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1998



Global
Environment
Facility

Special Edition

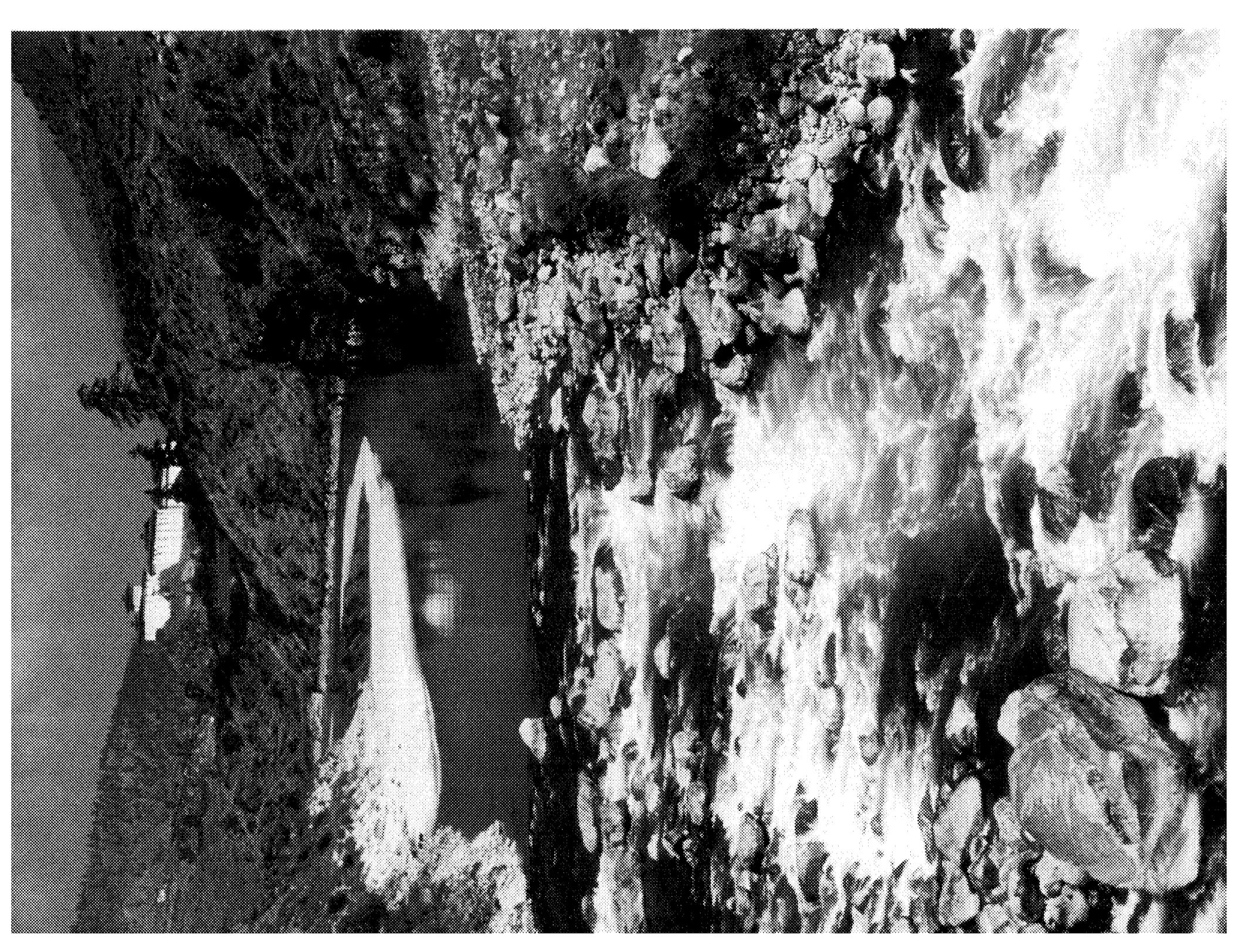
1998 Annual Report

early impacts

promising futures

The global environment is:

sunlight drinking water food
pest control building & maintenance
crops grazing land fisheries floodbarriers
energy solar power wind
power climate regulation hydroelectric
pest control watersheds
building materials parks recre-
ation spiritual renewal ethical
values the diversity of species



THE PURPOSE OF THE GLOBAL ENVIRONMENT FACILITY

The Global Environment Facility was established to forge international cooperation and finance actions to address four critical threats to the global environment: biodiversity loss, climate change, degradation of international waters, and ozone depletion. Related work to stem the pervasive problem of land degradation is also eligible for GEF funding.

Launched in 1991 as an experimental facility, GEF was restructured after the Earth Summit in Rio de Janeiro to serve the environmental interests of people in all parts of the world. In 1994, 34 nations pledged \$2 billion to protect the global environment and promote sustainable development. In 1998, 36 nations agreed to commit \$2.75 billion more to support this mission.

In April 1998, more than a thousand leaders from governments, international institutions, and non-governmental organizations met in New Delhi for the first Assembly of states participating in the GEF. The Assembly adopted The New Delhi Statement (excerpted here), highlighting GEF's unique role and calling upon it to "accelerate its operations."

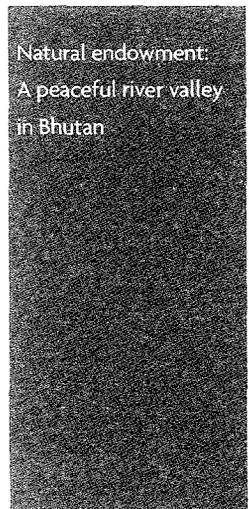
Recognizing that the GEF is the multilateral funding mechanism dedicated to promoting global environmental protection within a framework of sustainable development by providing new and additional grant and concessional funding, Recognizing also that its beneficiaries are all people of the globe, and that the need for the GEF is even greater as we enter the new millennium...

Stressing that the GEF is a unique and successful example of international cooperation that offers lessons for other endeavors...

Affirming the significant role of the GEF in supporting the objectives of agreed global environmental conventions and protocols...

Acknowledging the significant progress that has been made by the GEF, its Implementing Agencies (UNDP, UNEP, and the World Bank) and the Secretariat, in the four years since its restructuring in its organization and management, in establishing its institutional and operational framework, and in supporting developing countries and countries with economies in transition in their efforts for global environmental improvements and in implementing the Rio conventions...

(Full text on p.30)



ABOUT THIS REPORT

Early Impacts, Promising Futures reports on the accomplishments of the Global Environment Facility through June 30, 1998, and highlights new GEF initiatives leading into the 21st century.

