of 2.5 per cent each year. They contribute not only to CO₂ emissions but also to local and regional pollution, for example through the emission of particulate matter from high sulphur levels in diesel. Environmentally sensitive policies at city level can therefore help to preserve the ecosystems that cities depend on and have a beneficial impact on the global environment.

UNEP's Sustainable Transport Programme works to integrate environmental factors into transport-related decisions from the global to personal levels to promote a progressive shift in transport systems and mobility options that are less polluting. To help Latin American countries create sustainable transport networks, UNEP and URC created the Network for Environmentally Sustainable Transport in Latin America and the Caribbean, or NESTLAC. With support from the Global Environment Facility (GEF), NESTLAC promotes the benefits of sustainable transport to politicians, decision makers and other stakeholders in Latin America. The GEF is also working with the Government of South Africa on a multi-million dollar Public Transport Infrastructure Fund to upgrade bus and rail services in time for the 2010 FIFA World Cup.

UNEP has also teamed up with the International Association for Public Transport to promote the environmental and life-style benefits of public transport in a media campaign. The Sustainable Mobility and Public Transport partnership is

currently working with the International Railway Union on joint initiatives to promote sustainable development in the rail sector, and UNEP has also joined forces with Daimler Chrysler to promote the use of biofuels. The UNEP/Daimler Chrysler Biofuel Initiative is establishing standards for 10 per cent biofuel blends for biodiesel and bioethanol, and developing criteria for the sustainable cultivation of biomass for biofuels.

UNEP hosts the Clearing-House of the Partnership for Clean Fuels and Vehicles (PCFV), the leading global initiative to improve urban air quality through reduced vehicular emissions. The partnership was instrumental in achieving a complete phase-out of leaded gasoline in sub-Saharan Africa by January 2006, for which it received the UN21 Award. The partnership is now working on a global campaign to eliminate the use of leaded gasoline worldwide by the end of 2008. It is helping the remaining 25 countries in Eastern Europe, the Middle East and Asia that use leaded gasoline to design strategies to accomplish this goal.

Members of UNEP's Urban Environment Unit celebrating the phase-out of leaded fuel in sub-Saharan Africa. UNEP is part of the Partnership for Clean Fuels and Vehicles, whose current challenges include a global phase-out of lead in petrol, and drastic reductions in sulphur in diesel in developing countries. © UNEP



Energy for change

The next challenge for the partnership is to reduce high sulphur levels in vehicle fuels. The combination of high-sulphur fuels—in particular diesel—with older vehicle technology is one of the leading sources of air pollution in cities, particularly in developing countries. In Africa, sulphur levels in diesel fuels are as high as 11,000 parts per million (ppm), whereas in Europe and the United States levels are between 10 and 50 ppm. Emissions of smoke, soot and very fine particulate matter are extremely harmful to human health. Low-sulphur fuels, combined with cleaner vehicle technology, can significantly improve air quality, as well as lengthen engine life.

The PCFV has started a campaign working with developing and transitional countries to develop action plans and timeframes for introducing ultra-low sulphur fuels that will reduce harmful vehicle emissions by up to 90 per cent when combined with modern vehicle technology. Meanwhile, UNEP and the global transport company TNT have signed a cooperation agreement to reduce emissions from vehicle fleets worldwide. A CD-based toolkit has been developed that will be used to reduce pollutants and CO₂ emissions. It will not only be used by TNT, but other organizations with vehicle fleets, including humanitarian organizations.

GREEN CITIES

Urbanization is the mega-issue of regions such as Asia-Pacific, Latin America and the Caribbean, and Africa. Urban land expansion, deteriorating water quality, air pollution, increasing traffic congestion, and increasing solid waste disposal and sanitation problems are all creating growing environmental burdens. With acute urban infrastructure deficiencies in peri-urban and inner city sites, there is an urgent need to focus on prevention, rather than 'end of pipe solutions'. In the Asia-Pacific region, UNEP is promoting sustainable transport and eco-friendly building. An expert network on eco-housing has been established and demonstrations of good practices have been initiated through national consultations, training programmes and feasibility studies. Generic guidelines for the construction of eco-housing guidelines and an eco-housing demonstration project in Sri Lanka have been completed. A feasibility study on the use of off-peak electricity to generate hydrogen has been completed for Nepal.

UNEP has also been implementing a campaign on local-global linkages, linking local issues, such as water and sanitation, air pollution, sustainable energy and natural resources use, with global agendas such as climate change, ecosystem services and coastal pollution. UNEP has also produced tools and guidelines to assist cities to tackle environmental challenges. Together with UN-HABITAT, UNEP has developed an interactive urban air quality CD-ROM to help local authorities develop and implement activities to reduce air pollution.

In order to support a long-term paradigm change in the way cities are managed, UNEP launched the Cities Alliance Environment Initiative under which UNEP and the Cities Alliance secretariat commissioned a global study from ICLEI-Local Governments for Sustainability to identify best practices, case studies and methodologies that show how environmental considerations can be incorporated in municipal strategic planning, management and budgets. During the past year, UNEP has also improved cooperation with clients at local and national level, with 10 Cities Alliance projects with an environmental dimension now co-sponsored by different UNEP divisions.

Direct interventions in cities have led to environmental improvements on the ground. One example of what can be achieved through targeted inter-agency coordination is a project carried out in the industrial zone of Kigali, Rwanda, by UNEP, UN-HABITAT and UNDP. It resulted in significant economic savings and environmental improvements, such as efficient water utilization, energy efficiency improvement, and materials and chemicals spillage control for businesses that implemented cleaner production measures. Buildings and operations will be relocated to a new site, allowing the former location of the industrial zone to be restored. In another example, the Government of Bhutan is working towards applying eco-housing standards to all new government structures, following training conducted by UNEP.

URBANIZATION AND ECOSYSTEMS

The impact of urbanization on ecosystem sustainability and the well-being of city dwellers continues to be a major area of UNEP's work. In Latin America, two metropolitan areas—Lima

and Callao, in Peru, and the Metropolitan Area of Central Costa Rica—completed and launched environmental assessments, and the process was initiated for the cities of Rosario, Argentina, Cartagena, Colombia, Asunción, Paraguay, and El Alto and Cobija, Bolivia. A regional seminar on Ecosystems and Cities was held in May 2006 in Santiago, Chile, in collaboration with the Faculty of Architecture, Design and Urban Studies and Instituto de Estudios Urbanos y Territoriales of Pontificia Universidad de Católica de Chile.

Among the most significant results of work in the past year is the launching of an initiative to strengthen cooperation between UNEP and UN-HABITAT with the aim of providing a wider range of services to local and national governments, such as technical assistance and tools on environmental planning and management, technical support and capacity building to local and national governments on global environmental challenges, and support to local governments on environmental assessments. As part of the collaborative work between the Latin America and Caribbean regional offices of UN-HABITAT and UNEP, under the Urban Environment Strategy agreed in February 2004, a discussion panel on Urban Environmental Planning was jointly led as part of the Third World Urban Forum in Vancouver, in June 2006. UNEP and UN-HABITAT are also in discussion with the Technical Administrative Environment Department, the governmental environmental authority for the city of Bogota, Peru, for updating the GEO Bogota assessment. In Brazil, UN-HABITAT and UNEP are also working very closely on the GEO Cities/Local Agenda 21 initiatives.

Prompted by organizations in Sao Paulo, Brazil, decision and policy makers in Latin America have started a self-help 'Healthy Metropolis' network to share lessons learned and best practices for creating sustainable large cities. UNEP is one of the organizers of the First International Forum on Urban Health in the Americas in March 2007 and the Third Americas Meeting of Healthy Metropolis in May 2007. Knowledge and contacts gained through these initiatives have been extremely useful in shaping UNEP's own programmes on health and environment, such as the Integrated Environment and Health Assessment (GEO Health). Pilot GEO Health projects have started in Argentina and Brazil with help of local partners.

ENVIRONMENTALLY SOUND TECHNOLOGIES

Many solutions to urban issues lie in the application of environmentally sound technologies (ESTs). UNEP started the year by hosting an EST Showcase at the Global Ministerial Environment Forum in February in Dubai, with the support of the Zayed International Prize, UNDP and the UN Global Compact. It allowed private sector companies to showcase their innovations, and included 42 technology booths. UNEP's own EST showcase is the International Environmental Technology Centre (IETC), based in Japan. In 2006 IETC continued to promote ESTs in three focus areas: water and sanitation; sustainable consumption and production, with a special focus on waste management; and disaster prevention and management. Among its main projects is the development of ESTIS, the Environmentally Sound Technologies Information System, which is a tool for establishing and maintaining an Internet based network for sharing and disseminating information. In 2006, five new networks were established on various themes. More than 550 sites are hosted by ESTIS, which is now available in Spanish as well as in Arabic, French and English.

Other examples of UNEP's promotion of ESTs include a pilot project to improve water quality in Bocaina City, Brazil. Declining water quality has become national concern as water availability decreases and environmental and health problems increase because of agriculture, forestry, tourism, and industrial and urban waste. With 80 per cent of Brazil's population in urban areas, this problem is further exacerbated, particularly in small- and medium-size municipalities, by a chronic lack of funds, technology and expertise. The project constructed an artificial wetland to treat some of the effluent from a domestic water treatment plant that was affecting the local river.

In August 2006, using lessons learned from the development of eco-towns in Kawasaki and other eco-towns in Japan, IETC and supporting foundation the Global Environment Center approached cities in the Asia-Pacific region. Discussions were held with the governments of Penang Island, Malaysia, Bandung, Indonesia and Pune, India. In October 2006, in collaboration with Kawasaki City, a 10-day training programme on eco-town development was conducted for 10 trainees from the target cities.

CHANGING BUSINESS

Environmental change is almost entirely caused by, or exacerbated by, human activity, and particularly society's patterns of consumption and production. The private sector therefore has a hugely significant role to play in providing solutions to today's environmental challenges. Increasingly, major private sector players are taking a leadership role, by adopting socially and environmentally responsible practices and identifying the commercial advantages that those strategies present. UNEP is working closely with the private sector to support and build on this momentum.

The area that presents the most risk, and increasingly the greatest opportunity, to businesses and financial institutions is climate change. In November, at the UN climate change meeting in Nairobi, expert members of UNEP's Finance Initiative (FI) warned that losses from extreme weather events linked to climate change are doubling every 12 years. Representing many of the world's most powerful financial institutions, with assets worth trillions of dollars, the group called for urgent public-private action to prepare for the economic impacts of climate change, integrating adaptation with sustainable economic development and disaster management. Their report, 'Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector' was the latest from the UNEP FI Climate Change Working Group. It includes case studies and recommendations for the finance sector and policy makers. The Working Group also initiated an online training project on climate change and carbon finance, which will be launched in 2007.

In Asia-Pacific, a four-year project to reduce industrial greenhouse gas emissions was completed in 2006. Along with capacity building of national institutes and industries, a major output was the launch of the 'Energy Efficiency Guide for Industry in Asia' to help industry reduce energy use, greenhouse gas emissions and costs. An international event and nine national launch



events were organized to raise awareness and disseminate the Guide. Parts of the Guide were also translated into several Asian languages, including Bahasa Indonesia, Bangla, Chinese, Mongolian, Sinhala, Tamil, Vietnamese and Thai. At the global level, also with the aim of reducing greenhouse gas emissions, the Sustainable Buildings and Construction Initiative (SBCI) was launched in April 2006 as a partnership between building sector stakeholders and UNEP.

SBCI promotes sustainable building practices, in particular reducing climate change contributions, and developing policies and economic instruments for a life cycle approach in design, construction and use of buildings. In 2006 SBCI had 27 members from 14 countries, established two think tanks, three pilot projects, and published its first



strategic report 'Climate Change and Energy Efficiency in Buildings'. The initiative also welcomed its first North American member, the U.S. Green Building Council.

ENVIRONMENTAL RESPONSIBILITY

At the 23rd Annual Consultative Meeting on Business and Industry, held in October 2006 in Paris with the International Chamber of Commerce, representatives from business organizations and industry associations, individual companies, NGOs, including Greenpeace, WWF and IUCN, as well as the International Confederation of Free Trade Unions and the International Energy Agency, discussed ways to address energy and climate challenges and promote corporate responsibility in industrial

Computer monitors on the beach in Sai Kung, Hong Kong, 1 October, 2006. Hundreds of computer monitors, believed to have been dumped into the sea by recyclers, were found in the space of a few days. The growing use of electronic products, such as mobile phones and computers, is creating a growing environmental challenge, especially in Asia and the Pacific, where so-called 'e-waste' is one of the fastest growing areas of waste production. © Paul Yeung/Reuters/The Bigger Picture



UNEP works with the private sector to promote corporate environmental responsibility. 30 Report Cards on environment and sustainability were launched in the publication 'Class of 2006' at CSD14, in May 2006.

development, two themes that are also being examined by current sessions of the UN Commission on Sustainable Development (CSD). The meeting considered possible action plans for different industry sectors, building on the 30 Report Cards that were launched in the publication 'Class of 2006' at CSD14, in May 2006 in New York. Hosted with the governments of Norway and South Africa, the launch event at CSD14 debated progress with promoting life cycle approaches and the effectiveness of voluntary initiatives in promoting corporate responsibility.

Environmental responsibility is becoming an increasingly important factor in business strategies, as well for consumers and investors. To strengthen the movement towards environmentally sustainable business, UNEP works closely with the UN Global Compact and Global Reporting Initiative (GRI). In early 2005, UN Secretary-General Kofi Annan invited institutional investors to develop a set of Principles for Responsible Investment. Individuals representing 20 institutional investors from 12 countries came together to form the Investor Group, while a 70-person multi-stakeholder group of experts from

the investment industry, intergovernmental and governmental organizations, civil society and academia gathered to support the process. Coordinated by UNEP FI and the UN Global Compact, the drafting process was conducted between April 2005 and January 2006, resulting in Six Principles for Responsible Investment, which were launched in April 2006 at the New York Stock Exchange by Secretary-General Annan. The Principles are open to all institutional investors, investment managers and professional service partners to support, and are now supported by more than 90 institutions, representing more than \$5 trillion in assets.

As part of its contribution to the UN Global Compact, UNEP also continued to represent the initiative in the International Standards Organization (ISO) process to develop a new standard on social responsibility. An expert meeting held in Lisbon in May was used to remind participants of relevant management tools promoted by UNEP and its partners to advance the environmental dimension—sustainable consumption and production—of social responsibility. UNEP also presented a workshop on business and climate change at the annual meeting of the Global Compact National Networks, in Barcelona in September.

In the field of sustainability reporting, UNEP was involved in the launch of the third generation of the GRI Guidelines in October 2006. The UNEP Executive Director spoke at the opening plenary of the meeting, whose high level speakers also included the Royal Prince of Orange and former US Vice President Al Gore. At the event, UNEP and KPMG launched the publication 'Carrots and Sticks for Starters', which gives an overview of trends and approaches in mandatory and voluntary requirements for sustainability reporting, and is a valuable guide for government officials and company managers on legislative trends in reporting in OECD and selected emerging market economies. UNEP also published 'Learning by Doing', the UNEP Division of Technology, Industry and Economics 2004–2005 Sustainability Report. The result presents a model that can be considered by other UNEP divisions and UN offices. It is the first sustainability report by a UN office based on the GRI Guidelines.

SUSTAINABLE CONSUMPTION AND PRODUCTION

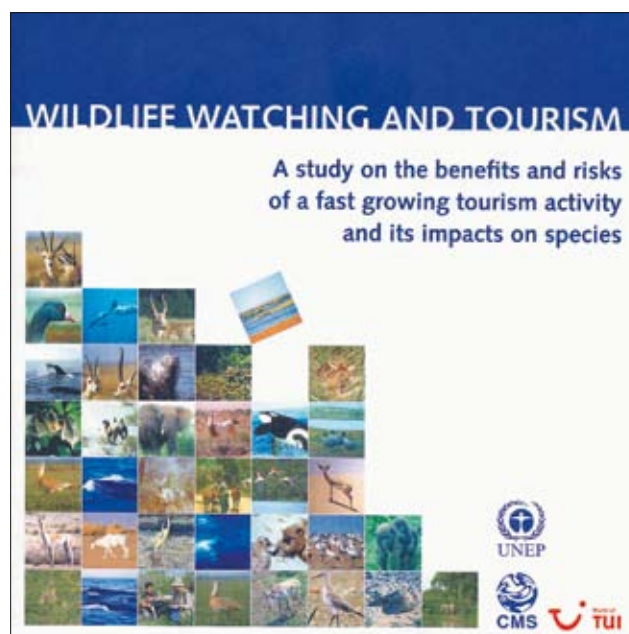
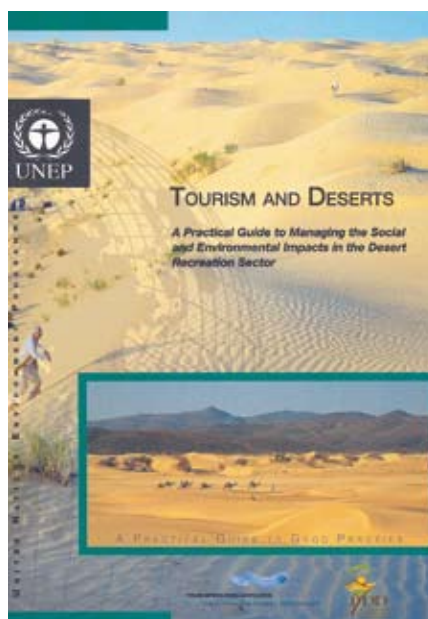
During 2006, UNEP continued its role in the development of the 10-Year Framework of Programmes on Sustainable Consumption and Production (SCP)—the Marrakech Process. Among the most important outcomes was the launch, in May 2006 in Ethiopia, of the African 10-Year Framework of Programmes on SCP, which was endorsed by AMCEN, NEPAD and the African Union. In Beijing, China, the Asia Pacific Help Desk on SCP was established, and in China and India two national roundtables were organized with the support of the European Commission. Two more roundtables are planned for 2007 in Brazil and South Africa.

UNEP also continued to support the Marrakech Task Forces, together with the UNEP-Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP) and in cooperation with the UN Department of Economic and Social Affairs. Three more Task Forces were launched in 2006, bringing their total to seven: Cooperation with Africa (led by Germany); Sustainable Products (United Kingdom); Sustainable Lifestyles (Sweden); Sustainable Procurement (Switzerland); Sustainable Tourism (France); Sustainable Building and Construction (Finland); and Education for Sustainable Consumption (Italy). UNEP also co-organized an expert conference on the Marrakech Process

‘Creating Solutions for SCP’ with CSCP that gathered all the Marrakech Task Forces, and implemented over 10 demonstration projects on SCP in cooperation with the Task Forces.

Responding to the main request of the Marrakech Process, UNEP is carrying out a two-year project on National Strategies on SCP with the support of the UK Department for Environment, Food and Rural Affairs. The main output of the project will be a manual for national SCP strategies that will include guidance on how to include SCP into existing sustainable development, poverty reduction and other strategies. In the area of poverty reduction, UNEP has continued its project on integrating SCP in Poverty Reduction Strategies, developing a manual and implementing two pilot projects in Ghana and Senegal, and strengthening the Marrakech Cooperation Dialogue with development agencies. These activities will be supported by a two-year project on SCP and Poverty Alleviation funded by Norway. The project includes sectoral approaches and demonstration projects in various regions of the world that demonstrate the SCP contribution to poverty reduction. UNEP’s Sustainable Consumption and Production Branch will also be providing capacity building and technical assistance over next four years, with European Commission support, to promote eco-labelling in China, India, Brazil, Mexico, Kenya and South Africa. Product categories include textiles, footwear, appliances and paper.

UNEP promotes sustainable tourism that benefits local communities and the environment.



SUSTAINABLE TOURISM

One of the world's largest and fastest growing industries, tourism has the potential to boost national and local economies and, in some cases, help to protect important ecosystems, if it is developed and managed sustainably. At the February 2006 Governing Council meeting in Dubai, UNEP presented its sustainable tourism strategy, followed by the launch of the Sustainable Tourism Task Force of the Marrakech Process in September 2006. During the World Tourism Forum for Peace and Sustainable Development 2006, UNEP organized three workshops on innovation for sustainable tourism, raising consumers' awareness for responsible travel and integrating sustainability into the global agenda for tourism development. UNEP has also started a collaboration with the UNDP Action on Cooperation and Trust in Cyprus, focusing on the implementation of the Global Compact environmental principles, with an emphasis on the tourism sector. In West Asia, UNEP is working with the Council of Arab Ministers Responsible for the Environment (CAMRE) and other regional stakeholders on an Arab approach towards sustainable tourism. There are two key activity areas: development of policy guidelines and a regional strategy for sustainable tourism; and capacity building within the tourism sector for sustainable development.

At the Conference of Parties of the Convention on Biological Diversity, held in Curitiba, Brazil, in March, UNEP launched a new report 'Wildlife Watching and Tourism' that listed the range of benefits that tourism can provide for biodiversity conservation. Focusing on 12 case studies, the report highlights the growing economic impact of wildlife watching, as well as flagging some of the pitfalls of insensitive management. In November 2006, UNEP signed a Memorandum of Understanding with the International Ecotourism Society. The two institutions will organize a Global Ecotourism Conference with Ecotourism Norway in Oslo in May 2007.

DEVELOPING PARTNERSHIPS

In the area of partnership development, UNEP continued its work with UNDP and the IUCN as core partners in the Seed Initiative, which supports local partnerships for implementing the goals of the Millennium Declaration and Johannesburg

Plan of Implementation. A Seed Partnerships Forum was held in New York at CSD14 to launch the first Seed Partnership Report. The report gives an overview of the first two-year cycle of the initiative, as well as special analysis of progress made by the five award winning partnerships. During 2006, the second cycle of the Seed Initiative was launched, and submissions for the 2007 Seed Awards received. From the more than two hundred entries, finalists have been selected and the new award winners will be presented at CSD15. In June 2006, UNEP also launched a Creative Gallery on Sustainability Communications. This online database features hundreds of advertising campaigns from companies, public authorities and NGOs all around the world. The campaigns highlighted in the Gallery address sustainability issues through various themes, types of media and strategies. The object of the Gallery is to foster more and better communications on sustainability issues from all stakeholders. Since its launch, the Gallery, which featured in UNEP's keynote presentation at the inaugural UK Green Awards, has received over 150,000 visits.

For youth, the youthXchange.net English website, which provides reliable, clear and entertaining information on the meaning and challenges of sustainable consumption for youth, went live in January 2006. The site now has more than 7,000 visitors a month. A UNEP/UNESCO youthXchange networking meeting, held in April 2006, saw translating partners exchanging their experiences for the first time. Participants asked UNEP to intensify training on the youthXchange tool kit and to activate regional hubs to further expand the project and the network. As well as English, the kit is available in Arabic, Chinese, Flemish, French, Hungarian, Italian and Norwegian.

CLEANER PRODUCTION

Developing tools and approaches that support the development and adoption of cleaner production worldwide is a key focus for UNEP's Sustainable Consumption and Production programme. During 2006, UNEP undertook a global assessment of the status, challenges and opportunities for National Cleaner Production Centres (NCPCs). Among the year's highlights were the production of a training resource kit CD-ROM on cleaner production and multilateral environmental agreements; a training programme on cleaner production and energy efficiency for nine NCPCs; and a new programme on water conservation in Africa's brewery sector.

Also in Africa, UNEP continued implementing a project on enhancing the industrial environmental management capacity of Rwanda, as part of an inter-agency support programme provided by UNEP, UNDP and UN-HABITAT on addressing growing environmental problems in Kigali's industrial zone. Training was given to industrial experts on cleaner production methods, and a document for the establishment of the Rwanda NCPC was finalized and submitted to relevant ministries. A National Roundtable on Sustainable Consumption and Production was also held for decision makers and awareness programmes were carried out for the general public.

Together with the non-profit Society of Environmental Toxicology and Chemistry (SETAC), UNEP runs the Life Cycle Initiative, promoting practical tools for evaluating the opportunities, risks and trade-offs associated with products and services over their entire life cycle to achieve sustainable development. In March, the Life Cycle Initiative launched a new web site offering an overview of the initiative's achievements and deliverables. Twenty-two of 28 proposals from developing countries (5 from Africa, 5 from Asia, 11 from Latin America and 1 from Eastern Europe) were chosen to receive the Life Cycle Assessment Award along with free software licenses and access to a Life Cycle Inventory database for 12 months. The award honours outstanding contributions of individuals and organizations in promoting life cycle thinking and in improving life cycle assessment approaches. UNEP is also working on sustainable procurement, with a focus on capacity building. A training session on sustainable procurement for the Moroccan government in June 2006 led to the development of a methodology for sustainable procurement capacity building which will guide UNEP's future work.

WASTE MANAGEMENT

Before a product reaches its point of sale, it will already have created several times its own weight in waste. To highlight global issues of waste management and some of the creative options available to reduce waste, UNEP supported the production of the second edition of 'Vital Waste Graphics', launched by the Basel Convention on the Control of Transboundary Movements of Wastes and Their Disposal at the Convention's Conference of Parties, which was held in

November at UNEP headquarters in Nairobi. One of the key issues at the Basel meeting was the growing amount of e-waste worldwide. Generally containing a number of hazardous materials, such as heavy metals, items such as computers and mobile phones are often shipped to developing countries for disposal or recycling, presenting considerable risks to workers and the environment. Much e-waste finds its way to the Asia-Pacific region, where UNEP organized multi-stakeholder meetings in 2006 to accelerate national policy making in e-waste management. A public awareness campaign was organized in Mumbai, India, in collaboration with local NGOs and the local government. At regional level, an information exchange network meeting is being organized in the framework of the Asia Pacific Roundtable for Sustainable Consumption and Production. Also in the Asia-Pacific region, a knowledge hub on the Reduce, Reuse and Recycle '3R' strategy was launched, in collaboration with the Asian Institute of Technology, the Asian Development Bank and the UN Economic and Social Commission for Asia and the Pacific.

The second edition of 'Vital Waste Graphics', produced by UNEP/GRID-Arendal and the Secretariat of the Basel Convention, looks at the life cycle of products and provides a wealth of data, text and graphics on types of waste that are usually hidden to consumers.



CHANGING CHEMISTRY

UNEP provides the main catalytic force in the UN system to drive activities related to the sound management of chemicals. It supports access to and exchange of information on toxic chemicals and promotes chemical safety by providing policy advice, technical guidance and capacity building to developing countries and countries with economies in transition. The beginning of the year saw the adoption of the Strategic Approach to International Chemicals Management (SAICM) by the International Conference on Chemicals Management (ICCM), held in Dubai, 4–6 February 2006. The Dubai Declaration on International Chemicals Management states that the sound management of chemicals is essential for achieving sustainable development, including the eradication of poverty and disease, improving human health and the environment, and elevating and maintaining standards of living in all countries.

SAICM will provide a global policy framework to achieve the Johannesburg Plan of Implementation goal that, by 2020, chemicals are produced and used in ways that minimize significant adverse effects on human health and the environment. Key features of SAICM are its multi-sectoral scope and its multi-stakeholder participation. The development of SAICM was initiated by the UNEP Governing Council and endorsed by Heads of State and Government in Johannesburg in 2002 and in New York in 2005. The three-year consultative process that led to SAICM's adoption was facilitated by UNEP in collaboration with 10 other intergovernmental organizations. UNEP now hosts the SAICM secretariat, which supports SAICM implementation in all sectors by servicing the ICCM and regional inter-sessional meetings, maintaining a network of stakeholders and an information clearing-house, and facilitating the Quick Start Programme. The latter assists developing countries and those with economies in transition in their initial implementation of SAICM, including through a UNEP-administered trust fund.

UNEP Chemicals is also developing a programme of initial activities and a comprehensive plan for implementing the environment-related

components of SAICM. The plan focuses on capacity building in response to increasing global production, trade and use of chemicals, with growth patterns placing an increasing chemicals management burden on developing countries and countries with economies in transition. Activities already initiated include the Chemicals Information and Exchange Network, a training tool on 'Sound Management of Pesticides and Diagnosis and Treatment of Poisoning', jointly developed with WHO, and a partnership with UNDP on integrating the sound management of chemicals into poverty reduction strategies in developing countries

One of the initial activities for SAICM implementation in UNEP was a Symposium on Illegal International Traffic in Hazardous Chemicals organized by UNEP Chemicals and the Ministry of Environment of the Czech Republic, with funding from the Federal Republic of Germany. The purpose of the workshop was to share information from different regions on the magnitude of the problem, to take stock of existing measures to address illegal traffic, and to inform and guide future UNEP activities related to illegal international traffic in hazardous chemicals.

PERSISTENT ORGANIC POLLUTANTS

Persistent organic pollutants (POPs) are a group of chemicals which share four main properties. They are stable and persistent, lasting for years or decades before degrading into less dangerous forms. They are toxic and accumulate in the fatty tissue of humans and wildlife, causing adverse effects on human health and the environment. They biomagnify through the food chain, and

In August 2006, thousands of tonnes of hazardous waste from overseas were dumped at various sites around Abidjan, Cote d'Ivoire, leading to a humanitarian crisis. Residents affected by the toxic waste wait to consult doctors at the main hospital of Cocody in Abidjan on 7 September 2006. The Joint UNEP-OCHA Environment Unit deployed environmental experts to join the UN Disaster and Assessment Coordination team that was sent to help national authorities deal with the situation. UNEP and the Basel Convention, to which Cote d'Ivoire is a party, continue to support follow-up activities. A trust fund was established by UNEP to assist with the clean-up. © Luc Gnago/Reuters/The Bigger Picture

CONSULTATIONS POUR EXPOSITION
AUX DECHETS TOXIQUES
AU CHU DE COCOD



Changing chemistry

they can evaporate and travel long distances via air and water. The global community has agreed on an initial list of 12 POPs for phase-out under the Stockholm Convention, a global treaty to protect human health and the environment from POPs through measures designed to reduce and eliminate their release.

UNEP Chemicals provides technical support to the secretariat and parties of the Stockholm Convention for its implementation, particularly related to the management of polychlorinated biphenyls (PCBs), identification of sources and releases of dioxins and furans, and alternatives to and sound management of POP pesticides. It is implementing a Global Environment Facility (GEF) project to assess and meet capacity building needs for analyzing POPs in developing countries and is supporting the development of GEF projects on POP pesticides. UNEP Chemicals also established a searchable and web-accessible databank of laboratories capable of analyzing POPs. In collaboration with the Secretariat of the Basel Convention, UNEP has supported the development of national inventories of PCB and PCB-containing equipment on a regional basis. Examples include projects in fourteen countries of the Southern African Development Community (SADC) and in seven countries in Central America, as well as national PCB inventories.

UNEP is also assisting countries to develop dioxin/furan release inventories and is further improving the inventory development methodology outlined in the 'Standardized Toolkit for Identification and Quantification of Dioxin and Furan Release', the methodology used by almost all developing countries. A Toolkit Expert Meeting was jointly held with the Stockholm Convention secretariat at the end of 2006. In collaboration with the World Health Organization (WHO) and the Stockholm Convention secretariat UNEP Chemicals has also developed an information system on DDT to facilitate the exchange of information and experience on issues related to the use of DDT for the control of vector-borne diseases such as malaria. Similarly, UNEP Chemicals worked with the Stockholm Convention Secretariat and the Global Expert Termite Group, established in 2000 by UNEP and the UN Food and Agriculture Organization (FAO), to develop an information system on POP termiticides and termite management. Both systems will be available online.

With the availability and exchange of information such a high priority in sound chemical management, UNEP has built a Chemical Information Exchange Network (CIEN) in collaboration with the US Environmental Protection Agency. Since its inception, 43 countries in Africa and Central America have benefited from it. CIEN provides a platform that countries can use to meet obligations under various chemical-related agreements and has strengthened the capacity of countries to manage chemicals in an environmentally sound manner. CIEN has been integrated into UNEP's pilot project to build capacity for the implementation of the Stockholm Convention in Benin, Chad, Nigeria and Togo, and has received endorsement from focal points attending regional workshops in Africa and the Asia-Pacific region.

HEAVY METALS

In 2005, the UNEP Governing Council agreed to the implementation of partnerships as one approach to reducing risks to human health and the environment from mercury. Working with countries and NGOs, UNEP has developed partnerships in five sectors: artisanal and small scale gold mining; coal combustion; mercury cell chlor-alkali production; mercury in products; and air transport. Among the immediate priorities of the mercury and other metals programme was to work with partners to mobilize technical and financial resources to deal with mercury. UNEP initiated a mercury small grants programme that provides up to \$50,000 for developing countries and those with economies in transition to achieve mercury reductions. More than 20 proposals were received by UNEP. Among the expressed needs were technical assistance and capacity building on inventories, training, awareness raising and information exchange, measures to reduce or eliminate releases from wastes, best available techniques and best environmental practices, and the development of policy and regulatory controls. To address the requests relating to waste handling, UNEP asked the Conference of the Parties to the Basel Convention to consider including mercury as a priority focal area. Work has now started with the secretariat of the Basel Convention to draft guidelines on handling mercury waste. A pilot draft of a 'Toolkit for Identification and Quantification of Mercury Releases' has been completed and is ready in the six official UN languages for use by interested countries.

The President of India, Dr. A.P.J. Abdul Kalam (centre) with UNEP Deputy Executive Director Shafqat Kakakhel (left) and Rajendra Shende, Chief of UNEP's OzonAction Programme, examine a SolarChill vaccine refrigerator in November 2006. Powered by photovoltaic panels, SolarChill uses ozone- and climate-safe hydrocarbons, and does not emit greenhouse gases. © UNEP



Also in response to the UNEP Governing Council's request, UNEP has prepared a draft report summarizing supply, trade and demand information for mercury, which has been circulated among Governments and interested stakeholders for consideration of possible further actions on mercury at the 24th Governing Council session in February 2007. UNEP Chemicals has also been looking at lead and cadmium, again at the request of the Governing Council. In September 2006, the Lead and Cadmium Working Group prepared preliminary scientific reviews, with a special focus on long-range environmental transport. The reviews will be submitted to the 24th Governing Council to inform future discussions on the possible need for global action in relation to these two metals.

OZONE

An assessment released by UNEP and the World Meteorological Organization in August put back the expected full recovery of the stratospheric ozone layer by between five and 15 years. Nevertheless, international action to protect the Earth's fragile ozone layer in the past two decades remains one of the few truly successful examples of countries identifying and addressing a global environmental problem. The Vienna Convention and its Montreal Protocol on Substances that

Deplete the Ozone Layer are an important example of what can be achieved when developed and developing countries work together under a the principle of common but differentiated responsibility to protect the global environment.

A significant advance in protecting the ozone layer was achieved earlier in the year with the announcement that more than 5,000 farms, farmers associations, major supermarket chains and other organizations had joined forces with UNEP in a new International Partnership to Phase out Methyl Bromide. Methyl bromide is used by farmers to kill pests in the soil before planting crops such as tomatoes, strawberries, melons and flowers. In 1992 it was officially controlled as an ozone-depleting substances (ODS), and is scheduled for phase-out under the Montreal Protocol. However, phase-out is facing some resistance with farmers maintaining that alternatives are too costly or unproven. UNEP is working with scientists and the industry to make information on alternatives to methyl bromide widely available.

UNEP provides the secretariat for the Vienna Convention and the Multilateral Fund for the Implementation of the Montreal Protocol, which supports the phase-out of ODS by developing countries and countries with economies in

Changing chemistry

transition. Capacity building for ODS phase-out and assistance for compliance with the Montreal Protocol is the focus of UNEP's OzonAction Branch. Primarily funded by the Multilateral Fund, the programme also receives support from the Global Environment Facility. With the Branch's assistance, countries are able to make informed decisions about alternative technologies and ozone-friendly policies. The Branch has a portfolio of more than 1,000 projects that benefit over 100 developing countries and 17 countries with economies in transition.

PRACTICAL ACTION

During 2006 UNEP continued its work to implement the Millennium Development Goals through practical partnerships. An example is the SolarChill partnership, which is addressing the interlinked issues of health, environment and poverty by developing and sharing environmentally sustainable vaccine and food refrigeration technology known as SolarChill. Instead of cooling with CFCs or other ODS, SolarChill uses ozone- and climate-safe hydrocarbons. Powered by photovoltaic panels, it does not emit greenhouse gases.

The partnership—which includes UNEP, the Danish Technological Institute, Greenpeace International, GTZ ProKlima, Programs for Appropriate Technologies in Health, UNICEF and WHO—took two big steps forward in 2006. In October, it won the prestigious 2006 Cooling Industry Awards in the category 'Environmental Pioneer' for refrigeration, and in November the President of India, Dr. A.P.J. Abdul Kalam, became the first buyer of the SolarChill vaccine refrigerator and installed two of these revolutionary units in his estate's medical clinic in New Delhi.

In September 2006, OzonAction launched the OzonAction Education Pack with UNESCO and WHO. The pack provides a comprehensive teaching curriculum for primary schools to help sustain momentum to restore the ozone layer as well as protect the health of children. The Pack was launched in Nairobi, Kenya, New Delhi, India, and Santiago, Chile, on the 2006 International Day for the Preservation of the Ozone Layer. The partners are distributing it to 15,000 focal points worldwide in English, French and Spanish. The Pack is part of UNEP's global

communication strategy for promoting compliance with the Montreal Protocol, and is linked to the UNEP Tunza Programme for children and youth and the UN Decade for Education for Sustainable Development.

UNEP also launched a new video entitled 'Return of the Ozone Layer: Are We There Yet?' that addresses the many challenges that remain in saving the ozone layer. Released in the Asia Pacific region in November 2006, the video was produced with TVE Asia Pacific. It focuses on individual action that needs to be taken in developing countries to phase out production and use of ODS. It highlights the successes and remaining challenges of implementing the Montreal Protocol in Asia through the choices made by three individuals and the significant role they and we all can play in determining the future health of the Earth's atmosphere.