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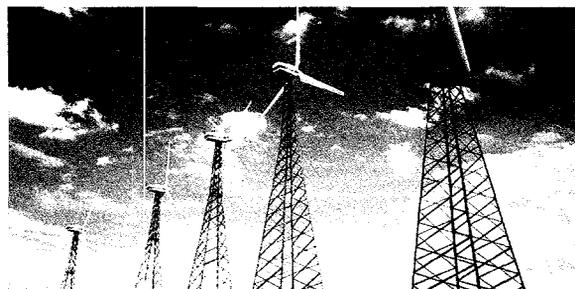
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ISBN Number: 1-884122-98-1

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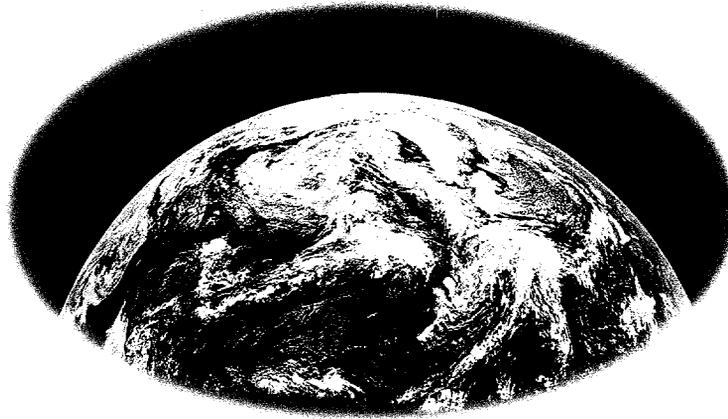


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Prologue on Problem Solving



What do these four problems have in common?

Loss of biological diversity. Extinction threatens 1 in 8 plant species and 1 in 10 bird and mammal species... Unprecedented fires have destroyed forests and grasslands across Southeast Asia, the Amazon, and Central America... Over reliance on a few crops undermines agricultural biodiversity and food security... Invasive species overwhelm native plants and animals, devastating fisheries and cropland... 1/2 of all coral reefs are sick and dying...

Global climate change. Continued use of fossil fuels at current rates will double atmospheric levels of greenhouse gases well before the middle of the next century... Energy use in developing countries could triple over the next 30 years with their share of global energy-related CO₂ emissions increasing from 26 percent in 1985 to 44 percent in 2025... Average temperatures have risen in parts of Antarctica by more than 5 degrees in 50 years... The 14 warmest years on record have all occurred since 1980... Malaria-causing insects now occur at high elevations across the southern hemisphere... Weather-related economic damages in 1998 alone exceeded losses for the 1980s...

Degradation of international waters. More than 2/3rds of the most important fisheries and major fish species are fully or overexploited... 1/2 billion people lack adequate water supplies today; by 2025, 2 1/2 billion will... Mercury, dioxins, pesticides, and other toxic pollutants are appearing in bird and mammal species at or above levels known to cause reproductive and immune system problems... Conversion of coastal wetlands for fish farms has contributed to the loss of 1/2 of all mangrove forests, earth's natural flood barriers...

Depletion of the ozone layer. The ozone hole over the Antarctic has more than doubled in size and a new hole has opened over the Arctic... Ozone depletion at higher latitudes is now more than 7 percent each decade... Each percent increase in ultraviolet radiation results in a percent increase in eye cataracts and a percent increase in skin cancer... This radiation also poses serious threats to agriculture, forestry, and fisheries...

No matter where we live, these global environmental problems cloud the future, endangering our health, our natural endowment, and the beauty and splendor of life on earth.

Can we solve these problems?

Yes.

Lost species can never be replaced, but much can be done to save earth's diversity for future generations and better use resources to benefit many more people in the decades ahead.



With innovation and efficiency, the threat of global climate change can be reversed in the 21st century.



International waters problems, particularly the over-exploitation of fisheries, can be reversed in decades.



If we continue to do away with ozone-depleting chemicals, the protective shield that stands between us and the sun's damaging rays could heal itself by 2050.



The solutions to most global environmental challenges are not impossible dreams. They are within our reach,



and many are already beginning to work.

Letter from the CEO & Chairman



A lot depends on the long-term success of the Global Environment Facility (GEF) and its partners in sustainable development.

Last year, scientists determined that 1 in 8 plants are on the verge of disappearing—new evidence that Earth is experiencing the largest mass extinction in the past 60 million years and one of the sixth largest since life first evolved.

Last year, people in all parts of the globe saw their lives disrupted, crops destroyed, and homes swept away by unprecedented storms, droughts, fires, and floods. An August 1998 analysis estimated that in the previous 18 months 16,000 people were killed and nearly \$50 billion worth of damage was done by the weather.

Last year, despite good progress in curbing the use of ozone depleting chemicals, a new ozone hole appeared over the Arctic and other places reported record highs for ozone depletion, increasing the chances people living there will suffer from skin cancer and cataracts.

Last year, the gap between earth's rich and poor grew even wider.

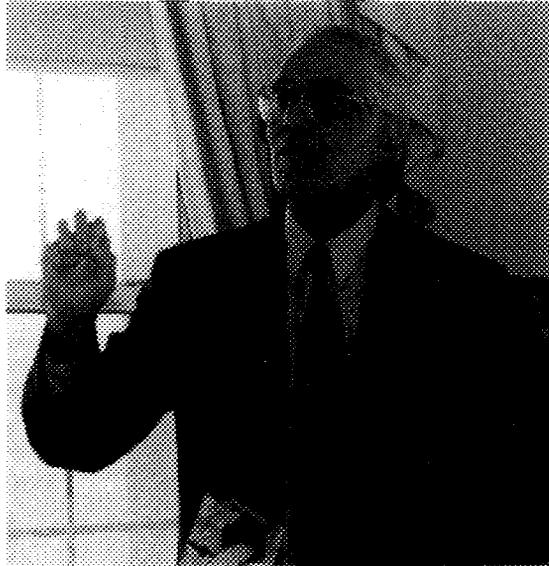
What often went unreported last year, as usual, were the many ways in which people everywhere—locally, nationally, regionally, and globally—are fighting back. For the good news is that our understanding of the solutions to these problems has advanced considerably, and so have our efforts to apply them in a wide-ranging, equitable, and cost-effective manner.

Last year, the Global Environment Facility was at the center of many of these positive developments. Piloted in 1991 to channel multilateral funding to activities that protect the global environment while supporting sustainable development, GEF has done just that. By June 30, 1998 (the end of GEF's fiscal year), roughly \$2 billion was allocated to some 500 projects in 120 countries. An additional \$5 billion was leveraged in co-finance from a wide range of project partners, including more than \$1.8 billion in counterpart funding from recipient countries themselves.

In March 1998, at a time of scarce financial resources everywhere, 36 nations pledged a new infusion of funds for the GEF totaling \$2.75 billion. This vote of confidence will enable GEF to move many more projects from the drawing boards to the pipeline and onto the field.

In April, nearly 1,000 people representing 119 countries (including one head of state and 40 Ministers) and 185 representatives from non-governmental organizations turned out for GEF's first Assembly of participating nations held in New Delhi. The spirit of this first gathering of GEF's "shareholders" was extremely positive. In its consideration of the *CEO's Report on the Policies, Operations, and Future Development of the GEF* and the independent *Study of GEF's Overall Performance*, the Assembly discussed how far GEF has come but also how far it has to go to apply the many lessons it has learned and scale up positive impacts for the global environment.

For GEF's job description extends well beyond that of project funder, as this report and the statement of the first GEF Assembly demonstrate. Protecting the global environment is a task requiring the best efforts of us all, and it can never succeed on a project-by-project basis. That is why, as we move into a new centu-



Mohamed T. El-Ashry, CEO & Chairman of the Global Environment Facility

ry, GEF will work even harder to help inform thinking, encourage new collaborations, and catalyze effective action to protect the global environment by:

- Assisting countries in strengthening capacities to recognize and address problems of the global environment, both now and in the future.
- Tapping the strengths of non-governmental organizations, the private sector, and community groups in the dialogue on GEF policies and in the design and execution of GEF's work.
- Serving as the "financial mechanism" for both the Convention on Biological Diversity and the U.N. Framework Convention on Climate Change, turning international decisions into local actions.
- Underwriting partnerships among nations to manage transboundary resources sustainably, given that ecosystems and water bodies do not respect borders.
- Mobilizing new financial resources for the global environment.
- Engaging businesses small and large in joint ventures that augment, not displace, private capital and pioneer technologies of particular promise to developing nations.
- Intensifying GEF's partnership with UNDP, UNEP, and the World Bank to facilitate the integration of global environmental concerns and actions more fully into their wider agendas.
- Setting clear yardsticks for measuring success at the project and program levels, monitoring and evaluating GEF activities to identify winning approaches, and sharing what we learn as part of a larger culture dedicated to advancing the global pursuit of sustainable development.
- Communicating with and reaching out, not just to key actors but also to the public at large in 165 nations now participating in GEF, and beyond.

Mohamed T. El-Ashry
Global Environment Facility



More than the Sum of Our Partnerships



GEF can succeed in its global environmental mission only as part of a worldwide movement toward sustainable development. GEF unites 165 member governments, leading development institutions, the scientific community, and a wide spectrum of private sector and non-governmental organizations behind a common global environmental agenda. This section describes in brief the roles and recent contributions of the principal partners in GEF's work.

A NEW MODEL OF GOVERNANCE: THE ASSEMBLY & COUNCIL

The GEF Assembly, composed of all 165 participating states, meets every three years to assess the GEF's overall direction. A report on the first GEF Assembly begins on p. 26.

The GEF Council functions as an independent board of directors, with primary responsibility for developing, adopting, and evaluating GEF programs. Council members representing 32 constituencies (16 from developing countries, 14 from developed countries, and two from countries with transitional economies) meet twice each year for three days and also conduct business by mail. All decisions are by consensus. The Council's open door policy toward non-governmental organizations and representatives of civil society makes it unique among international financial institutions.

During fiscal year 1998 (July 1, 1997, to June 30, 1998) the Council endorsed four work programs, adding nearly \$363 million in GEF funding. Council members also approved a fiscal 1999 corporate business plan and a corporate budget of almost \$39 million to support GEF's secretariat, its scientific and technical advisory panel, and GEF units at the three implementing agencies.

The Council also reviewed and supported follow-up actions in response to the *Study of GEF's Overall Performance*, the *CEO's Report on Policies, Operations, and Future Development of the GEF*, and the *Report from the Second GEF Replenishment* and its accompanying recommendations.

Assembly and Council documents and meeting summaries can be found on the GEF website at gefweb.org. Paper copies are available from the GEF secretariat.

Gathering firewood:
GEF projects are
bringing sustainable
energy technologies to
a portion of the world's
2 billion people
without electricity.

Council Members, Alternates, & Their Constituencies*



Ibrahim Abdel Gelil (Egypt); Alternate: *Mahieddine Djefal* (Algeria)

Countries: Algeria, Egypt, Morocco, Tunisia

John Ashe (Antigua and Barbuda); Alternate: *Humberto Arango Sales* (Cuba)

Countries: Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago

Alexander Averchenkov (Russian Federation); Alternate: *To be determined*

Countries: Armenia, Belarus, Russia Federation

Jozef Buys (Belgium); Alternate: *Firuz Demir Yasamis* (Turkey)

Countries: Austria, Belgium, Czech Republic#, Hungary#, Luxembourg, Slovak Republic#, Slovenia#, Turkey#

James Carruthers (Canada); Alternate: *Charles Parker* (Canada)

Country: Canada

Charles Chipato (Zimbabwe); Alternate: *Mushanana L. Nchunga* (Botswana)

Countries: Botswana, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Zambia, Zimbabwe

Torben Mailand Christensen (Denmark); Alternate: *Ole Kristian Holthe* (Norway)

Countries: Denmark, Latvia#, Lithuania#, Norway

Philippe de Fontaine Vive (France); Alternate: *Catherine Garreta* (France)

Country: France

Bava Djingoer (Cameroon); Alternate: *To be determined*

Countries: Burundi, Cameroon, Central African Republic, Congo, Congo (DRI)

Darryl Dunn (New Zealand); Alternate: *Ross Muir* (Australia)

Countries: Australia, New Zealand, Republic of Korea

Mahmoud Ould El-Ghaouth (Mauritania); Alternate: *Jean Baptiste Kambou* (Burkina Faso)

Countries: Burkina Faso, Cape Verde, Chad, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, the Gambia

Maria Stela Frota (Brazil); Alternate: *Jairo Montoya* (Colombia)

Countries: Brazil, Colombia, Ecuador

Inaamul Haque (Pakistan); Alternate: *Ezzedin Shamsedin* (Lebanon)

Countries: Afghanistan, Jordan, Lebanon, Pakistan, Yemen

Pirouz Hosseini (Iran); Alternate: *Mohammad-Reza H.K. Djabbari* (Iran)