COMPLIANCE ASSISTANCE

UNEP's Compliance Assistance Programme (CAP) helps countries to understand data reporting requirements under the Montreal Protocol, including reporting methodologies, data collection, verification and submission procedures. As of September 2006, the status in 145 developing countries is that all Article 5 Parties, except one, which were declared to be in non-compliance with data reporting requirements for 2001–2004 have submitted their missing data to the Ozone Secretariat; 97 per cent of the countries reported baseline data for all ODS; and 70 per cent of the countries reported their 2005 consumption data as per the deadline required by the Protocol.

To analyze underlying reasons for non-compliance, and to help bring countries back to compliance, UNEP's CAP convened bilateral meetings with countries, involving Implementing Agencies, the Ozone Secretariat and the Multilateral Fund Secretariat and assisted 43 developing countries to respond to requests from the Protocol's Implementation Committee or to prepare their Plans of Action for returning to compliance. UNEP also undertook high-level joint missions with other agencies to facilitate the implementation of Institutional Strengthening projects, National CFC Phase-out Plans, and establishment of ODS import/export licensing systems.

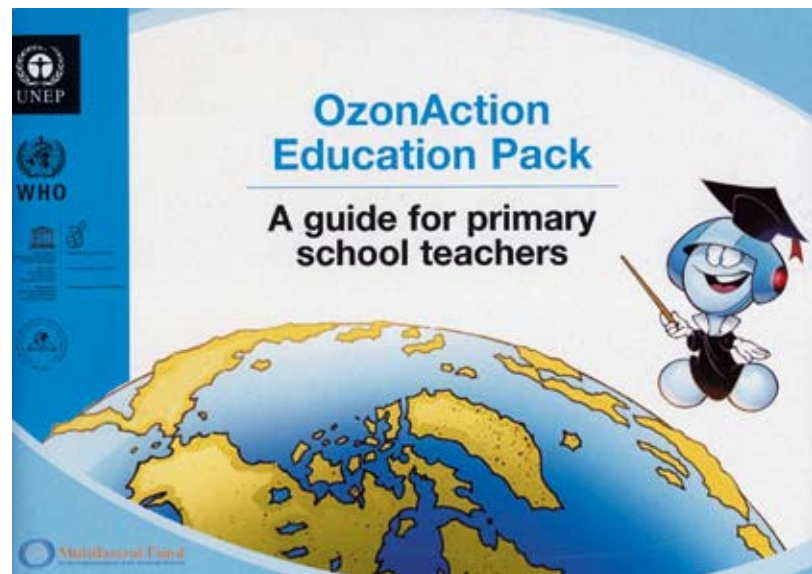
CAP provides assistance to countries to establish policy instruments for ODS management. In 2006 CAP assisted Afghanistan, Bhutan and Indonesia with their policy instruments. The Cook Islands, Kiribati, Micronesia, Nauru, Niue, Solomon Islands, Tonga, Tuvalu, and Vanuatu were given help to establish licensing systems; ODS legislation was reviewed in Chile, Haiti, Dominica, Barbados and Guyana; and Botswana, Lesotho, Kenya, Mozambique and Tanzania received technical guidance on establishing ODS regulations.

In addition, CAP cooperated with the Common Market for Eastern and Southern Africa to produce draft harmonized ODS regulations and control measures for the region and the General Secretariat of the Gulf Cooperation Council to enforce the recently adopted unified regulation for ODS control and monitoring. CAP also gives special attention to countries that recently ratified the ozone treaties. In 2006 this included providing Afghanistan, Bhutan and Eritrea with capacity building services, knowledge transfer, public awareness and South-South cooperation. CAP worked closely with the Ozone Secretariat to assist specific countries to ratify the ozone treaties.

COMBATING ILLEGAL ODS TRADE

UNEP encourages the creation of institutionalized cooperation between key stakeholders involved in the fight against illegal ODS trade. It facilitates networking and twinning aimed at sharing intelligence on both licit and illicit ODS trade between Parties. In 2006, the CAP organized joint Ozone Officers–Customs Officers meetings, in Asia and the Pacific and Latin America and the Spanish-speaking Caribbean. It also assisted the Regional Network for South Asia and the Pacific to develop information exchange mechanisms between major ODS-producing countries of the region and importing countries, and assisted with the launch of a voluntary Prior Informed Consent procedure to enhance the monitoring of ODS movements in the Asia-Pacific region.

Also in the Asia-Pacific region, UNEP's CAP team, the UNEP Regional Office for Asia and the Pacific and the Centre for Environmental Education brought more than 30 print and broadcast media representatives from 18 countries for a media and ozone layer protection workshop in Bangkok, Thailand. The workshop looked at



The theme of International Ozone Day 2006 was 'Protect the Ozone Layer: Save Life on Earth'. The Montreal Protocol on Substances that Deplete the Ozone Layer remains one of the few truly successful examples of countries identifying and addressing a global environmental problem. Nonetheless, work is still unfinished and the ozone layer will remain at risk for more than 15 years. UNEP is working to sustain public and political awareness about the protection of the ozone layer until the task of restoring it is fully accomplished.

ozone layer protection from a media, business and technical perspective and included a field trip to the Thai Customs Department, where participants learned about the work that goes on in addressing illegal trade in ODS and cooperation with organizations like the World Customs Organization and Interpol. The workshop resulted in recommendations from the media to strengthen outreach and a media e-forum called 'Ozoneorbit', set up by one of the participating journalists to facilitate networking among media and experts.

UNEP also launched an operation with Asia-Pacific customs administrations against illegal ODS and dangerous waste traffic in the region. Project 'Sky Hole Patching' is designed to monitor the movement of suspicious shipments of ODS and dangerous commodities across several customs territories in the region. It involves customs administrations and environment authorities, the World Customs Organization's Regional Intelligence Liaison Office for Asia and the Pacific, UNEP's Regional Office for Asia and Pacific, CAP, Basel Convention Regional Centres and other key international organizations. The operation will be conducted in two phases, with the first six months focusing on ODS. The second phase will include hazardous waste.

ECOSYSTEM CHANGE

How we rise to the challenges and seize the opportunities presented by rapid environmental, social and technological change will dictate the kind of world we bequeath to future generations. In the case of ecosystem change, the risks far outweigh the benefits. The obvious example is climate change, but it is not the only threat that urgently demands attention. The accelerating loss of biological diversity, land degradation, impending water scarcity and deteriorating marine ecosystems are also prominent issues. Together, they threaten to undermine the many technological, economic and social advances human society has experienced in recent decades, and represent an obstacle to the achievement of the Millennium Development Goals (MDGs).

These challenges are commanding the growing attention of governments, the private sector and civil society. Last year's Millennium Ecosystem Assessment, in which UNEP was closely involved, provided an unprecedented new level of understanding of the role ecosystem services play in human well-being. The question that is therefore being increasingly asked is: why do ecosystem services decline when they are so demonstrably valuable and important? The answer is that, until recently, governments and international organizations have paid insufficient attention to the importance of ecosystem services in reducing poverty and improving human well-being. A clear example of the perils of undervaluing ecosystem services was the devastation of New Orleans in 2005 in the aftermath of Hurricane Katrina. Channeling the Mississippi river behind levees and draining wetlands that would have significantly reduced storm surges ultimately left the citizens of the low-lying city more vulnerable than if the ecosystems had been left intact.

Wetland protection could also provide a key to preventing the much anticipated and feared global spread of the avian influenza virus and its possible mutation to a form that is easily transmitted among humans. In April 2006, 'Avian Influenza and the Environment', a report commissioned by



UNEP, noted that the loss of wetlands around the globe is forcing many wild birds onto alternative sites, such as farm ponds and paddy fields, bringing them into direct contact with domestic fowl, and promoting the transfer of pathogens among domestic and wild species. Confined solely to wild migratory species, the virus would have limited opportunities to multiply and mutate, but once in domestic flocks the hazards to livestock, wild species and humans grows exponentially.

ECOSYSTEM SERVICES AND NATURAL CAPITAL

In response to the need for a conceptual framework that can help to define the link between ecosystem services, natural capital and sustainable



development, UNEP has brought together some of the world's eminent economists and ecologists to identify how the multilateral environmental agreements (MEAs) that deal with ecosystem services—such as the UN Convention to Combat Desertification (UNCCD), and the Convention on Biological Diversity (CBD) can be brought into mainstream economics by making the link with natural capital. The output will be in the form of a technical, policy-driven document with the proposed title, 'Beyond the Wealth of Nations'.

Knowing the true value of an ecosystem service is important if policy makers are to make the right decision on whether to degrade an ecosystem service so that another ecosystem service can be increased, for example by replacing an area of

Ecosystem services are capital assets, yet traditional national accounting does not include measures of resource depletion or degradation. A country could cut its forests and deplete its fisheries, and this would show as a positive gain in Gross Domestic Product without registering the corresponding decline in assets. Currently, there are too few mechanisms and instruments available to encourage ecosystem protection, and where there is an apparent conflict between economic and environmental imperatives, the environment is often the loser. © Luo Hong

Ecosystem change

coastal mangroves with an aquaculture project. The absence of this information is one of the primary reasons for the decline in ecosystem services around the world and one of the main reasons MEAs have had limited success, as they have not been able to effectively make their case in the face of shorter-term imperatives. In 2006, UNEP started a valuation project in the Lake Victoria region in East Africa, in collaboration with the World Agroforestry Centre (ICRAF), national MEA focal points and other partners, to assess the values of various ecosystem services and explore how this knowledge can be strategically used to improve the effective and equitable implementation of MEAs at the national level.

PRO-POOR PAYMENTS FOR ECOSYSTEM SERVICES

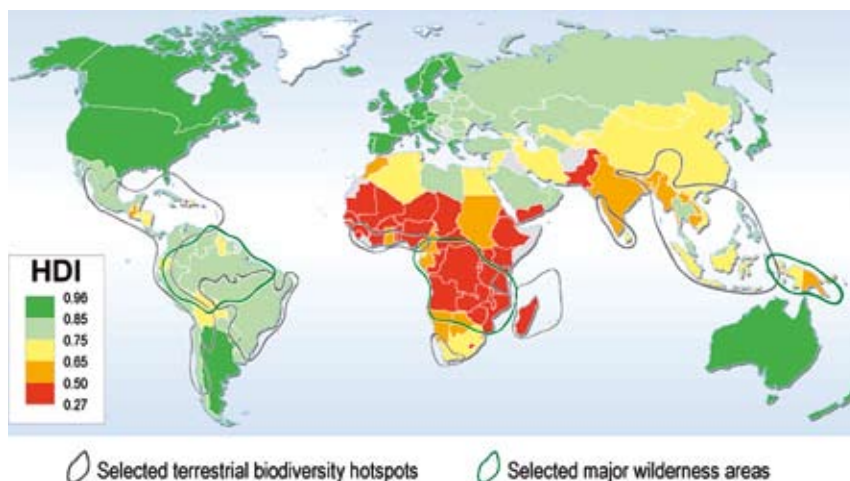
Another effective tool for assisting countries to implement MEAs is the use of payments for ecosystem services, including the creation of markets that can promote sustainable development and reduce inequalities by generating income, promoting environmentally friendly technologies, generating incentives for investment, and increasing the involvement of vulnerable and socially excluded stakeholders in private sector initiatives in environmental protection.

UNEP is helping to identify approaches that demonstrate how pro-poor market-based instruments for ecosystem services can be used to advance the objectives of the MEAs, while ensuring equitable use of and access to ecosystem

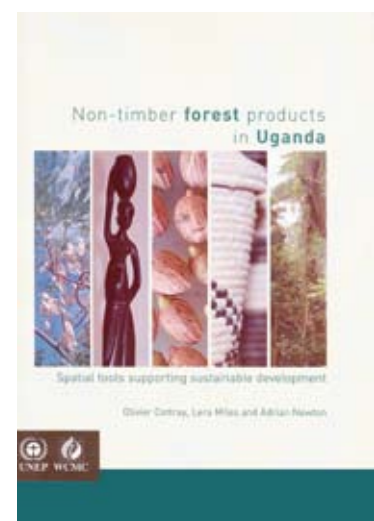
services by poor, marginalized and vulnerable groups. Activities include pilot projects to identify pro-poor markets for ecosystem services, capacity building and partnership building, for instance by facilitating networking among policy makers and experts. For example, UNEP provided technical and financial support for the establishment of the South and East Africa Katoomba group, which is a network of individuals and institutions working on the development and implementation of payments for ecosystem services.

The equitable use of ecosystem services is also the focus of UNEP's Access and Benefit Sharing (ABS) in Africa initiative. Some of the richest countries in terms of biological diversity are also the least developed. There are numerous examples where food or pharmaceutical companies have made billions of dollars from genetic resources from these countries with little or no return to the originating countries or communities. One of the CBD's three objectives is the "fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources..." Pilot studies in Kenya, Uganda, Ethiopia, Botswana, Ghana and Zambia are highlighting experiences and challenges faced by African countries in adapting their existing national regimes under the CBD's Bonn Guidelines on access to genetic resources and the fair and equitable sharing of the benefits. The initiative is helping to identify specific issues for inclusion in legislative,

This map displays UNDP Human Development Index data by country together with biodiversity hotspot regions. Some of the world's least developed countries are located in hotspot areas of high importance for biodiversity. Biodiversity is an essential resource for the world's poorest people, yet poverty is one of the primary forces driving environmental degradation. UNEP is working to break this vicious circle by promoting economically sustainable incentives for environmental protection. Map © Hugo Ahlenius UNEP/GRID-Arendal



Sources: UNDP 2004, Conservation International 2004



administrative and policy measures, as well as for consideration by the CBD's Ad Hoc Open-ended Working Group on Access and Benefit Sharing. The next phase of the programme will focus on regional and subregional cooperation.

UNDERSTANDING BIODIVERSITY

Since governments first adopted the target to achieve a significant reduction of the current rate of biodiversity loss by 2010, discussion has been under way on how to assess progress. Working closely with the CBD Secretariat, the UNEP World Conservation Monitoring Centre (UNEP-WCMC) has created a 2010 Biodiversity Indicators Partnership, which brings together all the key stakeholders in developing and delivering global biodiversity indicators for use by policy makers. The approach has also increased dialogue among MEAs on the use of indicators, and between the conventions and those responsible for delivering indicators on the achievement of the MDGs.

Any assessment of the effectiveness of efforts to conserve biodiversity has to take into account the contribution made by protected areas. UNEP-WCMC is the custodian of the World Database on Protected Areas, developed with IUCN and its World Commission on Protected Areas. During 2006, UNEP-WCMC started a major 18-month redevelopment of the Database with the twin aims of delivering better information services and working more closely with information providers at the national level by using more modern approaches to information management and supporting improved capacity at national and regional level. Knowing where protected areas exist is important both to conservationists and the private sector, which is increasingly concerned to avoid environmentally damaging practices. UNEP-WCMC's development of relationships with multinational companies has resulted in increased commitment for its Project Proteus, a partnership with industry for increasing access to biodiversity information. Resources from this partnership are currently being channeled into redeveloping the World Database on Protected Areas.

One of the key problems faced by governments and conservation practitioners working on the ground is understanding how the breadth of international agreements and associated decisions

relate one to another. This is important because of the importance of implementing these agreements in an integrated and synergistic manner, rather than as a series of independent activities. Over the past year UNEP has been developing and testing a thematic or modular approach to understanding and communicating interrelationships among the biodiversity-related conventions, such as the Convention on International Trade in Endangered Species (CITES), the Convention on Migratory Species (CMS), CBD, and the Ramsar Convention on Wetlands. Working with IUCN, UNEP-WCMC and other partners, UNEP's project on Issue Based Modules for the Coherent Implementation of Biodiversity-related MEAs has developed web-based tools that demonstrate synergies related to inland waters, invasive alien species, climate change and sustainable use. These modules are now being used by a number of governments to look more closely at how they implement biodiversity-related agreements.

DATA AND REPORTING

Each biodiversity convention also generates large quantities of data, documents and other information, much of which addresses common themes and activities. Since it is neither interlinked nor organized in a consistent and harmonized manner, ensuring that the conventions are mutually supportive can be extremely difficult. A project on Knowledge Management for Biodiversity-related MEAs is promoting the strategic use of information and the interoperability of datasets through a searchable list of Parties to each convention and a system that interconnects related elements of each convention's strategic plans, decisions and resolutions.

Most multilateral environmental agreements require Parties to report at regular intervals on the measures they have taken to implement the agreement. In recent years, there has been a growing recognition that the reporting burden has increased. As governments accede to more agreements, they are confronted with a multitude of reports to prepare. The reporting formats are often complex, and many questions are similar to those for other conventions, which often leads to duplication of work between the national focal points of different conventions. In order to address these issues, UNEP is working with UNEP-WCMC to undertake a project on Harmonizing

Ecosystem change

National Reporting for Biodiversity-related MEAs, which is facilitating dialogue among Parties and convention secretariats on report formats and thematic reporting across conventions, and undertaking pilot projects in developing countries on harmonizing national reporting.

CONSERVING BIODIVERSITY

The Great Apes Survival Project—a broad partnership of governments, UN entities, conservation NGOs and the private sector, coordinated by UNEP—has continued to consolidate support to secure the long term survival of the great apes in Africa and Southeast Asia by inviting more interested parties to sign the 2005 Kinshasa Declaration on great apes. The Declaration has now been signed by 21 of the 23 great ape range states and 52 other signatories. UNEP-GRASP and the CITES secretariat undertook the first of many planned joint technical missions to great ape range and consumer states of Africa and Southeast Asia. The joint missions will be part of the implementation of the resolution on the conservation of and trade in great apes adopted by the Conference of the Parties to CITES in 2004. This first mission, undertaken to Indonesia in May 2006, investigated the smuggling of orangutans and existing measures put in place by the Indonesian government. A report of the mission findings was subsequently tabled at the 54th meeting of the CITES Standing Committee where Indonesia responded to the issues raised by the mission.

Under the auspices of UNEP-GRASP and the CITES secretariat, wildlife law enforcement officers from nine African great ape range states and Indonesia met at UNEP headquarters in Nairobi in November 2006 to form a network for monitoring and controlling illegal wildlife trade, in response to a CITES Standing Committee recommendation that a CITES Great Ape Enforcement Task Force should be established. A scientific workshop was also convened to establish priorities on great ape populations and sites. The workshop's deductions will be critical in providing the scientific rationale for selections and the strategy of monitoring; producing a handbook on population survey methods, through collaboration with the Section on Great Apes (SGA) of the IUCN Primate Specialist Group; and the launch of a great ape monitoring database and map server. In the Democratic Republic of Congo,

GRASP provided \$30,000 to the Tayna Centre for Conservation Biology to help build the capacity of future Congolese scientists and raise awareness on great apes and habitat conservation in the country.

Further east in Africa, UNEP has been working with key partners to support forest conservation in East Africa by assessing the state of conservation of major montane forest ecosystems and triggering policy responses for their long-term conservation. In Kenya, the five 'water towers' have been the main focus. After successful achievements on Mount Kenya and the Aberdare Range, UNEP is currently supporting government bodies and civil society in recovering and conserving the forests of the Mau Complex. The Mau Complex is the largest closed-canopy forest ecosystem of East Africa and the upper catchment of key rivers feeding lakes Baringo, Nakuru, Natron, Turkana and Victoria, which support key economic sectors including cash and subsistence crop production, tourism and energy.