Country: Islamic Republic of Iran

Asda Jayanama (Thailand); Alternate: *Ibrahim Shukri* (Malaysia)

Countries: D.P.R. Korea, Lao (PDR), Malaysia, Mongolia, Myanmar, Thailand, Vietnam

David Johansson (Finland); Alternate: *Susanne Jacobsson* (Sweden)

Countries: Estonia#, Finland, Sweden

Mathias Benedict Keah (Kenya); Alternate: *Chris K. Kassami* (Uganda)

Countries: Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Sudan, Tanzania, Uganda

Ad Koekkoek (Netherlands); Alternate: *Hans van Zijst* (Netherlands)

Country: Netherlands

Kazuhiko Koguchi (Japan); Alternate: *Yusuke Shindo* (Japan)

Country: Japan

Victor Kouame (Côte d'Ivoire); Alternate: *To be determined*

Countries: Benin, Côte d'Ivoire, Guinea, Nigeria, Sierra Leone, Togo

Yong Li (China); Alternate: *Zhao Xiaoyu* (China)

Country: China

Giuseppe Maresca (Italy); Alternate: *Paola Pettinari* (Italy)

Country: Italy

Yaroslav Movchan (Ukraine); Alternate: *Sergiy Kulyk* (Ukraine)

Countries: Albania, Bulgaria@, Croatia@, Georgia, FYR Macedonia@, Moldova, Poland, Romania, Ukraine

Ricardo Ochoa (Mexico); Alternate: *Ruth Decerega* (Panama)

Countries: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Venezuela@

Eduardo Prieto (Spain); Alternate: *Helena Cordiero* (Portugal)

Countries: Greece, Ireland, Portugal, Spain

Philippe Roch (Switzerland); Alternate: *Jean-Bernard Dubois* (Switzerland)

Country: Switzerland

Hans-Peter Schipulle (Germany); Alternate: *Erika Wagenhoefer* (Germany)

Country: Germany

William Schuerch (United States); Alternate: *Rafe Pomerance* (United States)

Countries: United States

Surendra Singh (India); Alternate: *Syed Ahmed* (Bangladesh)

Countries: Bangladesh, Bhutan@, India, Maldives@, Nepal@, Sri Lanka@

Carlos Soldi (Peru); Alternate: *Adolfo Rosellini* (Argentina)

Countries: Argentina, Bolivia, Chile, Paraguay, Peru, Uruguay

To be determined (Indonesia); Alternate: *To be determined*

Countries: Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

David Turner (United Kingdom); Alternate: *Chris Austin* (United Kingdom)

Country: United Kingdom

* As of April 1, 1998

@ Participant countries preliminarily grouped in the constituency subject to final agreement.

Recipient countries in non-recipient constituencies.

Note: The constituencies for the following new member countries are yet to be determined: Azerbaijan, Cambodia, Ghana, Israel, Kyrgyz (Rep.), Libya, Malta, Syria, Turkmenistan, and Uzbekistan.

GEF & THE GLOBAL ENVIRONMENTAL CONVENTIONS

The Global Environment Facility is the designated “financial mechanism” of two international treaties and it collaborates closely with other treaties and agreements to reach common goals.

The Convention on Biological Diversity and the United Nations Framework Convention on Climate Change have requested that the GEF assist developing countries in meeting convention objectives. GEF programs and projects eligible for funding in the areas of biological diversity and energy conservation, renewable energy, and low greenhouse gas emitting technologies receive guidance from the conferences of parties to these two international treaties.

GEF assistance is enabling the Russian Federation and nations in Eastern Europe to phase out the use of ozone destroying chemicals in partnership with the Montreal Protocol of the Vienna Convention on Ozone Layer Depleting Substances. GEF initiatives to reverse the degradation of international waters are informed by, and help to realize the objectives of, a mosaic of regional and international waters agreements. Initiatives that cut across GEF's four focal areas to address land degradation are pursued in cooperation with the Convention to Combat Desertification.

THE GEF TRUST FUND: PARTNERS IN REPLENISHMENT

In March 1998, 36 nations pledged \$2.75 billion over four years to carry the GEF's work into the new century. They are Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Côte d'Ivoire, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Ireland, India, Italy, Japan, Republic of Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Pakistan, Portugal, Russian Federation, Republic of Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

The first “replenishment” of the GEF trust fund occurred together with GEF's restructuring in 1994, based on lessons learned during its 1991-1993 pilot phase. GEF received pledges totaling \$2 billion from 34 nations for the period July 1, 1994, through June 30, 1998. At the Council's request, the World Bank, Trustee of the fund, initiated the new replenishment process in early 1997. Potential contributors convened in Paris to discuss GEF performance, the programming of resources for the next period, the replenishment target, and the formula by which costs would be shared.

The participants identified factors expected to drive a steady growth in demand for GEF resources (p. 37) and endorsed six policy recommendations to guide future efforts.

Country ownership of GEF projects. GEF activities are to be based on national priorities designed to support sustainable development and the global environment.

“Mainstreaming” of global environmental objectives into the regular policies and activities of the implementing agencies. Recognizing GEF's catalytic role in bringing about broad-based global environmental actions across a wide spectrum of national, regional, and international institutions, most participants in the replenishment strongly supported this recommendation of the *Study of GEF's Overall Performance*.

Mobilization of additional resources for global environmental actions, particularly from the private sector. Participants further recognized that technology, the creation of new opportunities and markets for technology, and cooperation with respect to new and more efficient technologies are fundamental to promoting global environmental protection and sustainable development.

Further strengthening of GEF's monitoring and evaluation function. Participants emphasized the development of performance indicators to facilitate collection and assessment of data on the strategic impact of GEF activities as well as their operational, financial, and institutional performance and cost-effectiveness.

Exploration of a wider range of executing agencies to carry out GEF projects. Recognizing the potential benefits of competition, participants directed the secretariat to review experience and consider options for increasing participation by other entities, in particular the regional development banks.

The need for a user-friendly definition of GEF's principle of incremental costs, in line with the GEF Council's



GEF has been described as a model of collaboration among countries, a necessity for international collaboration, a vehicle that helps link national and global priorities, and a family that the world needs.

David Turner, Council Member, United Kingdom

November 1997 decision. This new definition will incorporate operational criteria as well as incremental cost case studies for different types of GEF activities and projects.

DEVELOPING, IMPLEMENTING, AND LEARNING FROM GEF PROJECTS

A staff of 30 based in Washington, D.C., reports to the GEF Council and Assembly, ensuring that their decisions are translated into effective actions. This secretariat coordinates the formulation of projects included in the annual work program, oversees their implementation, and makes certain that operational strategy and policies are followed. Together with the implementing agencies, the secretariat builds support for, and capacity to carry out, GEF's mission among participating countries and partner institutions.