UNEP has also launched, with the Forest Department and Kenya Wildlife Service, the first ever systematic aerial reconnaissance of all main gazetted forests in Kenya to identify problems as soon as they arise and trigger early response. In addition, UNEP is finalizing a study on 'Global Change in Africa: The Case of Mount Kilimanjaro' that will be published in 2007. The study reviews ecological, economic and social changes on and around Mount Kilimanjaro, as a case study of changes taking place in many areas of Africa.

CONSERVATION IN ASIA-PACIFIC

The Asia Pacific region supports a high level of species diversity, encompassing three of the world's eight biogeographic realms, five out of twelve megadiverse countries, two-thirds of the world flora, the world's highest mountain system, the second largest rainforest complex and more than half of the world's coral reefs. A quarter of all terrestrial protected areas and one-fifth of all marine protected areas are found in this region. Evidence shows significant biodiversity loss in the region as a result of unsustainable resource use (mainly timber and marine resources), habitat change, pollution (mainly freshwater and marine ecosystems), climate change, rapid urbanization and the impact of invasive alien species.

In 2006, UNEP began activities on biodiversity conservation, with an emphasis on capacity building, policy guidance and project development related to market-based strategies for ecosystem services. As part of the implementation of the CBD, UNEP organized a workshop in Myanmar for the development of a National Biodiversity Strategy and Action Plan (NBSAP) with the National Commission of Environmental Affairs and the Forest Department. This sector-wide, multi-stakeholder workshop, the first of its kind in the country, generated awareness on the NBSAP process. Three thematic working groups—Natural Resource Use, Conservation and Ecology, and Socio-Economic Aspects—were established to provide technical assistance on substantive issues and priorities, assist with data and stocktaking and review the NBSAP at different phases. A proposal is currently being finalized by the Forest Department to explore funding from the Global Environment Facility (GEF).

UNEP also organized a workshop to enhance the capacity of Least Developed Countries (LDCs) for the implementation of the CBD

and a Brainstorming Meeting on MEAs and the Role of Communities. Participants from Afghanistan, Bangladesh, Bhutan, Cambodia, Lao PDR, Maldives, Nepal, Timor Leste, Tuvalu as well as the Secretariat of the Pacific Regional Environment Programme (SPREP) and the ASEAN Centre for Biodiversity attended the workshop and meeting. Technical support on CBD priority topics, negotiation skills, guidance for accessing funds, opportunities for South-South Cooperation, and synergies between the five biodiversity conventions were discussed. Countries highlighted the need for support from UNEP to mobilize resources, strengthen cooperation between international partners for policy development, and provide guidance on mainstreaming CBD and NBSAP across sectors and ministries.

UNEP has also begun discussions with governments and partner organizations in the region to raise greater awareness and identify opportunities for pilot demonstration projects related to market-based strategies for ecosystem services.

Migrating geese in Shanxi province, China, taken by Chinese billionaire and world-class environmental photographer Luo Hong. In November 2006, Mr. Hong donated \$250,000 to UNEP to assist UNEP with its work in greening the 2008 Beijing Olympic Games and support conservation at Lake Nakuru in Kenya. Preserving such important wetland habitats can not only ensure the survival of vulnerable migratory species but protect people from the spread of emerging diseases such as avian influenza. © Luo Hong



PROTECTING THE CARPATHIANS

In Europe, protection of one of the continent's largest remaining wilderness areas received a boost in January with the entry into force of the Carpathian Convention, whose development was supported by UNEP. The Carpathian region contains Europe's largest reserve of pristine forest, and is home to brown bears, bison, lynx, eagles and some 200 endemic plant species. The region also plays a vital role in ensuring Europe's freshwater supplies, with runoff from the mountains feeding the Danube, the Vistula and other major rivers that flow into the Black Sea and the Baltic Sea.

To support decision making related to the Carpathians, UNEP is developing the 'Carpathians Environment Outlook', focusing on environmental and socio-economic status and trends, current policy responses, emerging environmental issues and future development patterns, policy recommendations and alternative policy options. The project should be complete by mid-2007. UNEP has also prepared background documentation about the situation of large carnivores in the Carpathians entitled 'Where Man and Beasts Share the Mountains', which is part of a 'virtual environmental media tour' featuring four areas of special environmental interest in Eastern Europe, the Caucasus and Central Asia.

The Carpathian Convention covers seven countries — the Czech Republic, Hungary, Poland, Romania, Serbia, the Slovak Republic and Ukraine. At the Convention's first Conference of Parties in December 2006, the member states adopted a wide-ranging programme of work containing immediate measures for promoting environment-friendly tourism and a regional network of protected areas. The meeting also decided to develop a Protocol on the Conservation of Biological Landscape Diversity and endorsed a Memorandum of Cooperation with the Alpine Convention.

The Alpine Convention and UNEP are supporting regional cooperation for mountain protection and sustainable development in southeastern Europe and Carpathians, and the Caucasus, as well as in the Hindu Kush and Karakoram ranges in the Himalaya region, as part of the Mountain Partnership. The Mountain Partnership is a voluntary alliance of partners dedicated to

improving the lives of mountain people and protecting mountain environments around the world. UNEP provides the environmental focal point of the Mountain Partnership Secretariat, which is hosted by the UN Food and Agricultural Organization (FAO).

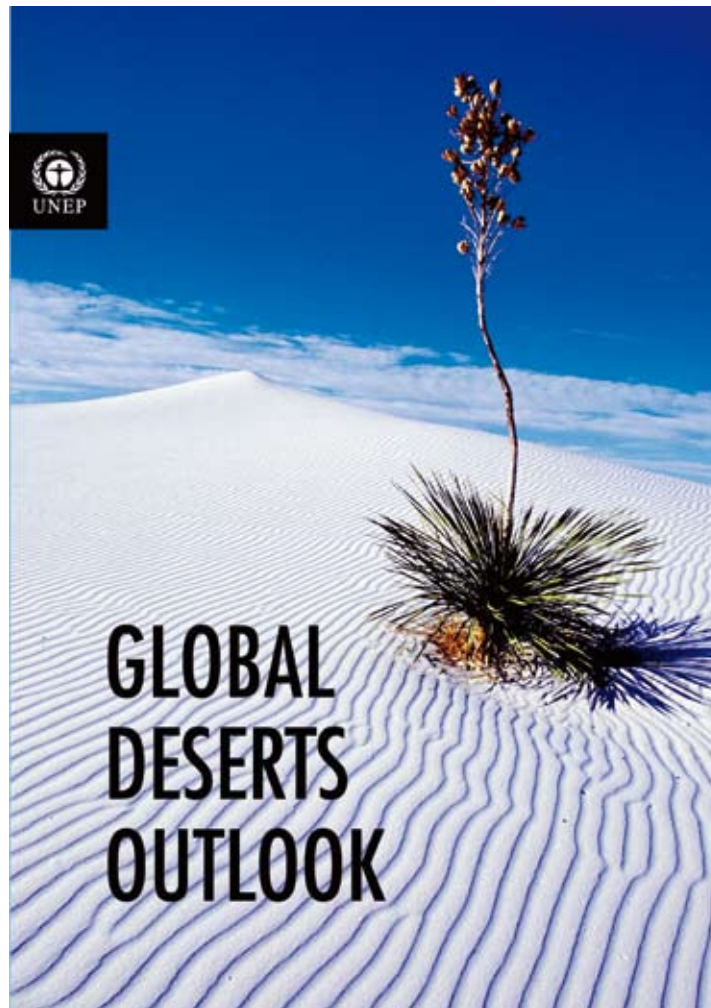
DON'T DESERT DRYLANDS

In recognition of International Year of Deserts and Desertification in 2006, UNEP chose the theme 'Don't Desert Drylands!' for World Environment Day, which is observed around the world each year on 5 June. The host for 2006 was Algiers, capital of Algeria. With the support of Algeria's President Abdelaziz Bouteflika, and the country's Minister of Environment, Cherif Rhamani, the whole country was mobilized.

Among the highlights of the celebrations was the launch of the 'Global Deserts Outlook', the first thematic report in UNEP's Global Environment Outlook (GEO) series of environmental assessments. Prepared by experts from around the world, the report traces the history and astonishing biodiversity of deserts, and assesses future likely changes due to human activities and climate change. It also flags policy options that could help governments and relevant bodies provide a more sustainable future for deserts, as well as exploit their untapped potential for generating solar power and supporting industries such as pharmaceuticals, aquaculture and tourism. UNEP also launched a publication on tourism in deserts which provides guidance to tour operators and tourism coordinators on how to make their activities more sustainable.

As well as focusing on deserts, UNEP used World Environment Day to highlight the growing problems of desertification and land degradation. The slogan 'Don't Desert Drylands!' emphasizes the importance of protecting drylands, which cover more than 40 per cent of the planet's land area and are home to one-third of the world's people, the majority of whom rank among society's most vulnerable.

UNEP was also one of several partners involved in the production of an eight-part documentary series on Drylands and Desertification, entitled 'Villages on the Frontline', which was broadcast around the globe on BBC World.



One of UNEP's contributions to the International Year of Deserts and Desertification, the 'Global Deserts Outlook' presents a panorama of the environmental status of the world's deserts: their location and extent, uniqueness and vulnerability, biodiversity and natural resources.

As part of its contribution to the International Year of Deserts and Desertification, UNEP contributed to the organization of two international conferences on desertification. The International Scientific Conference on the Future of Drylands, held in June 2006 in Tunis, Tunisia, and led by UNESCO, brought together over 400 experts from all dryland regions of the world to review current knowledge of dryland ecosystems and the socio-economics of dryland development and to identify important knowledge gaps for future research into drylands.

UNEP was also a member of the Organizing Committee of the Joint International Conference: Desertification and the International Policy Imperative, held in December 2006 in Algiers, hosted by the Government of Algeria and led by the UN University. The conference highlighted the policy underpinnings necessary to enable successful dryland strategies.

Without a scientifically rigorous understanding of land degradation in drylands, including establishing baselines, it is hard to identify priorities, target interventions and monitor the consequences of actions. Furthermore current policies do not consider non-marketable ecosystem services, such as erosion and hydrological regulation.

To help address these issues, UNEP has been implementing the project An Ecosystem Approach to Restoring West African Drylands and Improving Rural Livelihoods through Agroforestry-based Land Management Interventions, funded by Norway, and conducted in cooperation with the World Agroforestry Centre (ICRAF), the University of Florida, and the governments of Burkina Faso, Mali, Mauritania, Niger and Senegal. The project conducted regional training courses on land degradation surveillance and environmental accounting.

SEA CHANGE

Following a year of development and various reviews, governments have reached agreement on a forward-looking policy and strategy that will guide the UNEP programme of work in freshwater for the next six years, subject to approval by the Governing Council in February 2007. The policy and strategy focuses on freshwater, but with strong links to oceans and coasts through the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) and the UNEP Regional Seas Programme.

Protecting the marine environment depends to a large extent on addressing water management issues inland, where more than 80 per cent of marine pollution originates. Coastal and marine ecosystems, which provide a wide range of goods and services of significant economic and social value, are under growing pressure. Thirty-eight per cent of the world's population lives along a narrow fringe of coastal land, and 70 per cent of megacities with populations over 8 million are located on the coast. In some countries as much as 90 per cent of sewage is dumped untreated directly into the sea. The GPA is the only integrated intergovernmental global programme that addresses the natural interlinkages between freshwater and coastal and marine management, giving conceptual and practical guidance to national and regional authorities to devise and implement sustained action to prevent coastal and marine degradation.

The framework for implementing UNEP's water strategy is the concept of integrated water resources management (IWRM). UNEP will focus on incorporating the socio-economic value of water-related ecosystem services into national development plans. Through its Collaborating Centre on Water and Environment (UCC) in Denmark, UNEP is assisting developing countries to develop IWRM roadmaps to reach the WSSD target of national IWRM and Water Efficiency plans in all countries. A roadmap is the first step towards IWRM planning and implementation and identifies specific steps and capacity building needs. The project is being implemented in North Africa, West Africa, Central Africa, Southern Africa, Central Asia, Southeast Asia, Central America, the Caribbean and South America.



DAMS AND DEVELOPMENT

A source of much debate related to water resources management is the role of dams. The UNEP Dams and Development Project (DDP) was established in November 2001, and the second two-year phase currently under implementation was launched in February 2005. The goal of the second phase is to promote improved decision making, planning and management of dams and their alternatives, building on the core values and strategic priorities of the World Commission



on Dams (WCD) report and other relevant materials. The core of the work programme is promoting global and national dialogues and elaborating non-prescriptive practical tools for decision makers. It encourages the consideration of the full range of options in the planning and management of water and energy resources and institutionalizing participatory and transparent decision making processes to achieve sustainable outcomes that benefit all stakeholders. The UNEP DDP has supported national dialogue processes in various countries, including Ghana, Mozambique,

Dead fish and rubbish in a polluted river in Haikou, southern China's Hainan province, 19 September 2006. With 80 per cent of marine pollution originating from land-based sources, UNEP's strategy for protecting both freshwater and marine environments is focused on integrated management of whole water catchments. © Vito Lee/Reuters/The Bigger Picture

AFRICA'S LAKES

Atlas of Our Changing Environment

According to the WORLDLAKE database there are 677 lakes in Africa. There are 15 natural lakes that cross the political boundaries of two or more countries and 60 transboundary river basins covering over 63 per cent of Africa's land area.

Lake Victoria is the largest freshwater lake in Africa and the second largest in the world, occupying a total catchment of about 250 000 km², of which 68 870 km² is the actual lake surface.

POPULATION GROWTH AROUND LAKE VICTORIA

Lake Victoria supports one of the poorest and most dense rural populations in the world. The rate of population growth within a 100 km buffer zone around the lake has outpaced the continental average in recent decades and this dramatic growth is projected to continue.

Year	Lake Victoria	Africa Average
1980	45	15
1990	65	20
2000	115	25
2010	205	30

VISIBLE REDUCTION OF INVASIVE SPECIES IN LAKE VICTORIA

Lake Victoria was widely invaded by water hyacinth during the 1990s. The 1995 image shows several hyacinth-choked bays (yellow arrows). Control measures like manual removal and more recent careful introduction of natural insect predators has considerably reduced the infestation. As seen in the 2001 image, the floating weeds have all but disappeared from the bays.

FALLING WATER LEVEL OF LAKE VICTORIA

Lake Victoria's water level variation, derived from satellite altimeter measurements, shows a negative height variation trend. Current water levels are below normal and the lowest level since September 1961.

United Nations Environment Programme
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Nigeria, Togo and Uganda, and through regional political groupings, such as the African Ministerial Council on Water (AMCOW). At the global level, dialogue has been supported through the Dams and Development Forum.

The fifth Dams and Development Forum, and the final one within the context of the DDP, was convened in November 2006. It considered the progress that has been made in the dams and development debate and the way forward. The dialogues have resulted in widely accepted recommendations for improving national and regional regulatory frameworks and clarification at global level of some emerging environmental and social concepts raised by the WCD Report. The Compendium on Relevant Practices on dam planning and management is another outcome of the project.

HYDROPOLITICAL VULNERABILITY

Wherever a major river, lake or aquifer system is shared by two or more countries, the shared (international) waters become vulnerable to indiscriminate exploitation and degradation. With rising populations and increasing urbanization, industrialization and environmental degradation, nations that share these water resources also become vulnerable to conflict. These vulnerabilities are made more acute by climatic variations. Hydropolitical vulnerability and resilience along international waters is becoming an increasingly critical area of study, requiring the development of comparable databases and analyses. 'Facing the Facts: Assessing the Vulnerability of Africa's Water Resources to Environmental Change', released in early 2006, shows that Africa's water resources are at serious and growing risk.

Another UNEP publication, 'Africa's Lakes: Atlas of Our Changing Environment', launched during World Water Week in Stockholm, Sweden, in

Satellite observation over decades is providing a wealth of revealing information about how human activities are changing the global environment.

August 2006, contrasts satellite images of the past few decades with contemporary ones. The publication, compiled by UNEP at AMCOW's request, in cooperation with the US National Aeronautics and Space Administration (NASA) and the US Geological Survey, brings into sharp focus the environmental changes in Africa's lakes, which in many cases can only be truly appreciated from space. For example the rapid shrinking of Lake Songor in Ghana, due to intensive salt production, the extraordinary changes in the Zambezi River system as a result of building the Cahora Bassa Dam and the near 90 per cent shrinkage of Lake Chad. The atlas warns about the crucial importance of Africa's lake ecosystems for poverty alleviation and meeting the Millennium Development Goals (MDGs), as well as the dangers of increasing tensions and instability as rising populations compete for limited and deteriorating water resources.

COOPERATING OVER WATER

On 12 August 2006, the Framework Convention for the Protection of the Marine Environment of the Caspian Sea—the first legally binding agreement on any subject to be adopted by the five Caspian neighbours—entered into force. The Convention, negotiated under UNEP auspices, will coordinate efforts by the Republic of Azerbaijan, the Islamic Republic of Iran, the Republic of Kazakhstan, the Russian Federation and Turkmenistan to reverse an impending environmental crisis brought about by habitat destruction, industrial pollution and the over-exploitation of fish and other marine life.

The mildly salty Caspian Sea is the world's largest lake, fed by some 130 tributary rivers, most importantly the Volga, which accounts for 75 per cent of the total inflow. Known as the Tehran Convention after the city where it was adopted, the treaty commits its member governments to cooperate with one another and with international organizations to protect the environment. To mark the Convention's entry into force, UNEP, through its GRID-Arendal centre, together with the Caspian Environment Programme, launched a new publication entitled 'Vital Caspian Graphics: Challenges Beyond Caviar'. The report's maps and graphics examine key vulnerabilities as well as solutions to the issues addressed by the Convention.

Cooperation in the Caspian area also resulted in the reinstatement of quotas by CITES for the export of caviar and other products from sturgeon, except Beluga. The publication of 2007 quotas contrasts with the situation in 2006, when the Secretariat did not publish caviar quotas for the Caspian Sea's sturgeon fisheries because the five countries concerned did not provide sufficient information about the sustainability of their sturgeon catch. Recognizing that sturgeon stocks have declined in recent years, the countries bordering the Caspian Sea agreed among themselves to reduce the combined catch quotas for the Sea's six sturgeon species by an average of 20 per cent compared with 2005, with reductions of one third for some species.

Elsewhere in Europe, the condition of Lake Balaton, also known as the Sea of Hungary, is a high-priority issue for Hungarians, the government of Hungary and the millions of foreign tourists who visit its unique habitat, shorelines and upland protected areas. Following

With UNEP assistance, the countries bordering the Caspian Sea are cooperating to reverse an impending environmental crisis brought about by habitat destruction, industrial pollution and overexploitation.



many years of water quality problems, a four-year water shortage starting in 2000 raised concerns about the sensitivity of Lake Balaton to climate change. Lake Balaton's vulnerability is the result of its shallow profile. With the heavy reliance on tourism as a primary source of livelihoods, the socio-economic consequences of ecological deterioration could be severe and immediate. Along with the Lake Balaton Development Council and the International Institute for Sustainable Development, UNEP launched the Lake Balaton Integrated Vulnerability Assessment, Early Warning and Adaptation Strategies project to contribute to a better understanding of Lake Balaton's ecological and socio-economic vulnerability, and to build capacity for more effective policy-making and adaptation measures in response. As well as Balaton, there are many other shallow lakes and reservoirs of significant economic and ecological importance in Hungary and other regions that face similar vulnerability and adaptation problems, where lessons from this initiative can be applied.