Rather than construct a new institution to implement its projects, GEF builds on the comparative advantages of three experienced ones: the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the World Bank. By harnessing the respective strengths of Bretton Woods institutions and the United Nations system, GEF has quickly amassed a diverse project portfolio serving 120 countries in the developing world, Eastern Europe, and the former Soviet Union (see special report, p. 39). Moreover, GEF teamwork by these partners reinforces their individual efforts to mainstream or incorporate global environment concerns into all of their policies and programs.

GEF project ideas may be proposed directly to UNDP, UNEP, or the World Bank. Any individual or group may propose a project, keeping in mind two key criteria. All GEF projects must:

Reflect national or regional priorities and have the support of the country or countries involved.



James Gustave "Gus" Speth (U.N. Development Programme), James D. Wolfensohn (World Bank), and Klaus Toepfer (U.N. Environment Programme) at the GEF heads of agencies meeting in March 1999.



With GEF resources the World Bank has been able to help pilot new and high-risk climate friendly technologies and try out on a small scale innovative approaches to biodiversity friendly natural resource management. In addition, GEF's adherence to the principles of transparency and stakeholder participation have helped accelerate the development of Bank practices on public disclosure, social assessment, and public involvement. From this experience we have learned that actions that help the global environment often enhance national sustainable development and reduce poverty.

Lars Vidaeus, Executive Coordinator, Global Environment Coordination Division, World Bank

Future planning: Understanding the local impact of global environmental problems is a prerequisite to solving them.

Improve the global environment or advance the prospect of reducing risks to it.

Each country receiving GEF assistance has designated government officials responsible for GEF activities: a political focal point who coordinates matters related to GEF governance and an operational focal point who oversees project-related matters. These individuals help ensure that projects arise from their country's own priorities. For a current list of focal points and their contact information, see www.gefweb.org or contact the GEF secretariat.

Integral to the project development process is the identification of co-finance from a variety of other sources, with GEF in the role of catalyst. To date, \$2 billion in GEF allocations have been matched by \$5 billion in co-finance. More than \$1.8 billion has come from recipient governments themselves. Other co-financiers contributing to this total include international development institutions and organizations (principally GEF's implementing agencies themselves), regional development banks, bilateral aid agencies and banks, the private sector, and non-governmental organizations.

The GEF operations committee is responsible for recommending to the CEO project proposals for inclusion in the work program considered by the Council at its regular meetings. Chaired by the secretariat, it is composed of the chair of GEF's scientific and technical advisory panel (p. 18), representatives from the implementing agencies, and, where indicated, representatives from the secretariats of the Convention on Biological Diversity and the U.N. Framework Convention on Climate Change.

Monitoring and evaluation play an especially important role in the GEF for several reasons:

GEF's new and unique mission in the global environment requires it to develop strategies and projects whose designs, although scientifically based, may be more innovative or experimental than those of regular development projects.

GEF is pioneering coordination among many actors, involving the Bretton Woods and U.N. institutions, participant countries, international conventions, NGOs, the scientific community, and other organizations.

The emphasis in the early part of the GEF project cycle on "casting the net widely" and the process of developing operational programs places a premium on continuous learning and improvement.

Monitoring and evaluation are based in part on the existing systems of the implementing agencies. These activities also incorporate program-level indicator development, reviews, and evaluations led by the secretariat's monitoring and evaluation unit to address GEF-wide performance.

An annual *GEF Project Performance Report* (formerly the *Project Implementation Review*) summarizes performance and lessons learned from projects under implementation. Lessons and other findings are fed back into the planning and implementation cycles and shared with partner institutions through workshops and publications. Two special studies, the *Study of GEF Project Lessons* and the *Study of GEF's Overall Performance*, were completed in fiscal 1998 in preparation for the first GEF Assembly. An *Evaluation of Experience with Conservation Trust Funds* was also launched during this period. A new series entitled *GEF Lessons Notes* targets a wider audience.

See www.gefweb.org or contact the secretariat for copies of these publications.





There are two important lessons to be learned from the ozone issue: first, humans are clearly capable of damaging the environment on a planetary scale; and second, humans are also capable of solving global-scale problems.

Mario Molina, winner of the Nobel Prize for his work on stratospheric ozone depletion

GEF'S SCIENTIFIC & TECHNICAL ADVISORY PANEL

Scientific discovery and informed action are central to protecting the environment and improving people's livelihoods. So are the development and application of environmentally friendly technologies and processes. For these reasons and more, mobilizing the best efforts of science professionals in the conceptualization and implementation of GEF policies and its \$2 billion portfolio of projects is a top priority.

GEF's 12-member scientific and technical advisory panel reports to, and its terms of reference are set by, the GEF Council. The panel provides objective scientific and technical advice on GEF policies, operational strategies, and programs, conducts selective reviews of projects in certain circumstances and at specific points in the project cycle, and maintains a roster of experts. Its work is supported by a secretariat based at the UNEP headquarters in Nairobi.

The panel bolsters GEF initiatives across the four program areas. It has convened expert group meetings; prepared reports on the ecosystem approach as a framework for GEF's biodiversity work; completed an assessment of successful examples of sustainability in the context of ecosystems; produced four reports on scientific and technical options in the transport sector and one on the scientific and technical aspects of adapting to climate change; completed an assessment of the most promising renewable energy technologies and provided advice on advanced clean coal technologies; prepared two reports on international waters and the need for a global waters assessment; and assessed land degradation as it relates to project selection criteria in the four program areas.

Targeted research. An opportunity to improve the effectiveness of a certain type of project may require information that can only be attained through specific, goal-oriented research. GEF's scientific and technical advisory panel helps identify priority areas for this research, and through its chair, helps put into action the *Principles of Targeted Research* approved by the Council in fiscal 1997.

The integration of targeted research into GEF's four program areas was discussed at the panel's June 1998 meeting. The contributions of outgoing members, headed by former chair Pier Vellinga, to this and other efforts were recognized and honored. The meeting helped to bridge perspectives on the panel's significance and role within GEF and was a chance for new members and GEF personnel to begin to forge a strong working relationship.

Local scientists. A major emphasis of the new chair, Madhav Gadgil, is reaching out to the wider scientific community and, in particular, tapping the expertise of scientists in GEF project countries. The scientific complexity of underlying problems and of potential solutions requires close links between global environmental institutions and the scientific community at all levels. The active involvement of local scientists, engineers, and technology professionals gives their policymakers a clearer understanding of the risks to their own citizens and future generations, and yields advice they need to formulate strategic directions and press for their acceptance.