GLOBAL PROGRAMME OF ACTION

The UNEP GPA Coordination Office concentrated its efforts during 2006 on preparation for the GPA's Second Intergovernmental Review Meeting (IGR-2), which took place in Beijing, China, in October. More than 500 participants—representing some 100 governments and the European Commission, international and regional organizations, international financial institutions, and NGOs—renewed their commitment to address land-based sources of marine pollution at the national, regional and global level, and acknowledged the importance of national, regional and international partnerships as critical for the successful implementation of the GPA.

During the year, UNEP continued to provide substantive support to national governments in developing national programmes of action. More than 60 countries are currently implementing the GPA, either through specifically designed national programmes of action, or through related processes. In cooperation with the Regional Seas Programmes, the UNEP-GPA Coordination Office helps countries to identify and address barriers to the implementation of legislation. A comparison of institutional frameworks found that early protocols tended only to address coastal areas. In some cases now, this has been extended to

include whole hydrological basins so that entire associated marine and freshwater environments are covered (for example in the Mediterranean Protocol, the Caribbean Protocol, and the Eastern African Protocol). This shift reflects the increased understanding that addressing impacts on the coastal environment requires broader, more integrated approaches, and supports the growing recognition of the importance of the ecosystem approach and integrated coastal area and river-basin management.

MARINE AND COASTAL ECOSYSTEMS

Recent assessments of the status of the marine environment as it relates to land-based sources of pollution suggest good progress in three areas: persistent organic pollutants, radioactive substances and oils (hydrocarbons); in the areas of heavy metals and sediment mobilization there have been mixed results; and conditions have deteriorated in the areas of sewage, nutrients, marine litter, physical alteration and destruction of habitats. Progress has been made in providing technical guidance at a sectoral level on GPA-related issues, including wastewater, tourism, aquaculture, mining, ports and harbour development, and coastal rehabilitation. Key principles and associated checklists have been developed for environmentally sound management of these sectors, which have been widely disseminated and applied on the ground through pilot projects.

Also useful for management and policy making is 'Marine and Coastal Ecosystems and Human Well-being', a synthesis of the findings from the reports of the four Millennium Ecosystems Assessment (MA) Working Groups (Conditions and Trends, Scenarios, Responses, and Sub-global Assessments) concerning marine and coastal ecosystems. The aim of the report is to contribute to the dissemination of the information contained within the MA to decision makers and stakeholders of marine and coastal ecosystems. The report was launched in June 2006 at the UN Open-ended Consultative Process on Oceans and the Law of the Sea in New York.

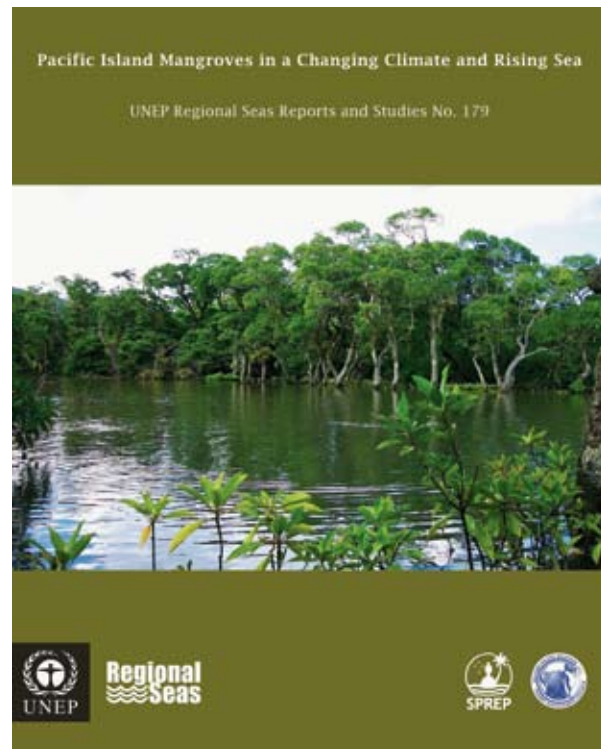
Some of the nations most dependent on the coastal and marine environment, and the most vulnerable to its degradation, are Small Island Developing States (SIDS). UNEP is implementing a number of activities in SIDS, including examining the

effects of climate of change, waste management, the protection of freshwater, coastal and marine resources, and capacity building in environmental law and MEAs. To implement the GPA in SIDS, UNEP is building municipal level capacity in project identification, planning and financing for water, sanitation and wastewater management. Other activities include improving access to drinking water and sanitation at the community level in Jamaica and Guyana. UNEP is also facilitating the implementation of the Coral Reef Initiative for the South Pacific in partnership with the Agence Francaise de Développement, the Secretariat of the Pacific Community (which hosts the coordination office), Conservation International, WWF, the UN Foundation and others. This regional initiative is promoting the protection and sustainable management of the coral reefs of Pacific island states.

REGIONAL SEAS

UNEP's Regional Seas Programme provides a comprehensive institutional and programmatic framework for regional and global cooperation for the protection of coasts, oceans and seas. 2006 marks the 25th anniversary of the Caribbean Environment Programme, which was commemorated with a special edition of UNEP's 'Our Planet' magazine. The year also marked the 30th anniversary of the Barcelona Convention. The initial aim of the Barcelona Convention and its Protocols was to protect the Mediterranean Sea from pollution, but it was expanded in 1995 to contribute to the sustainable development of the region. The Convention serves as a model regional partnership between a UN body and regional stakeholders, and has played an important role in promoting peaceful dialogue among Mediterranean countries on environmental protection and sustainable development.

The Regional Seas Programme supports the sustainable management and protection of the coastal and marine environment by helping to develop common regional objectives, and by promoting synergies, global programmes and initiatives. It covers eighteen regions, which operate either through a Convention or an Action Plan. During 2006, the issue of marine litter remained a priority. During IGR-2, UNEP launched its Global Initiative on Marine Litter, which provides a global platform for establishing partnerships and coordinating activities for



Mangrove ecosystems are important for coastline protection and for inshore fisheries, where they act as breeding nurseries. Economic research is revealing that these and other ecosystems are often worth more left intact than when converted to other uses.

controlling marine litter. The Regional Seas Programme has launched a website devoted to marine litter that provides information and news on the initiative and additional resources.

In cooperation with the GPA, UNEP also launched the publication 'Financing the Implementation of Regional Seas Conventions and Action Plans: A Guide for National Action'. The report addresses the different financial mechanisms available for implementing Regional Seas Conventions and Action Plans. Some of the issues covered are: how to determine financing needs; how to choose the most suitable financial mechanism; and potential challenges Regional Seas Programmes might face in developing activities. Another report 'Financing for the Environmental Conservation of the Red Sea and Gulf of Aden', published in January 2006, provides an example of how financial mechanisms have been used to support environmental activities. Two new publications were also produced with the US National Oceanic Atmospheric Administration: 'Accounting for Marine Economic Activities in Large Marine Ecosystems and Regional Seas.' and a handbook on 'Governance and Socio-economics of Large Marine Ecosystems'.

MARINE BIODIVERSITY

A joint UNEP-IUCN report 'Critical Ocean Issues: Ecosystems and Biodiversity in Deep Waters and High Seas', released in June 2006 highlights the need for ecosystem-based management measures to help protect the biodiversity of the high seas, and outlines options for progress. The Regional Seas Programme has also been contributing to biodiversity and ecosystem-based management issues by helping to support a study on methods to reduce shark depredation and bycatch in longline fisheries. The project is collecting information from a representative sample of longline fisheries to investigate attitudes of the longline fishing industry towards shark bycatch and identify effective and commercially viable methods to reduce it.

The eighth Global Meeting of the Regional Seas and Action Plans held in Beijing, China, in October 2006, also focused on biodiversity and its relationship with the regional seas. Partner institutions such as the Convention on Migratory Species (CMS), CBD and the Global Invasive Species Programme were among the participants. The Regional Seas Programme and the Global Invasive Species Programme also organized training courses on managing marine and coastal invasive species in four regions: the Black Sea, the Caribbean, Northeast Pacific, and the Benguela Current (West Africa) region.

Earlier in the year, the Regional Seas Programme formed a partnership on Marine Protected Areas (MPAs) with UNESCO, CBD and the International Coral Reef Action Network (ICRAN) to share information on current MPA activities and to identify areas of cooperation. The Programme also supported an IUCN workshop in September, in Mahé, Seychelles, to train managers and practitioners involved in MPAs, fisheries and forestry. The workshop used products co-produced by UNEP, including a 'Toolkit for Managing MPAs', a 'Workbook for MPA Management Effectiveness' and the Western Indian Ocean Fisheries Database.

In cooperation with the Secretariat of the Pacific Regional Environment Programme and Western Pacific Regional Fishery Management Council, UNEP also launched the publication 'Pacific Island Mangroves in a Changing Climate and Rising Sea', which looks at capacity building

priorities for responses to climate change effects, considerations for developing a coastal planning and adaptive strategy, and regional and international initiatives.

Also in the Asia-Pacific region, the Indian Ocean South-East Asia (IOSEA) Marine Turtle Memorandum of Understanding promotes collaboration among 25 governments and partner organizations. The secretariat, which is co-located with the UNEP Regional Office for Asia and the Pacific, coordinated a region-wide 'Year of the Turtle' campaign during 2006 to increase awareness of the threats to marine turtles and of the actions needed to conserve them. Events and activities were organized in more than 20 countries across the region, from Australia to Jordan and the Sultanate of Oman, where the Fourth Meeting of Signatory States to the IOSEA MoU was held to review its implementation. UNEP also published 'Assessment of the Conservation Status of the Leatherback Turtle in the Indian Ocean and Southeast Asia', the first of a series of comprehensive assessments, as well as a review of the impacts of the December 2004 tsunami on turtles and turtle habitats. Serving in a different capacity—as a CMS regional office—the IOSEA secretariat was also involved in the successful conclusion of a new regional agreement for dugong conservation, the promotion of other regional initiatives to conserve migratory species and their habitat, and to exchange information on various topical issues, such as avian influenza. During 2006, Pacific Island countries also signed a new agreement under CMS umbrella to conserve whales and dolphins.

COLD WATER CORALS

In 2006, the UNEP Coral Reef Unit operated under the motto: 'Cold-Water Corals; Building the Momentum; Tropical Reefs: Maintaining the Momentum'. In support of international discussions and emerging action on cold-water corals and other vulnerable deep-water or high seas environments, UNEP produced a portfolio of reports and products. 'Ecosystems and Biodiversity in Deep Waters and High Seas', produced in collaboration with IUCN, summarizes current knowledge about the status of deep-water ecosystems and the threats they face from the increase in human activities, especially fishing, in these parts of the oceans.

The 'Cold Coral Deep' Earth Report documentary, produced by the Television Trust for the Environment (TVE), was broadcast on BBC World in October 2006 to raise awareness of these unique ecosystems and the devastating effects of deep-water bottom trawling. The programme contains underwater footage of cold water corals never seen before, provided by scientists from around the world. In the same month, a new Global Cold-Water Coral Database and Geographic Information System (GIS) was launched. Developed in close cooperation with scientists, and using UNEP-WCMC's interactive map system, this tool provides a single entry point to thousands of cold-water coral records.

The report 'Seamounts, Deep-sea Corals and Fisheries', produced in collaboration with the Intergovernmental Oceanographic Commission of UNESCO and the Census of Marine Life on Seamounts Programme, was submitted to the 61st session of the UN General Assembly in support of discussions on sustainable fisheries and a moratorium on high seas bottom trawling. In October 2006, UNEP also became an official partner in the European deep sea research project Hotspot Ecosystem Research on the Margins of European Seas (HERMES). This gives UNEP direct access to the results of these multidisciplinary and cutting-edge investigations, so that UNEP can continue to support and provide input to international discussions and actions to conserve and manage deep-water and high seas marine biodiversity.

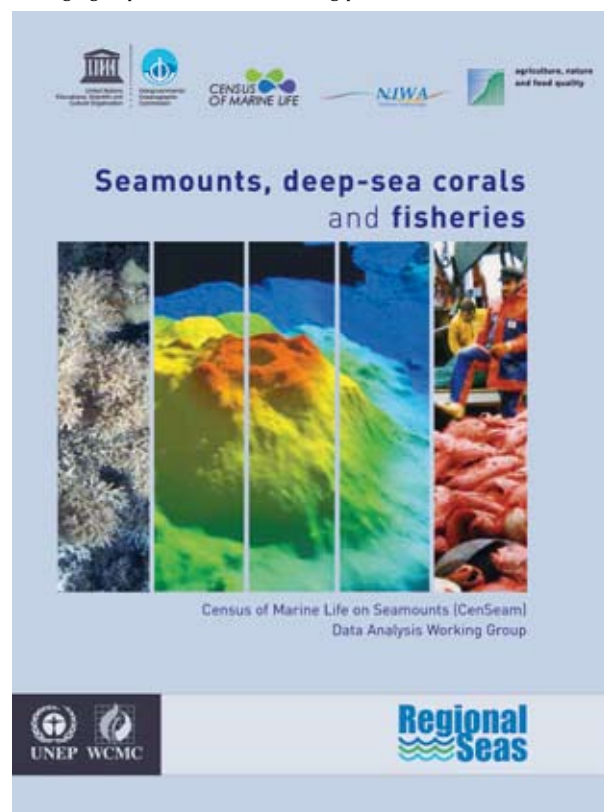
TROPICAL CORALS

In order to slow the continued degradation of tropical, warm-water reefs, UNEP continue to support work and action under the International Coral Reef Initiative (ICRI). 2006 saw the publication of the report 'Status of Coral Reefs in Tsunami Affected Countries'. UNEP's Coral Reef Unit is also working with ICRAN, in collaboration with the South Asian Cooperative Environment Programme, regional governments and partners, to implement a project for the long-term management and conservation of marine and coastal protected areas, encompassing warm-water coral reefs. The project will assist nations to move forward with commitments to develop networks of marine and coastal protected areas in line with CBD, WSSD and the MDG targets.

Priority issues in the sustainable management and conservation of tropical reefs and associated marine ecosystems were the focus of the third International Tropical Marine Ecosystems Management Symposium, held in Cozumel, Mexico, in October. This major activity of ICRI, coordinated in 2006 by ICRAN, gave opportunities for the tropical ecosystem management community to exchange experiences and develop communication networks. UNEP produced 'Case Studies of Coral Reef Monitoring and Management Projects' for the meeting.

UNEP also launched a new rapid report on coral reefs, 'Our Precious Coasts: Marine Pollution, Climate Change and Resilience of Coastal Ecosystems', at the GPA IGR-2. The report highlighted the links between sustainability of coastal ecosystems and levels of pollution in a changing climate. The report was prepared by a Rapid Response Team at UNEP GRID-Arendal and UNEP-WCMC as a broad collaborative effort across various UNEP programmes and activities, with contributors from UNEP Regional Offices, GRID Sioux Falls, the GPA, Nature Seychelles, the Norwegian Institute of Nature Research, and the University of Life Sciences in Norway.

The extent, biological diversity and ecological importance of deep sea ecosystems, such as cold water corals, is only now becoming fully understood. Also becoming apparent is their fragility and the damaging impact of industrial fishing practices.



CHANGING THE FUTURE

Natural disasters and armed conflict continue to devastate communities around the world. The support of the international community has been generous, but increasing trends in risk and vulnerability suggest the need for new approaches. The year brought changes to the ways that UNEP and the wider international community support crisis response, risk reduction and, in particular, recovery, where the watchword is ‘Build Back Better’, a forward-looking process that aims towards the goals of sustainable development rather than recreating prior vulnerabilities.

When the humanitarian community mobilizes in response to disaster or conflict, rapid deployment of environmental expertise is urgently needed as well, since the secondary effects of disasters and conflicts often include damage to industrial facilities and environmental infrastructure that result in contamination of air, water and soil or create additional risks. Rapid environmental assessments can help to identify these immediate threats and provide a preliminary indication of environmental concerns that require attention in early recovery and subsequent phases.

In July, when the fuel depot of a power plant was struck during hostilities in Lebanon, an estimated 10,000 to 15,000 tons of fuel oil spilled into the Mediterranean and contaminated the Lebanese and Syrian coastlines. The Joint UNEP-OCHA Environment Unit, together with the Lebanese Ministry of Environment, the European Union and IUCN, coordinated the massive clean-up effort by donors, and international, regional and local organizations. For more than five weeks in the aftermath of the spill, the Joint UNEP/OCHA Environment Unit provided direct support to the Ministry of Environment in Beirut. In addition, at the request of the Ministry of Environment, UNEP conducted a post-conflict environmental assessment in September and October to investigate the wider environmental impacts of the July–August 2006 conflict.

An international UNEP team of 12 experts assessed the environmental risks from hazardous waste and the weapons used, as well as impacts on marine and freshwater ecosystems. The

oil pollution was found to have been largely contained, and contamination levels appeared to be generally typical of coastal areas of that part of the Mediterranean. Detailed field tests and analysis of samples at laboratories in Europe have, in addition, found no evidence that missiles used during the conflict contained depleted uranium or other kinds of radioactive material. However, war-related debris, cluster bombs on farmland, toxic waste—the result of bomb damage and fires at industrial facilities—and widespread damage to water and sewage systems were found to present serious problems to the Lebanese people and require urgent remedial action. UNEP’s assessment work was conducted with funding from the governments of Germany, Norway and Switzerland.

In August, thousands of tonnes of hazardous waste from overseas were dumped at various sites around Abidjan, Cote d’Ivoire, leading to a humanitarian crisis. The Joint UNEP-OCHA Environment Unit deployed environmental experts to join the UN Disaster and Assessment Coordination (UNDAC) team that was sent to help national authorities deal with the situation. The team assessed the contaminated site, confirming that the main chemicals in the waste were potentially harmful, and provided scenarios of the associated risks. UNEP and the Basel Convention on the Transboundary Movement of Toxic Waste, to which Cote d’Ivoire is a party, continue to support follow-up activities. A trust fund was established by UNEP to assist with the clean-up.

A boy drinking water from the Akuem River, near the village of Malual Kon in Bahr el Ghazal State, in southern Sudan. Only about one-third of the population has access to safe drinking water, and the threat of water-borne disease has increased as towns swell due to the return of displaced people and refugees following decades of civil war. UNEP is working with governments in post-conflict situations to ‘build back better’ and ensure the environmental foundation of sustainable development. © Georgina Cranston/UNICEF





A UNEP expert collecting a soil sample in South Beirut. The conflict in Lebanon between July and August 2006 caused significant damage. On the request of the Lebanese Ministry of Environment, UNEP undertook a post-conflict environmental assessment.