GEF has contributed to improving capacity in developing countries in sciences related to the global environment in a variety of ways, including enabling more than 120 nations to draft strategies and action plans for further work on biological diversity and climate change under the Convention on Biological Diversity and U.N. Framework Convention on Climate Change.



As an implementing agency and one of three partners in GEF, the United Nations Environment Programme brings with it more than 25 years of experience in environmental assessment, analysis, and management at global and regional levels. UNEP's insights into catalyzing international cooperation and action, international law, international environmental norms and policies, and promotion of greater environmental awareness and cooperation among all sectors of society underpin the GEF mission.

Ahmed Djoghlaif, Executive Coordinator, GEF Unit, United Nations Environment Programme

OUTGOING MEMBERS

BIODIVERSITY

Mohd Nor Salleh (Malaysia)
Jorge Soberon Mainero (Mexico)

CLIMATE CHANGE

Stephen Karekezi (Rwanda)
Jyoti K. Parikh (India)
Robert H. Williams (USA)

INTERNATIONAL WATERS

John D. Woods (United Kingdom)
Helen T. Yap (Philippines)

CROSS-CUTTING ISSUES

Pier Vellinga (Netherlands), Chair
Mary H. Allegratti (Brazil)
Stein Hansen (Norway)
Chihiro Watanabe (Japan)

LAND DEGRADATION

Rokhayatou Daba Fall (Senegal)

INCOMING MEMBERS

BIODIVERSITY

Peter Bridgewater (Australia)
Madhav Gadgil (India), Chair
Christine Padoch (USA), Vice Chair
*Paola Rossi Pisa (Italy)**
Jose Sarukhan (Mexico)

CLIMATE CHANGE

Michael Colombier (France)
Zhou Dadi (China)
Stephen Karekezi (Rwanda)
Shuzo Nishioka (Japan)

INTERNATIONAL WATERS

Eric Odada (Kenya)
Angela Wagener (Brazil)

CROSS-CUTTING ISSUES

Dennis Anderson (United Kingdom)

** also covering land degradation*



We see the GEF as an important outcome of the Rio Conference, but we also want to see it grow and evolve into a truly 21st century institution...built on the strength of civil society, democracy, and transparency.

Anil Agarwal, Director, Centre for Science and the Environment, India

CIVIL SOCIETY: AT THE HEART OF GEF'S WORK

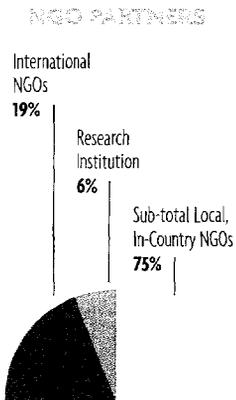
As informed and effective advocates, non-governmental organizations have had a role in shaping the GEF and its agenda from the very beginning. Today, participation by NGOs, both local and international, is crucial, not only at the project level but also the policy level. Village organizations and other community-based groups, academic institutions, and foundations are also NGO partners integral to GEF's efforts.

By the end of fiscal 1998, 156 GEF-financed projects were executed or co-executed by, or contained contracts or sub-contracts to, non-governmental groups, 88 in the biodiversity focal area alone. More than 60 regional and global NGO networks are involved in the design and implementation of GEF-funded trans-boundary waters projects. GEF's Small Grants Program, administered by UNDP, has provided grants of up to \$50,000 to finance more than 1,000 NGO-executed projects (p. 46).

- During fiscal 1998, non-governmental organizations helped to:
- Design, initiate, and execute GEF projects in close cooperation with GEF's implementing agencies.*
 - Conceptualize GEF's new medium-size projects through service on a special task force.*
 - Inform monitoring and evaluation functions, including the evaluation of GEF's conservation trust funds and the Study of GEF's Overall Performance.*
 - Comment on policy documents, including secretariat drafts of proposed operational programs in the areas of transport and carbon sequestration and other new policy guidelines.*
 - Organize and manage workshops and panels in conjunction with the first GEF Assembly in New Delhi, and produced the report The GEF in the 21st Century.*
 - Advocate participation in and replenishment of the GEF before their national executive bodies and legislative assemblies.*

A voluntary network of regional focal points encourages and strengthens non-governmental organization involvement in governance of the GEF, notably during Council meetings where GEF policies are decided and NGOs are admitted as observers. Consultations involving a wide spectrum of NGOs from all geographic regions precede each Council meeting.

Regional NGO focal points for the Global Environment Facility follow. For updates, please see www.gefweb.org.





The success or failure of any effort to preserve the global environment ultimately rests with countries, localities, and individuals who must undertake sustainable development planning and implementation based on an informed consensus. To do so, they require access to technical, financial, and policy expertise, as well as the capacity to integrate this expertise into their own national endowment, so that they may act independently in the future. The GEF projects launched by UNDP represent our commitment to harmonizing protection of the global environment with the development of healthy local economies.

Rafael Asenjo, Executive Coordinator, GEF Unit, United Nations Development Programme

GEF REGIONAL FOCAL POINTS FOR NON-GOVERNMENTAL ORGANIZATIONS

AFRICA

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Fax: 972-2-532-4692
E-mail: info@foeme.org

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EUROPE

WESTERN EUROPE

Open position

EASTERN EUROPE:

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Andras Krolopp

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Fax: 202-265-0222
E-mail: bionet@igc.apc.org

CENTRAL FOCAL POINT

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As in the case of the “campesino” who would protect the forest because it is in his economic benefit, we must reach a point where sustainable development becomes the most attractive economic alternative.

Andres M. Sada, one of Mexico's leading industrialists and conservationists

GEF & THE PRIVATE SECTOR

Private sector stakeholders, from family farmers and microentrepreneurs to major industries, play a critical role in GEF's efforts to address global environmental challenges. Finding and spreading solutions to biodiversity loss, sustainable energy development, international waters problems, and ozone depletion requires traditional knowledge, capital, technology, and management skills found primarily in the private sector. GEF harnesses the power of the marketplace to introduce new technologies and ways of doing business.

GEF encourages private stakeholders to collaboratively engage in the identification of project concepts and objectives as well as in the financing and monitoring and evaluation of GEF projects. GEF enters into partnerships with the private sector that augment, not displace, private capital, and its efforts facilitate and catalyze demonstration projects with significant replication potential.

Businesses offer strategic and policy advice on GEF-funded projects, participate in workshops and meetings, and provide technical input and special studies. A number of GEF projects engage private firms, industries, and associations in one or more aspects of project execution.