NEW APPROACHES TO OLD CHALLENGES

Humanitarian emergencies disproportionately affect the poor, and other vulnerable populations, who rely on natural resources and the physical environment for their livelihoods. If not properly managed, post-crisis recovery can have long-term consequences on the environmental goods and services that support the survival of affected populations. In the wake of major events, Building Back Better requires the engagement of most sectors. Until recently, the role of environmental authorities has been largely misunderstood. Addressing environmental concerns is not a luxury, but essential to protecting the well-being of affected communities and providing the physical basis for a sustainable recovery. Contaminated sites must be cleaned, debris must be removed and waste managed. Where environmental infrastructure has been damaged or ecosystem services compromised, remedial actions must be taken. In many cases, the institutions that govern the environment must be re-established. In all cases, there are unique opportunities to build

back even better than before—and ideally to ensure that pre-existing environmental problems are not re-created.

Throughout 2006, UNEP worked with partners to establish, inform and implement an environmental agenda for recovery. Following the devastating tsunami of December 2004, the Maldives Post-Tsunami Environmental Assessment carried out by UNEP drew attention to approximately 290,000 cubic metres of waste, including hazardous waste, healthcare waste, oil spilled from generators and leakage from septic tanks. In 2005, UNEP cleared 89 islands of hazardous waste; the three remaining affected islands were cleared in 2006. In March the UNEP Executive Director received a special medal from the President of the Maldives in recognition of UNEP's post-tsunami assistance. In September, UNEP undertook additional site investigations to determine the nature and scale of oil contamination in shallow soils and groundwater at two tsunami-affected islands, which revealed significant contamination.

Environmental concerns are not limited to waste and contamination. UNEP's Post-Tsunami Environmental Assessments published in 2005 identified damages to mangroves that threatened vital ecosystem services, including coastal protection and the maintenance of fisheries. In 2006 UNEP worked to restore these coastal habitats with its Indonesian project partner, Wetlands International Indonesia Programme, and IUCN at a site in Aceh Besar. Training in seedling preparation and rehabilitation techniques was conducted, two nurseries were built and a re-vegetation project was launched with community groups. The programme also included training in design and implementation of local rehabilitation programmes. A report, 'A Study of Lessons Learned from Mangrove/Coastal Ecosystem Restoration Efforts in Aceh since the Tsunami', is in preparation.

In collaboration with UN-HABITAT, UNEP has also prepared a 'Sustainable Construction Guidance Manual' for use by NGOs and UN agencies in Banda Aceh. The manual will provide information on sustainable construction materials and techniques, energy efficiency and conservation, alternative water supply and sanitation systems, and waste recycling and composting. The manual will also focus on environmental management goals, such as secondary containment of fuel tanks and the minimization of dust and noise emissions.

POST-CONFLICT WEST ASIA

In Iraq, UNEP continued to support and follow-up on assessments of post-crisis environmental conditions. A \$905,000 award from the UN Trust Fund for Iraqi Reconstruction allowed UNEP to implement recommendations in the November 2005 'Assessment of Environmental Hot Spots' report by conducting pilot clean-up activities of two highly contaminated sites at Al Qadissiya and Al Suwaira.

Under very difficult security circumstances, nearly 600 50-litre drums of hazardous chemicals, including cyanide, chromium and mercury, were collected and safely stored away from public access, thereby removing an important public health hazard and security risk. The work included training employees and government staff on the methodologies and health safety protocols for hazardous waste collection and storage.

The UN Trust Fund for Iraqi Reconstruction is also behind the Support for Environmental Management of the Iraqi Marshlands project. The second phase of the project started in 2006, with bilateral funding from the Governments of Italy and Japan, and involving the Iraqi Ministries of Environment, Water Resources, and Municipalities and Public Works, local community groups, and other stakeholders. The positive impacts of the project were featured prominently in a BBC Earth Report documentary, broadcast around the world in November 2006.

Data released by UNEP in December revealed that almost half the Iraqi Marshlands, considered by some as the original biblical 'Garden of Eden', and an ecosystem of global importance, has recovered to its former 1970s extent. At the same time, up to 22,000 people living in the area are now getting access to safe drinking water through the implementation of environmentally sound technologies and the training of operators at water treatment and distribution facilities. In addition, approximately 300 Iraqis have been trained in marshland management techniques and policies. In late 2006, work started to expand water provision in another community, with additional funding from Japan.

Further west, UNEP conducted an independent assessment at the request of Palestinian Environment Quality Authority of the environmental status of the 21 disengaged Israeli settlements in Gaza. The findings, released by UNEP in Jerusalem in March 2006 concluded that no significant environmental impacts were caused by the settlements. However, risks to groundwater were identified from mismanaged chemicals at the Erez Industrial Estate. Clean-up of asbestos in demolition waste was also recommended to protect public health.

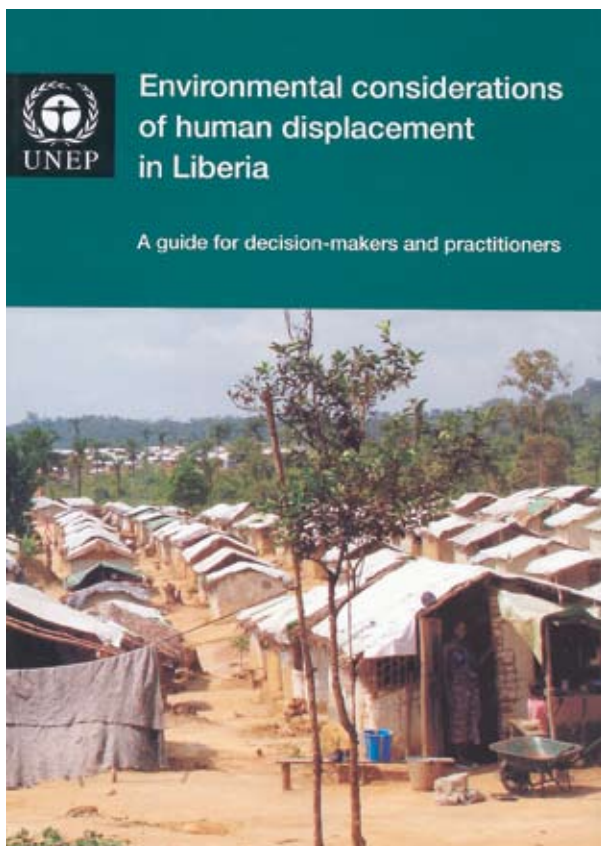
The information generated by the assessment established a valuable baseline for longer-term planning of various resource uses, including land use planning, agricultural use and solid waste management systems in the area. As an initial step, an asbestos training workshop for Palestinians was held in Cairo in April to prepare participants for clean-up work. In March, UNEP and the Applied Research Institute, Jerusalem, agreed to develop an environmental information system for Gaza and to train approximately 20 members of the Palestinian Authority in its use.

SUPPORT TO AFRICA

With renewed hope for political stability and development in Sudan, which suffered protracted armed conflict and two civil wars between 1955 and 2005, UNEP's post-conflict assessment report will give a comprehensive analysis of the current status of the environment for all of Sudan with an emphasis on current conflicts, peace building and post-conflict recovery. The field work component of the assessment, consisting of 10 separate field missions in 2005-2006, was completed in September.

Among the consequences of conflict—as well as natural disasters—is the large-scale displacement of communities. When people are settled in transitional locations, attention to the environment is essential for the quality of life of the displaced people, as well as the permanent inhabitants of the area. In Liberia, almost 15 years of civil war resulted in a considerable number of Internally Displaced Persons (IDPs). UNEP has developed a methodology to map environmental vulnerability and launched a campaign to promote awareness of the environmental implications of camp

UNEP is helping UN partners to mainstream environmental considerations into their work, such as providing safe living conditions for refugees and internally displaced people.



establishment, management, closure and the return process. The programme culminated in the UNEP publication 'Environmental Considerations of Human Displacement in Liberia: A Guide for Decision Makers and Practitioners' released in Liberia in October. The IDP Consultative Forum (ICF) for the first time incorporated environmental considerations into the assessment of closed IDP camps, and recommendations from the assessment are currently being implemented by the Office of the United Nations High Commissioner for Refugees (UNHCR).

GOVERNANCE AND RECOVERY

Addressing environmental concerns in post-crisis situations requires good governance and institutional capacity, often in situations when the environmental management infrastructure has itself been compromised as a result of disaster or conflict. In Afghanistan, UNEP has been helping to build the environmental management capacity of the National Environmental Protection Agency (NEPA) since 2003. In November 2006 the Afghan parliament approved the Afghanistan Environmental Law—the country's first environmental law. It was drafted by NEPA with technical assistance from UNEP and IUCN. Other UNEP-supported legislative and policy initiatives include: Forestry Law, Rangeland Law, Parks and Protected Areas Regulations, EIA Regulations and the Pollution Control Policy.

In parallel with law development, UNEP has been working to support a comprehensive civil service reform and reorganization of NEPA. A 390-staff-NEPA has been created through this process and UNEP will continue to provide training and technical assistance to the staff throughout 2007 and 2008. UNEP's support to the UN country team in Afghanistan has included participation in the UN Development Assistance Framework (UNDAF) as well as in the national development strategy and Interim Poverty Reduction Strategy Paper. UNEP has also supported NEPA in accessing international support from various multilateral environmental agreements, in particular the Convention on Biodiversity, the RAMSAR Convention, the UN Framework Convention on Climate Change, and the Montreal Protocol on Substances that Deplete the Ozone Layer. The work is supported with funding from the European Union, the Government of Finland and the Global Environment Facility (GEF).

In Iraq, to lay the foundation for good environmental governance and expedite the development of environmental laws, UNEP provided an environmental law expert to work with the Ministry of Environment. UNEP also provided the methodological tools used by the Ministry of Environment's special task force to assess institutional capacity at all levels. Recommendations for institutional change and further capacity building requirements were formulated and presented to the Environment Minister. An Environmental Information Center and an Environmental Monitoring Laboratory has been established in Baghdad, with Ministry staff receiving specialized training.

In Indonesia, UNEP continued to provide the Ministry of Environment, the Aceh-Nias Rehabilitation and Reconstruction Agency (BRR) and the UN Recovery Coordinator with technical and capacity building assistance. UNEP developed an Environmental Impact Assessment Tracking Database System to coordinate activities related to environmental screening and the review of proposed rehabilitation and reconstruction projects. UNEP also developed a Strategic Environmental Framework to ensure that reconstruction activities contribute to improved environmental conditions in Aceh and Nias, and carried out the Environmental Aspects of Post-Tsunami Recovery and Reconstruction in Aceh assessment in September 2006.

Another initiative was support for the Indonesian Ministry of Environment on eco-house design, with the construction of a pilot eco-house in Labuy Village in Banda Aceh. At the BRR's request UNEP also prepared a 'Comprehensive Master Plan' that includes the development of infrastructure, public meeting facilities, and eco-houses in the village. The BRR plans to build more than 1,000 houses in the area based on different types of demonstration eco-houses that will be designed and constructed with additional support from UNEP.

RISK REDUCTION

'Building Back Better' also means reducing the risk of future disasters. Again, the environment has an important part to play. Coastal vegetation, forests and wetlands all help to buffer communities from natural hazards. In extreme cases environmental change can itself trigger a

disaster—global climate change, for instance, is expected to result in new patterns of disaster risk. Some communities have greater capacity to withstand the effects of hazards, the poorest communities less so. Proper management of natural resources can improve community resilience.

Throughout 2006, UNEP strengthened its engagement in the UN International Strategy for Disaster Reduction (ISDR). The activities have been guided by the internationally agreed Hyogo Framework for Action, and have addressed disaster risk reduction through strengthening institutional capacity for addressing risk and vulnerabilities, generating and applying environmentally-informed risk information, improving preparedness for effective response and recovery, and introducing programmes that directly address underlying risk factors.

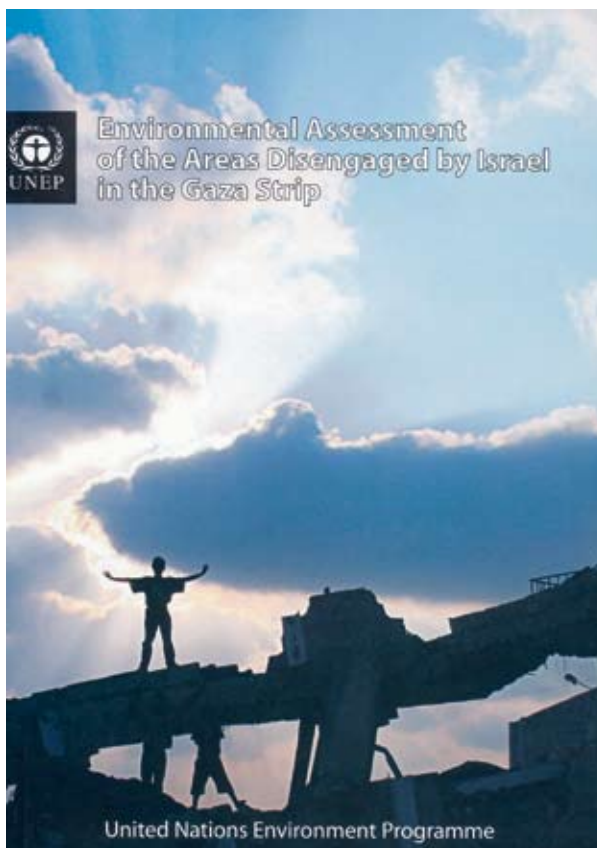
In Africa, UNEP ISDR and UNDP launched an initiative to mainstream disaster risk reduction into development practice, including environmental management. The guidelines will serve as a keystone in the implementation of the Disaster Risk Reduction Strategy designed by African Ministers of Environment and adopted by the Africa Union in 2005. In Indonesia, UNEP carried out two missions to identify disaster-related capacity and developed a Strategic Framework for Disaster Risk Reduction and Recovery to assist the Ministry of Environment to understand its strengths and capacity needs so it can better participate in national disaster risk reduction efforts.

UNEP has also worked to build awareness and mobilize political support for the integration of environment and disaster concerns within the international community. UNEP leads the Environment and Disaster Working Group in the ISDR system. In August, UNEP and the Working Group convened the plenary session on Environment and Vulnerability at the International Conference on Disaster Reduction in Davos, Switzerland. Following the recommendations of the working group, UNEP prepared a policy paper which identifies key issues in environment and disaster reduction, which will be launched at the first meeting of the Global Platform for Disaster Risk Reduction which coincides with World Environment Day in June 2007.

RISK INFORMATION

Access to information is important for all aspects of disaster risk reduction and related management activities. In 2006, UNEP drew on environmental information acquired through earth observations and other sources to identify and monitor disaster risk. It also promoted more rigorous attention to the role of environmental change in risk assessment methodologies. UNEP continued to support the Project for Risk Evaluation, Vulnerability, Information and Early Warning (PREVIEW) which was initiated in 1999 to assist in the dissemination of global datasets related to hazards and is used and supported by the ISDR for generating country profiles.

Following the disengagement by Israel from Gaza in 2005 it was agreed that UNEP would carry out an environmental assessment. UNEP sent a team of eight UNEP staff members, plus external environmental experts experienced in asbestos, contaminated land, hazardous waste, marine and coastal environment, and water resources. The assessment report, published in 2006, concluded that no significant environmental impacts were caused by the settlements or the disengagement. The information generated established a valuable baseline for longer-term planning. UNEP and the Applied Research Institute, Jerusalem, have agreed to develop an environmental information system for Gaza and to train approximately 20 members of the Palestinian Authority in its use.



UNEP also continued to provide support to other international partners working to identify risk. Following the success of the Disaster Risk Index developed by UNEP for UNDP, and published in the report 'Reducing Disaster Risk: a Challenge for Development', a new collaboration between UNEP and the UNDP Bureau of Crisis Prevention and Recovery was established. The Global Risk Identification Programme (GRIP), was initiated in 2006 to improve coordination between international initiatives and to share knowledge, information, expertise and resources. UNEP also worked with UN University and other partners to produce 'Measuring Vulnerability to Natural Hazards Towards Disaster Resilient Societies'.

Monitoring risks is not the exclusive domain of high-tech instrumentation. UNEP is conducting a study on 'Indigenous Knowledge for Disaster Management in Africa'. Based on case studies in Kenya, Tanzania, Swaziland and South Africa, the work will draw attention to indigenous knowledge in these countries and will issue strong recommendations for incorporating traditional and indigenous knowledge in national policy and development documents and in disaster preparedness and risk reduction efforts.

AWARENESS AND PREPAREDNESS

In order to reduce overall vulnerability of ecosystems and people, preparing for emerging threats is as critical as addressing existing threats. In 2006, UNEP helped the Mexican government to develop a proposal to establish an Early Warning Centre for Mesoamerica and the Hispanic Caribbean, which was approved at the VI Forum of Iberoamerican Ministers of Environment in October. UNEP also expanded its working the region related to conflict around environmental issues. In July, the Regional Consultation on the Environment and Conflict Prevention Initiative, in Mexico City, reviewed the Mesoamerican Biological Corridor as a means for conflict prevention and mediation. Subsequently, experts agreed to form a region-wide network of experts on environment and conflict prevention.

Industrial facilities, too, can be a source of hazard, either through human error or through damage to facilities triggered by natural events. UNEP promotes community awareness of associated risks and broad-based participation in preparedness planning to address the unique

challenges of responding to environmental emergencies. In Sri Lanka and Morocco, UNEP carried out training for national and local authorities on disaster preparedness based on a newly revised training kit. Local demonstrations are ongoing at sites in both countries. At the request of the government of Indonesia, Awareness and Preparedness for Emergencies at the Local Level (APELL) concepts were introduced in a workshop on industrial accidents in Surabaya attended by local authorities and industry representatives.

In July 2006, the European Commission Delegation in Bangkok concluded a partnership with UNEP to implement a new project: Disaster Reduction through Awareness, Preparedness and Prevention Mechanisms in Coastal Settlements in Asia: Demonstration in Tourism Destinations. The project aims to minimize casualties as well as property and environmental damage from natural and man-made disasters in tsunami-affected tourism destinations in India and Thailand. UNEP also organized training on APELL and on environmental emergencies for the NATO Partnership for Peace course run by the Swedish Rescue Services Agency in Romania. The course provided participants with strategies to improve preparedness for international rescue and relief operations in response to environmental disasters.

NEW PARTNERSHIPS, NEW MECHANISMS

Linking emergency response, early and long-term recovery, disaster risk reduction and development requires coordination across a broad spectrum of actors, including national governments, the UN system, international financial institutions and civil society. 2006 has seen wide-reaching changes in the approach to delivering support to affected and vulnerable communities. UNEP has been active in supporting these advances and engaging in new partnerships. In this regard, to further enhance UNEP's capacity in crisis management, the Executive Director decided to merge UNEP's Post-Conflict and the Disaster Management expertise into a single new branch.

The ISDR system, which is comprised of national governments, UN agencies, international financial institutions and civil society, works together to support the growth of national capacity to address disaster risk. Throughout 2006 UNEP played an active role in strengthening the ISDR system. In

October, UNEP joined the ISDR Management Oversight Board. UNEP also continued to lead the thematic Working Group on Environment and Disaster Risk Reduction, which aims to establish an environmental framework for disaster reduction efforts, mobilize political support, and strengthen the knowledge base required to support work in this field.