Identifying and promoting environment-friendly products and services in partnership with local people is integral to most GEF biodiversity projects.

More than a dozen GEF projects involve energy service companies in the delivery and maintenance of electricity in both grid and non-grid types of systems.

GEF rural energy projects in developing nations work with local electricity cooperatives, many owned and managed by small-scale entrepreneurs.

In 11 Eastern European nations and the former Soviet Union, GEF projects assist companies seeking to phase out and find substitutes for aerosols, propellants, foams, and refrigerants containing substances that deplete the ozone layer. Here, as in other program areas, enterprises provide substantial co-financing of GEF projects.

Leading corporations have partnered with GEF in the development and commercialization of biomass energy technology in Brazil and the expansion of markets for photovoltaics, wind power, and energy-efficient light bulbs in several countries.

Several of the world's largest energy companies are now replicating GEF demonstration initiatives in the capture of China's coal bed methane for energy use.

Of GEF's three implementing agencies, the World Bank plays the primary role in ensuring the development and management of investment projects. The Bank draws upon the investment experience of its affiliate, the International Finance Corporation (IFC), to promote investment opportunities in eligible countries and to mobilize private sector resources that are consistent with GEF objectives and national sustainable development strategies. UNDP makes special contributions to GEF's private sector collaborations in the areas of capacity building and pre-investment. For example, UNDP projects demonstrating the capture of coal bed methane in China and biomass electrification technology in Brazil have helped secure private sector involvement and follow-through.

In 1997, the GEF Council allocated \$16.5 million to continue and expand GEF's Small and Medium-Scale Enterprise Program. Administered by IFC, this program lends funds to intermediaries, ranging from NGOs to private companies, which in turn invest in small and medium-scale enterprises (with assets valued at less than \$5 million). Funds support innovative projects in biodiversity conservation and sustainable energy development for which long-term capital is lacking. Intermediaries include the Environmental Enterprises Assistance Fund (U.S.), CARESBAC (Poland), FUNDECOR (Costa Rica), El Sewedy Electrical Supplies Company (Egypt), World Wildlife Fund-US, and Grameen Shakti (Bangladesh).

For more examples, see *Early Impacts, Promising Futures*, the special report beginning on page 39.

Solar-powered microenterprise. A majority of the developing world's people earn their incomes through small business.



Shareholders in Sustainability Participant Countries

Afghanistan	Chad	Georgia
Albania	Chile	Germany
Algeria	China	Ghana
Antigua and Barbuda	Colombia	Greece
Argentina	Comoros	Grenada
Armenia	Congo, Dem. Republic of	Guatemala
Australia	Congo, Republic of	Guinea
Austria	Cook Islands	Guyana
Azerbaijan	Costa Rica	Haiti
Bahamas	Côte d'Ivoire	Honduras
Bangladesh	Cuba	Hungary
Barbados	Croatia	India
Belarus	Czech Republic	Indonesia
Belgium	Denmark	Iran (I.R.)
Belize	Djibouti	Ireland
Benin	Dominica	Israel
Bhutan	Dominican Republic	Italy
Bolivia	Ecuador	Jamaica
Botswana	Egypt	Japan
Brazil	El Salvador	Jordan
Bulgaria	Eritrea	Kazakhstan
Burkina Faso	Estonia	Kenya
Burundi	Ethiopia	Kiribati
Cambodia	Fiji	Korea (D.P.R.)
Cameroon	Finland	Korea (Rep.)
Canada	France	Kyrgyz
Cape Verde	Gabon	Lao (P.D.R.)
Central African Republic	Gambia	Latvia

Lebanon

Lesotho

Libya

Lithuania

Luxembourg

Madagascar

Malawi

Malaysia

Maldives

Mali

Malta

Marshall Islands

Mauritania

Mauritius

Mexico

Micronesia (F.S.)

Moldova

Mongolia

Morocco

Mozambique

Myanmar

Nauru

Nepal

Netherlands

New Zealand

Nicaragua

Niger

Nigeria

Niue

Norway

Pakistan

Palau, Republic of

Panama

Papua New Guinea

Paraguay

Peru

Philippines

Poland

Portugal

Romania

Russian Federation

Saint Lucia

Saint Vincent & Grenadines

Samoa

Senegal

Sierra Leone

Slovak Republic

Slovenia

Solomon Islands

South Africa

Spain

Sri Lanka

St. Kitts & Nevis

Sudan

Suriname

Swaziland

Sweden

Switzerland

Syria

Tanzania

Thailand

The FY.R. of Macedonia

Togo

Tonga

Trinidad & Tobago

Tunisia

Turkey

Turkmenistan

Tuvalu

Uganda

Ukraine

United Kingdom

United States

Uruguay

Uzbekistan

Vanuatu

Venezuela

Vietnam

Yemen

Zambia

Zimbabwe

The First GEF Assembly



Days after being sworn in as India's Prime Minister in March 1998, Atal Bihari Vajpayee inaugurated the first Assembly of states participating in the Global Environment Facility. "If each one of us today takes a step in this direction, however small, we would decidedly go a long way in not only preserving but also regenerating life support systems," said Vajpayee. "It is only then that our coming generations would not blame us for having done precious little when the opportunity was available."

The Assembly itself was a major step toward realizing the shared vision of those who launched the GEF in 1991 and restructured it in 1994 to make it more strategic, effective, transparent, and participatory. Nearly 1,000 people attended the three-day meeting, representing 119 of 164 states then participating in the GEF (Palau has since joined the GEF). Representatives of 16 international organizations and 185 non-governmental organizations (NGOs) also took part.