UNEP has also been a key member of an initiative led by the ISDR and the Office of the Special Envoy, President Clinton, to strengthen tsunami early warning systems. Not only does this initiative aim to directly support national aspirations to establish effective multi-hazard warning systems, it also establishes a precedent for inter-agency cooperation in the design and delivery of services to national governments, fully in line with the UN Coherence Policy adopted by the UN General Assembly in November 2006.

UNEP also works with the UN Inter-Agency Standing Committee (IASC), established in 1992 as the primary vehicle for inter-agency coordination of humanitarian assistance. The 'cluster approach' was endorsed at the end of 2005 as part of a wider reform process to improve the effectiveness of humanitarian response by ensuring greater accountability, predictability and partnership. The primary objective of the cluster approach—and what distinguishes it from traditional sector-based coordination—is to ensure accountability by designating a lead agency for each cluster. To date, nine clusters have been established, namely: Nutrition; Water and Sanitation; Health; Camp Coordination and Management; Emergency Shelter; Protection; Logistics; Emergency Telecommunications; and Early Recovery.

The Early Recovery Cluster, led by UNDP, covers both post-conflict situations and natural disasters. It aims to improve strategic planning for early recovery from the immediate period following the onset of a crisis. It is also critical in linking immediate responses to disasters with medium and long-term recovery efforts. UNEP is an active member of the cluster, and throughout 2006 worked to ensure that tools and mechanisms are in place to ensure that environmental considerations are adopted as early as possible in the recovery process. UNEP also started work to mainstream environmental issues within the response approaches of the other clusters.

PARTNERS FOR CHANGE

Civil society pressure, allied with sound scientific data, helped to create many of today's environmental agreements and institutions, and provides the foundation for global efforts to achieve the Millennium Development Goals. During 2006, UNEP continued to strengthen its collaboration with civil society to facilitate its greater involvement in intergovernmental decision making and to enhance UNEP's own effectiveness in fulfilling its mandate to provide environmental leadership.

Each year, UNEP organizes a Global Civil Society Forum (GCSF), held just prior to the Governing Council or its special session, in the same venue. The 7th GCSF was held in Dubai in February 2006 before the 9th Special Session of the Governing Council/ Global Ministerial Environment Forum (GC/GMEF). Chemicals management, tourism and energy were key policy issues considered during the GC/GMEF ministerial consultations, and were central subjects for the GCSF and its associated preparatory regional meetings. About 120 participants from around 48 countries attended the Dubai meeting, including more than 30 civil society organizations from the West Asian region.

In preparation for the 24th UNEP Governing Council and the 8th GCSF, to be held in February 2007 in Nairobi, UNEP organized six Civil Society Regional Consultation Meetings for Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, North America and West Asia. The preparation included the launch of five web-pages on subjects that were debated at the regional consultations and scheduled for discussion at the GC/GMEF, including environment and globalization, ecosystem services and human well-being, water, chemicals management, the Millennium Development Goals (MDGs), and gender and the environment.



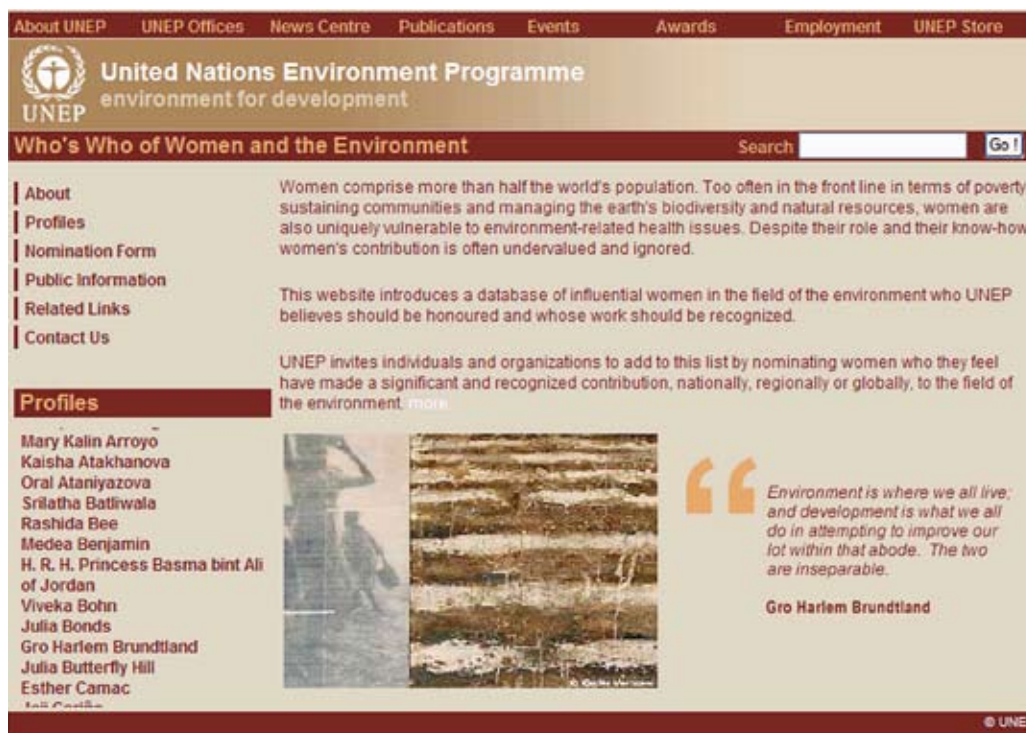
GENDER ISSUES

Women comprise more than half the world's population. Often in the front line in terms of poverty, sustaining communities and managing the earth's biodiversity and natural resources, women are also uniquely vulnerable to environment-related health issues. Despite their role and their know-how, women's contribution is often undervalued and ignored. When UNEP's new



Executive Director took over in June he made it plain that he would continue to prioritize gender issues, both in UNEP's programme of work and in its own internal management culture. To that end, UNEP organized a senior management workshop on gender mainstreaming to address outstanding and strategic challenges at UNEP. The facilitators introduced a UNEP Draft Gender Plan of Action, jointly produced by IUCN and the Women's Environment and Development

UNEP Executive Director Achim Steiner and Nobel Peace Prize laureate Wangari Maathai at the launch of the Plant for the Planet: Billion Tree Campaign, 8 November 2006, during the UN climate change meeting in Nairobi. The idea for the Billion Tree Campaign was inspired by Professor Maathai, founder of Kenya's Green Belt Movement, which has planted more than 30 million trees in 12 African countries since 1977. When a corporate group in the United States told Professor Maathai it was planning to plant a million trees, her response was: "That's great, but what we really need is to plant a billion trees." Professor Maathai is the co-patron of the campaign, along with Prince Albert of Monaco. © UNEP



The UNEP 'Who's Who of Women in the Environment' website, launched on International Women's Day, 8 March 2006, pays tribute to women's contribution to environmental conservation and management. It provides a database of influential women who UNEP believes should be honoured and whose work should be emulated.

Organization (WEDO) in close collaboration with UNEP, including interviews with senior managers and Regional Office directors. Participants made a plea for the inclusion of gender in their respective areas of responsibility, through concrete measures, and for UNEP to make a significant and visible breakthrough on gender mainstreaming to achieve gender equality. In addition, UNEP launched a qualitative survey targeting ministries responsible for the environment on the incorporation of gender perspectives in environmental programmes and policies at national level.

Earlier in the year, UNEP launched the highly successful 'Who's Who of Women in the Environment' website on the occasion of International Women's Day, 8 March 2006, on the theme 'Women in Decision Making: Meeting Challenges, Creating Change'. Through the website UNEP is paying tribute to the contributions of women to environmental conservation and management. The website provides a database of influential women in the field of the environment who UNEP believes should be honoured and whose work should be recognized.

LABOUR AND THE ENVIRONMENT

UNEP is also forging stronger links with workers and their trade unions. Workers are often the very first victims of environmental hazards. Their working conditions are therefore at the core of both the environmental and social dimension of sustainable development. On the other hand, environmental sustainability is still too often seen as being in competition with economic progress, an issue which affects employees as much as their employers. By enlisting the support of organized labour, UNEP hopes to open one more front in the battle for hearts and minds as it seeks to articulate the argument that environment and economics are partners not adversaries, and that natural capital is the foundation for economic and social progress.

In January 2006, UNEP hosted the first Trade Unions Assembly on Labour and the Environment. Over 150 representatives of labour organizations, trade unions, governments, the private sector and UN bodies discussed the synergies between labour and the environment

and ways to establish partnerships and framework agreements for joint environmental policy design and implementation. The Assembly adopted a Workers Initiative for a Lasting Legacy which confirmed unions' commitment to taking practical steps to advance sustainable development and the MDGs. It also endorsed strengthened cooperation between trade unions and organizations such as UNEP, the International Labour Organization (ILO) and the World Health Organization (WHO), and mapped out steps for joint follow-up action by UNEP, ILO and WHO.

To pursue the implementation of the Assembly's resolution, UNEP participated in regional conferences on labour and the environment in Latin America and in Africa. In both regions, substantive areas of focus included issues of chemicals management as well as climate change mitigation and adaptation and equitable transition measures. The Trade Union Regional Conference on Labour and the Environment in Latin America in April 2006 in São Paulo, Brazil, which was attended by delegations from 13 countries, aimed to establish a framework for discussion, adoption and extension of common strategies in the work of trade unions on sustainable development and the environment in Latin America. The African Trade Union Conference on Labour and Environment, in Johannesburg, South Africa, in July, was attended by participants from 22 countries. The meeting provided UNEP with an opportunity to present key environmental challenges and messages outlined in the second Africa Environment Outlook (AEO-2). Case studies on actions undertaken by trade unions in the workplace were presented, including on hazardous substances, corporate social responsibility and financial transparency. The Conference resulted in a regional action plan to integrate environmental issues into the trade union agenda.

Further to the regional meetings, UNEP is currently working on establishing a conceptual framework on labour and the environment in a publication on the subject and establishing a partnership to assist trade unions to replicate the successful case studies presented at the January Assembly. UNEP is also looking at other areas of mutual interest, including training and educating on the latest developments in international environmental law in areas such as the chemicals treaties.

CHILDREN AND YOUTH

UNEP's programme for children and youth goes under the brand name 'Tunza', a word in the Kiswahili language of East Africa, where UNEP is based, that means 'to treat with care and affection'. The goal of the programme is both to educate children and youth, and to involve them in UNEP's programme of work and the deliberations of UNEP's governing body. Each year UNEP holds a global conference, either for children or for youth, at which they have the opportunity to choose their representatives to UNEP's annual Governing Council meeting.

TUNZA 2006 INTERNATIONAL CHILDREN'S CONFERENCE



SAVE A TREE
SAVE OUR LUNGS

PUTRAJAYA, MALAYSIA



United Nations Environment Programme

Partners for change

Putrajaya, Malaysia, was the location for the August 2006 Tunza International Children's Conference for the Environment, with the theme 'Save a Tree, Save our Lungs'. Two hundred and fifty children between the ages of 10 and 14 from more than 67 countries attended the conference. The children, all members of environmental clubs in their schools or communities, were selected based on the creativity and the inspirational qualities of environmental projects they are involved in at home. Several of the best projects were presented at the conference, including a project to restore native species of trees to their natural habitat in Colombia, a 'sacred forest' that highlights the healing qualities of trees and their role in community rituals in South Africa, and a scheme to save damaged trees on a street in South Korea.

Much of the conference's planning and organization was done with the help of a Junior Board of 11 children, elected during the Children's World Summit, in Aichi, Japan, in 2005. The Junior Board helped tailor the conference to children's concerns, making decisions on everything from the conference agenda to workshops and field trips. During the Conference the children elected a new Junior Board which will help to organize the next Tunza International Children's Conference in Stavanger, Norway, in 2008. Among the outcomes of the Conference was the adoption of the Tunza Environmental Contract, whereby participants pledged to take concrete action to protect the environment and raise awareness about the environment and the UNEP Tunza programme. Each child pledged to plant a minimum of 20 trees each year, help organize a tree planting week in their schools or communities, promote recycling and say 'no' to plastic bags. UNEP's obligations included establishing an online network and bulletin board for the Tunza 2006 participants and providing a certification scheme for participants who fulfil the environmental contract. The Junior Board also expressed their desire to encourage the development of Tunza environmental clubs in their respective countries.

In Latin America and the Caribbean (LAC), new national networks of youth activists from Chile, Colombia and Panama joined UNEP GEO for Youth environmental assessment activities. Taking advantage of a number of international and national events on water that took place in

Mexico in 2006, the youth groups worked to raise awareness about this vital resource. Key events included the Third Water Fair in Mexico City, in February, a special session on Empowerment of Young People for Water Management and the Strengthening of the Appropriate Use of Water and the Tlalocan International Meeting of Water Experiences, both within the framework of the 4th World Water Forum that was held in Mexico City in March. Youth representatives from Argentina, Barbados, Colombia and Honduras, joined Mexican youth at the Forum, sharing their experience of water conservation work. The momentum for work on water conservation was maintained throughout the rest of the year through a series of training workshops on water and other environmental themes using the Action Guide of the GEO for Youth LAC Training Manual as a base.

INSPIRATION

UNEP also organized the first Africa Youth Conference on the Environment in Brazzaville, Congo, in May 2006, in the margins of the 11th regular session of the African Ministerial Conference on the Environment (AMCEN). The conference was aimed at promoting networking among young people and youth organizations in Africa, in order to maximize strategic youth participation in environmental issues. The 'Africa Environment Outlook for Youth' report was also launched during the Conference. In the Asia-Pacific region, there are active Tunza youth networks for Southeast Asia, Central Asia, Northeast Asia, South Asia and the Pacific islands. In Latin America and the Caribbean, TUNZA activities were promoted through four subregional meetings: Southern Cone, Andean Region, Central America and the Caribbean. Within the reporting period, four Tunza magazines for youth were produced: 'Oceans and Coasts', 'Deserts and Drylands', 'Energy' and 'Forests'.

One of the highlights of the UNEP year is the annual Children's Painting Competition on the Environment, which each year reflects the theme of World Environment Day (WED). For 2006, children from 100 countries contributed more than 8,000 paintings on the theme 'Don't Desert Drylands'. The Children's Painting Competition on the Environment is presented on WED as part of the host city's celebrations. Observed annually on 5 June, WED is one of the principal

vehicles through which UNEP engages partners in environmental activities. The impact of WED is evidenced by the increasing number of voluntary initiatives and actions that governments, the private sector, children and youth organizations, NGOs and civil society take every year around the world on the day. In 2006, a total of 294 individual initiatives and celebrations were registered, from 100 countries around the globe. Africa was the most active continent with 94 initiatives, and India recorded the most initiatives for a single country (40) for the second year in succession. WED also continues to generate considerable traffic on the UNEP website www.unep.org, with 12.7 per cent of the site's total hits for the year.

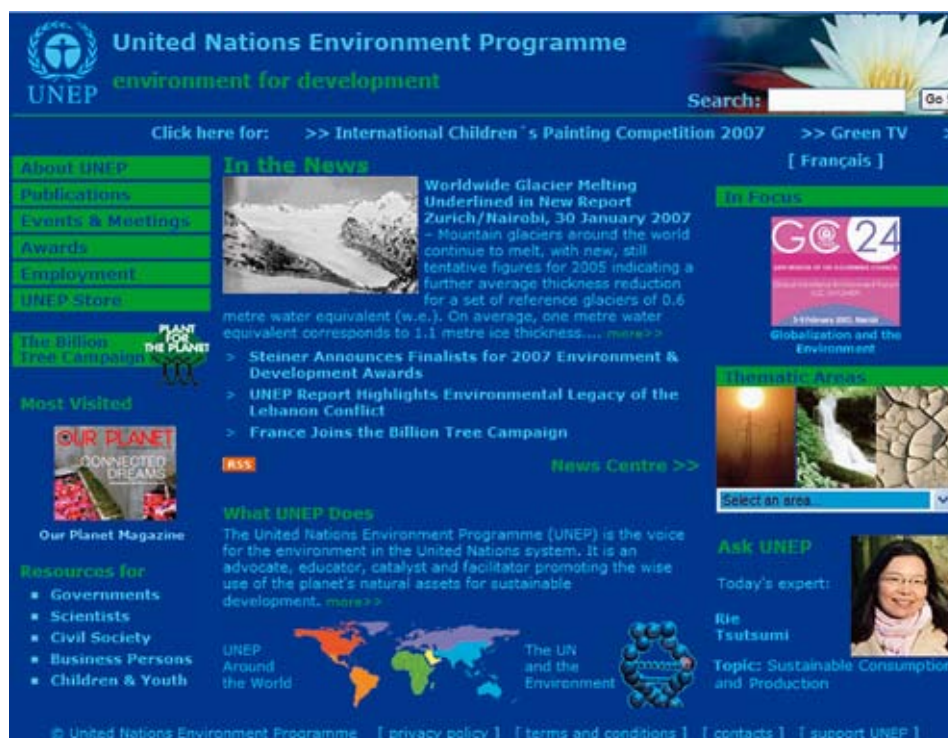
NEW AND OLD MEDIA

Traffic on the UNEP website as whole continues to rise, with visits up 46 per cent in the past year, 112 per cent over two years, and 154 per cent over three years. The most popular sites are GEO and the News Centre. It is also encouraging to see that the number of visitors from developing countries is steadily increasing, with Asia rising from 16.9 to 21.9 per cent and Africa from 3.5 to 5.4 per cent. Downloads are also up, due to the provision of greater bandwidth after the relocation of the mirror servers to the Hague in June 2006. Sales of UNEP publications via the

UNEP online bookshop, www.earthprint.com, make UNEP publications easily available to the public at large. Sales continue to be strong with annual figures reaching \$150,000 by December 2006. UNEP's various atlases continue to sell well, with 'One Planet Many People: Atlas of Our Changing Environment' still generating the highest sales figures, while 'Planet in Peril: Atlas of Current Threats to People and the Environment' is a new popular favourite. Written by an international team of specialists, the Atlas, the result of a long-standing cooperation between Le Monde diplomatique and GRID-Arendal, illustrates through text and maps, graphics and diagrams the interplay between population and the world's ecosystems and natural resources. UNEP publications are also now featured on Google Books which provides access to new groups and markets.

The rise of broadband also provides a new avenue for UNEP's audiovisual products. UNEP is a founding partner of www.green.tv, an online broadband broadcast platform for environmental films launched in 2006 which reaches 40,000 users a month. The site features UNEP's own broadband TV channel. UNEP's longstanding TV programming vehicle Earth Report came back on the air for the last quarter of 2006 with 13 programmes co-sponsored by UNEP. First

UNEP's website, www.unep.org, is an increasingly important tool for reaching out to a global audience.



Partners for change

broadcast on BBC World, Earth Report is shown 5 times a week, reaching 270 million TV sets worldwide. Two UNEP-sponsored 3D movies on marine issues, 'Ocean Wonderland' and 'Sharks 3D' continue to screen in IMAX cinemas around the world with audience figures now in the region of 57 million viewers.

Whether dealing with new or old media, collaboration with the world's journalists is essential for getting the environmental message out to an increasingly interested and informed audience. In 2006, 62 UNEP news releases were distributed from UNEP headquarters and by UNEP's regional information officers to a total of 984 journalists worldwide (221 based in Kenya and 763 internationally). Targeted information is also distributed to a number of specialized lists, and geographically or linguistically specialized groups.

In order to strengthen the capacity of journalists in developing countries and countries with economies in transition, UNEP conducts a range of journalists' workshops and other training. In Africa, UNEP continued to support the African Network of Environmental Journalists (ANEJ). In 2006, ANEJ, in collaboration with the government of Mauritania and UNEP, organized the workshop Poverty and Environment: What Role African Media Can Play? in Nouakchott, Mauritania. Other activities included two workshops for French and English speaking journalists on the Africa Environment Information Network/Africa Environment Outlook in Brazzaville, Congo, in the margins of the AMCEN meeting, and in Nairobi, Kenya, during the launch of AEO-2.

SPECIAL EVENTS

In Latin America, UNEP received the Silver Shell award in Mexico in October. The award recognizes Ibero-American initiatives in communications about issues of social responsibility. Awarded annually since 2000 to advertising agencies, communications media and social organizations, it was given in 2006 to UNEP for its support for environmental libraries and video collections, film and art festivals related to ecology, as well as journalism workshops. Special mention went to UNEP's sponsorship of information services such as Tierramérica, a weekly independent publication on the environment and development, produced by Inter

Press Service news agency and published in more than 20 Latin American newspapers.

As well as receiving awards, UNEP also presents them. In April, in Singapore, UNEP honoured seven Champions of Earth, at a gala event hosted by UNEP, the Singapore Ministry of the Environment and Water Resources and the Singapore Tourism Board. The annual award is presented to leaders who have made a significant and recognized contribution globally or regionally to the protection and sustainable management of the Earth's environment at the policy level through their leadership, vision and creativity. The seven UNEP Champions of Earth for 2006 were:

- Tewelde Berhan Gebre Egziabher from Ethiopia, for campaigning against the patenting of life forms and for community rights in Africa;
- Singapore's Tommy Koh, for dedicating much of his life to key environmental treaties, including the UN Convention on the Law of the Sea;
- Mikhail Gorbachev of the Russian Federation, for working to encourage shared water as a source of cooperation among Israelis, Palestinians and Jordanians, and engaging in efforts at the highest level;
- Rosa Elena Simeon Negrin, for raising the environmental awareness of Cubans;
- June Zeitlin and eight women leaders from WEDO, which advocates for women's empowerment and gender equality in global policy-making forums;
- Mohamed El-Ashry for his 12-year role in re-structuring and managing the Global Environment Facility (GEF); and
- Massoumeh Ebtekar, Iran's first woman vice-president, who influenced the integration of environmental considerations into the industry and energy sectors in Iran.

UNEP's other environmental award, the UNEP Sasakawa Environment Prize, saw its relaunch in 2006. Designed to nurture environmental innovation, research, initiatives and ideas, the prize will be awarded annually to individuals with an established track record of achievement and the potential to make outstanding contributions to the protection and management of the environment related to the theme for World Environment Day, which for 2006 was 'Deserts and Desertification'. For 2006, the prize was

awarded jointly to the Tenadi Cooperative Group of Mauritania, and Rodrigo Vivas Rosas, leader of the Inter-institutional Consortium for Sustainable Agriculture in Colombia, for their achievements in combating desertification and land degradation.

Also linked to the theme of World Environment Day is the global campaign Clean Up the World, which is closely allied to UNEP. Each year, on the third weekend of September, Clean Up the World members round the world work to raise awareness

of the environment and the importance of thinking globally by acting locally. Information materials distributed by the Clean Up the World campaign to its members in more than 100 countries around the world also highlight information about UNEP and the chosen theme for World Environment Day. The theme for 2007 is 'Melting Ice: A Hot Topic?', highlighting the effect of climate change on polar regions and billions of people who rely on meltwater supplied from glaciers in the world's great mountain ranges.

IT'S A SMALL PLANET, BUT IT NEEDS BIG IDEAS TO PROTECT IT.

Congratulations to this year's winners of the United Nations Environment Programme 'Champions of the Earth'. Through leadership, vision and creativity, each Champion has made an impact at policy level to make the world a better place.

						
Dr. Tommy Koh , Singapore, Champion of environmental stewardship, including the UN Commission on the Law of the Sea.	Women's Environment and Development Organization, USA , Champion of women's economic, social and gender rights.	Mikhail Gorbachev , Russian Federation, Champion of environmental politics and conflict prevention on waterways globally.	H.E. Dr. Massoumeh Bahari , Iran, First female Vice-President and Champion for cleaner production in the petrochemical industry.	Dr. Rosa Elena Simeon , Mexico, Cuba, Champion of small island development and the force behind 'think globally, act locally'.	Dr. Mohamed-EI Ashry , Egypt, Champion of natural resource management and former head of Global Environment Facility.	Dr. Tewolde Gebre , Ethiopia, Champion of community rights in Africa and against the poisoning of life forms.



Champions of the Earth 2006
SINGAPORE

Singapore Partners




Global Media Partners





Corporate Partner



Project Partners

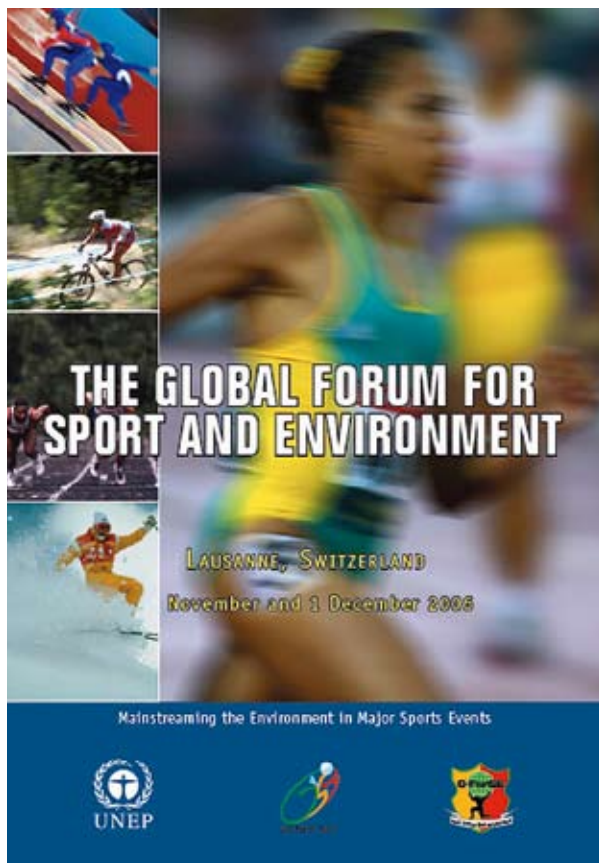



Supported By




SPORT AND ENVIRONMENT

Climate change was a major theme in UNEP's sport and environment programme during 2006. Dating back to 1994, UNEP's links with the world of sport are getting stronger each year, with event organizers and the sporting goods industry increasingly keen to incorporate environmental sustainability into their planning, and to involve UNEP to help them do so. Two major sporting events took place in 2006: the XX Olympic Winter Games in Torino, Italy, and the FIFA World Soccer Cup, which was held in Germany in summer. UNEP collaborated closely with the organizing committees of both events and environmental reports published late in 2006 indicated that both events were the most environmentally friendly of their kind ever, achieving significant reductions in carbon emissions, waste and freshwater use. Both organizations released sustainability reports listing their achievements, which will serve as a benchmark for other event organizers. As well as significant achievements in waste reduction and recycling, the Torino Games offset nearly 70 per cent of carbon emissions related to the Games through its Heritage Climate Torino (HECTOR) initiative, while the FIFA World Cup's Green Goal programme achieved the first carbon neutral event.



The Torino Sustainability Report and the FIFA Green Goal Legacy Report were both launched at the fourth Global Forum for Sport and the Environment (G-ForSE), held in Lausanne, Switzerland, from 30 November to 1 December 2006. Organized every two years by UNEP and the Japan-based Global Sports Alliance, G-ForSE brings together international sports organizations and federations, sports clubs, sporting goods manufacturers, civil society organizations, the media and sports personalities to review sport's impact on and contribution to the environment. Participants also discussed the integration of environmental issues in the development of sports facilities and equipment and the running of sports events. Also in 2006, UNEP signed agreements with the Organizing Committee for the XXIX Olympic Games, Beijing 2008, and with the Fédération Internationale de Motocyclisme.

EDUCATION FOR LEADERSHIP

The growing movement for change that the world is witnessing in all sectors is evidence of the success of the efforts of organizations such as UNEP to inform, educate and work with private sector and civil society partners. One of the important recipients of UNEP's outreach and partnership to effect further change is the world of education itself. Two publications designed to motivate, build capacity and equip educators to mainstream environmental ethics and sustainable development issues into their research and teaching were launched in 2006: 'Environmental Education, Ethics and Action: A Workbook to Get Started' and the 'Education for Sustainable Development (ESD) Innovations Programme for Universities in Africa'.

The first book, published in French, English, Spanish and Italian, and produced in partnership with Lakehead University, Canada, and Rhodes University, South Africa, links ethics to everyday activities, taking it out of philosophy departments and putting it squarely onto the streets. The publication on ESD Innovations supports university teachers and managers in Africa who are planning and implementing programmes that will bring environment and sustainability into the mainstream of learning and research. It has become a key text for ESD in 47 universities in Africa and is currently being translated into French with funding from UNESCO.

In May 2006, 85 university professors and lecturers in various academic fields from 29 African countries attended the first series of ESD Innovations Short Courses under the Mainstreaming Environment and Sustainability in African (MESA) Universities Partnership. The MESA programme has been developed by UNEP and its partners to mainstream environment and sustainability concerns into university teaching, research, community engagement and management in Africa and to enhance the role of African universities in the UN Decade of Education for Sustainable Development (UNDESD) and the achievement of the MDGs.

So far, the MESA Universities Partnership has reached out to over 70 universities from 41 countries in Africa through training programmes and the use of the MESA Innovations Toolkit. The third phase of MESA was launched in December in Nairobi, where e-learning for teaching environment and sustainability issues was introduced. UNEP's partnership with the Global Virtual University has enhanced the integration of information and communications

technology in the design, development and delivery of its environmental education programmes and products, for example the establishment of the MESA Forum and the course on incorporating ESD into online education.

UNEP's engagement with partners on environmental education and the UNDESD also continued in 2006 with the development of a new programme on Sustainable Communities with UN-HABITAT and the University of Helsinki, Finland. Existing programmes also continued, such as the 29th UNEP/UNESCO/BMU Post Graduate Course on Environmental Management for Developing and Emerging Countries, which was held at the Technical University of Dresden, Germany, between January and June 2006, and the third University of Joensuu-UNEP Course on International Environmental Lawmaking and Diplomacy, which was held for the first time in Africa at the University of KwaZulu-Natal, Pietermaritzburg campus, South Africa. In Asia-Pacific, the UNEP-Tongji Institute of Environment for Sustainable Development (IESD) officially launched the IESD International Master's Programme in September.

'Burned Trees', a comment on ecological vandalism and a plea for environmental respect by artist Philippe Pastor, was installed at the UN compound in Nairobi in March 2006. UNEP has joined forces with the Natural World Museum in San Francisco to generate environmental awareness through the Art for the Environment initiative, using the universal language of art as a catalyst for individuals, communities and leaders to focus on environmental values. © Georgina Goodwin



CONTRIBUTIONS TO THE ENVIRONMENT FUND

Governments remain the most important of UNEP's donors. The emphasis in resource mobilization is on securing adequate and increasing voluntary contributions from all UN Member States. It is important that the donor base broadens. During the past four years of using the voluntary indicative scale of contributions (2003–2006), close to 150 countries have made payments to the Environment Fund.

Following decisions of the Governing Council/ Global Ministerial Environment Forum, the UNEP Executive Director extended a pilot phase of the voluntary indicative scale of contributions into the current biennium 2006–2007. The new scale took into consideration an increased level of annual contributions from \$65 to \$72 million, which was equal to half of the Environment Fund budget of US\$144 million approved by the Governing Council for 2006–2007.

To sustain the stability of financial support to UNEP, many countries were invited to increase their payments or maintain high annual contributions. The majority of the main donor countries, about 90 per cent of the top 30 donors, increased their contributions, mostly by small amounts, or maintained the same high level of contributions. A few countries increased their payments by two and even more than three times in order to come closer to or above their voluntary indicative level of contributions and that of the UN scale of assessment. Unfortunately, at the same time there were a few cases where major donors decreased their voluntary annual payments, including one major donor country which did not make any

contribution to the Environment Fund in 2006. As a result, and in spite of increased payments by more than 60 countries, the total income of the Environment Fund is expected to be nearly \$12 million below the target of \$72 million for 2006.

As of December 2006, UNEP received contributions from 108 countries and payments continue to arrive. With few anticipated delayed contributions UNEP is expected to receive approximately \$59,200,000, with a zero estimate contribution from one of the top ten donors. This is about \$400,000 less than 2005.

GROWTH OF SUPPLEMENTARY FUNDS AND EARMARKED SUPPORT

While mobilizing adequate contributions to the core Environment Fund remains a top fund raising priority for UNEP, supplementary funds, including trust funds, trust fund support and earmarked contributions, are vital to the organization as they allow UNEP to fully implement the work programme approved by the Governing Council.

In 2006, UNEP continued its work within existing partnership agreements with Belgium, Ireland, Norway and Sweden and concluded a new long-term partnership with the Government of Spain by signing a Framework Agreement in November 2006. This cooperation will focus mainly, but not exclusively, on support for the achievement of the Millennium Development Goals, especially Goals 1 and 7. Another long-term partnership agreement with the Netherlands ended in mid-2006 and is currently being evaluated.

ENVIRONMENT FUND CONTRIBUTIONS 2004–2006: TOP 20 DONORS

Country	2004	2005	2006	TOTAL
United Kingdom	7,672,560	7,986,720	7,875,000	23,534,280
Germany	6,945,516	6,641,934	7,005,762	20,593,212
Netherlands	6,020,352	6,003,878	6,269,453	18,293,683
United States	5,910,100	6,571,368	5,750,000	18,231,468
France	4,614,262	4,000,000	4,340,000	12,954,262
Finland	3,364,760	3,601,026	3,648,788	10,614,574
Japan	3,400,000	3,230,000	3,020,198	9,650,198
Switzerland	2,827,216	2,997,548	2,914,219	8,738,983
Sweden	2,800,532	2,883,512	2,677,818	8,361,862
Denmark	2,658,662	2,441,717	2,603,511	7,703,890
Norway	2,134,259	2,370,305	2,221,597	6,726,161
Italy	3,072,800	2,886,960	-***	5,959,760
Canada	1,984,890	2,058,894	792,088	4,835,872
Spain	950,902	709,500	1,836,940	3,497,342
Belgium	758,920	730,195	776,741	2,265,856
Ireland	381,795	396,187	1,001,039	1,779,021
Austria	509,543	520,953	497,438	1,527,934
Russian Federation	500,000	500,000	500,000	1,500,000
Australia	424,600	428,450	413,050	1,266,100
Luxembourg	165,718	189,180	416,745	771,643
TOTAL	57,097,387	57,148,327	54,560,387	168,806,101
WORLD TOTAL	59,538,474*	59,639,599*	59,200,000**	178,378,073

*includes pledges

**includes estimates

***pledge not yet made

CONTRIBUTIONS TO UNEP'S ENVIRONMENT FUND 2000-2006

	2000	2001	2002	2003	2004 *	2005 *	2006 **
Contributions and pledges USD	41 mil	44.1 mil	48.3 mil	52.6 mil	59.5 mil	59.6 mil	59.2 mil

* includes pledges

** includes pledges and estimates, without estimate for Italy

ENVIRONMENT FUND: COUNTRIES INCREASING CONTRIBUTIONS/PLEDGES 2005-2006

Country	Contributions and pledges in 2005	Contributions and pledges in 2006	Increase
	US\$	US\$	US\$
1 Andorra	25,522	31,800	6,278
2 Belgium	730,195	776,741	46,546
3 Brunei Darussalam	9,980	10,000	20
4 Bulgaria	6,000	6,600	600
5 Burkina Faso	-	1,000	1,000
6 Cambodia	1,000	8,484	7,484
7 Chile	10,000	20,000	10,000
8 China	200,000	250,000	50,000
9 Colombia	17,630	62,000	44,370
10 Croatia	11,000	23,000	12,000
11 Cyprus	15,000	22,000	7,000
12 Czech Rep.	197,949	219,116	21,167
13 Denmark	2,441,717	2,603,511	161,794
14 Egypt	9,000	17,000	8,000
15 Estonia	6,000	7,500	1,500
16 Ethiopia	-	1,000	1,000
17 Fiji	-	4,478	4,478
18 Finland	3,601,026	3,648,788	47,762
19 France	4,000,000	4,340,000	340,000
20 Germany	6,641,934	7,005,762	363,828
21 Greece	175,000	200,000	25,000
22 Grenada	-	600	600
23 Guatemala	-	4,300	4,300
24 Guinea-Bissau	-	700	700
25 Haiti	-	49,351	49,351
26 Hungary	72,000	80,000	8,000
27 Iceland	20,000	25,000	5,000
28 Indonesia	15,049	25,000	9,951
29 Iran	30,000	35,000	5,000
30 Ireland	396,187	1,001,039	604,852
31 Israel	10,000	20,000	10,000
32 Kazakhstan	-	10,000	10,000
33 Latvia	6,000	9,500	3,500
34 Lesotho	10,000	10,165	165
35 Lithuania	7,179	7,200	21
36 Luxembourg	189,180	416,745	227,565
37 Malaysia	30,000	40,000	10,000
38 Malta	9,000	10,000	1,000
39 Mauritius	4,800	5,000	200
40 Mexico	100,000	383,053	283,053
41 Monaco	12,000	20,000	8,000
42 Myanmar	1,000	1,500	500
43 Netherlands	6,003,878	6,269,453	265,575
44 New Zealand	155,000	160,000	5,000
45 Panama	8,000	10,000	2,000
46 Philippines	2,349	5,792	3,443
47 Romania	20,000	32,000	12,000
48 Rwanda	-	700	700
49 Slovakia	20,000	30,000	10,000
50 Slovenia	48,600	50,000	1,400
51 Spain	709,500	1,836,940	1,127,440
52 Suriname	-	700	700
53 Swaziland	6,000	8,000	2,000
54 Syria	-	7,000	7,000
55 Trinidad & Tobago	3,362	10,000	6,638
56 Tunisia	-	14,000	14,000
57 Turkey	100,000	125,000	25,000
58 Tuvalu	-	600	600
59 Uganda	-	1,659	1,659
60 United Rep. of Tanzania	1,175	1,200	25
61 Venezuela	20,000	30,000	10,000
TOTAL	26,109,212	30,005,977	3,896,765

Number of new contributors:14

UNEP around the world

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

All UNEP Divisions are located at UNEP Headquarters with the exception of DTIE. Internet access to all UNEP Divisions and additional e-mail addresses are available from the UNEP web site www.unep.org.

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