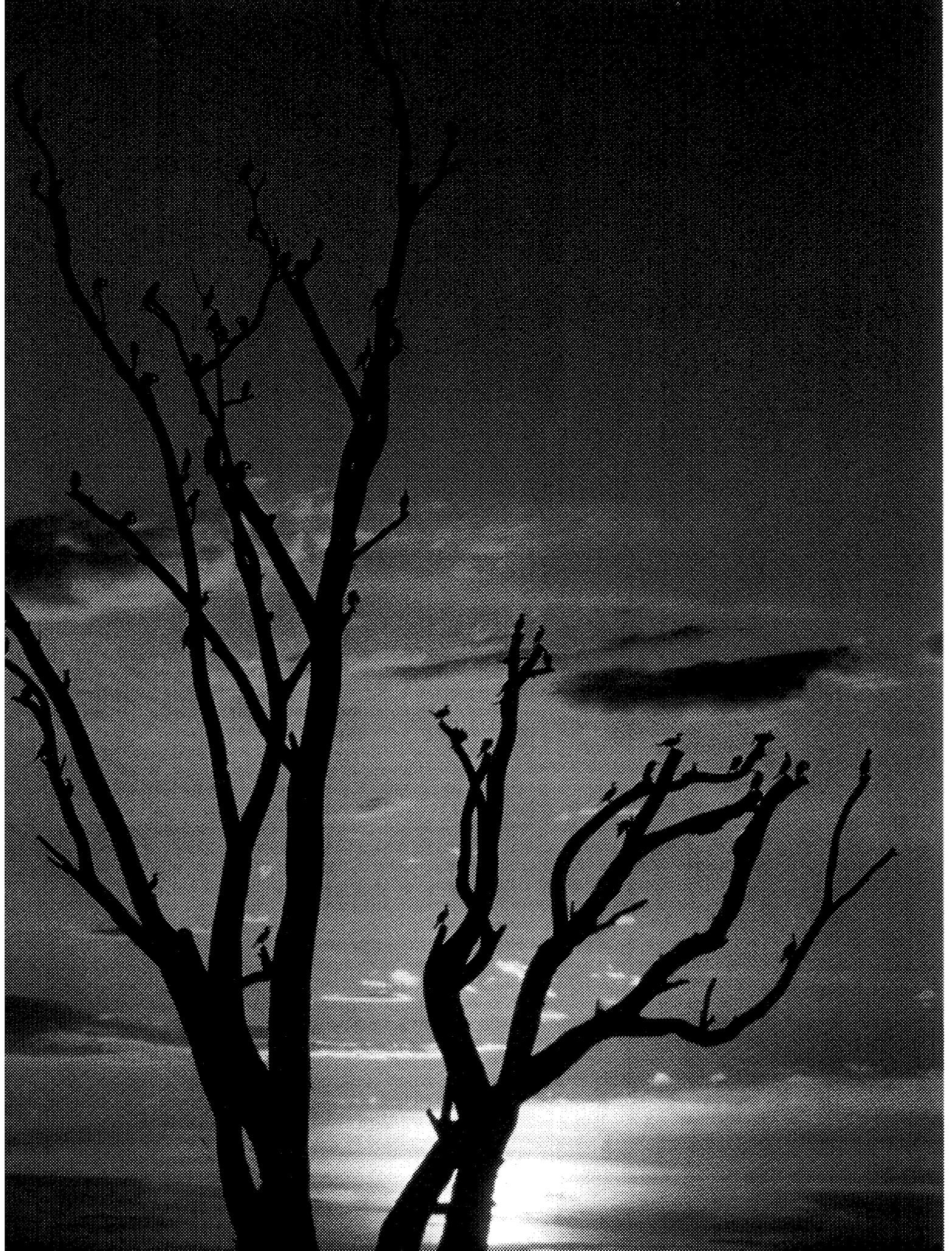
The first gathering of the Assembly in New Delhi came on the heels of an announcement the previous week that 36 GEF donors from both developed and developing countries had approved a replenishment of the GEF trust fund of \$2.75 billion (see p. 14). With this vote of confidence as a backdrop, delegates to the Assembly elected Yaswant Sinha, India's newly installed Finance Minister, as chair, and Mali's Soumaila Cisse, Minister of Finance and Trade, and Denmark's Poul Nielson, Minister for Development Cooperation, as vice-chairs.

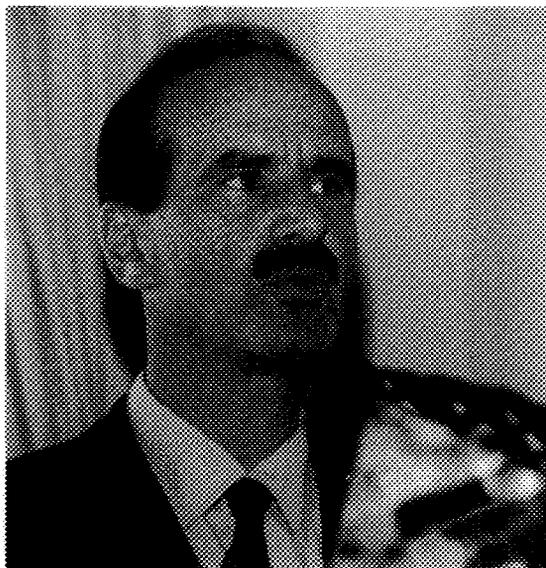
After the Prime Minister's address and welcoming remarks by the Finance Minister, the Assembly heard the views of GEF's implementing agencies, delivered by James G. Speth of UNDP, Klaus Toepfer of UNEP, and Caio Koch-Weser on behalf of the World Bank. Other speakers represented the United Nations, the major international environmental conventions, GEF's scientific and technical advisory panel, and the non-governmental organization community.

Assembly participants then turned towards the consideration of a number of key agenda items and reports on GEF's operations and policies, including the independent *Study of GEF's Overall Performance*. Among the major issues highlighted were the need for strengthened country ownership of GEF projects; greater engagement with focal point contacts as a means to disseminate information about the work of the GEF in their home countries; support for an effective outreach and communications effort; improvements in the mainstreaming of global environmental issues into the implementing agencies; a strengthened monitoring and evaluation program; increased engagement with the private sector, particularly with business and banking associations; and development of simpler, more straightforward guidelines for the calculation of the "incremental costs" of targeting global environmental benefits.

The review team praised the GEF on a number of fronts: for its effective programming of resources in the four program areas; for leveraging co-financing for projects; for developing an operational strategy; for the

Sunset in Kenya:
Assembly participants
discussed ways to build
a brighter future
through the Global
Environment Facility.





Former Costa Rican President José María Figueres accepts the first Global Environment Leadership Award.

advancement of stakeholder participation in GEF projects; and for building a framework, particularly with regard to mainstreaming global environmental priorities into the implementing agencies, for a much stronger GEF.

Status of the GEF. GEF CEO and Chairman Mohamed El-Ashry began his *Report on the Policies, Operations, and Future Development of the GEF* by invoking the words of Thomas Jefferson, who said that “laws and institutions must go hand in hand with the progress of the human mind. As the human mind becomes more developed, more enlightened, as new discoveries are made, new truths discovered and manners and opinions change, with the change of circumstances, institutions must advance also to keep pace with the times.”

In this spirit, El-Ashry remarked that the GEF has learned a great deal since its inception in 1991 and restructuring in 1994. Among its more prominent achievements, he pointed to the development of an operational strategy and ten (soon to be twelve) operational programs to focus GEF activities; the incorporation of initiatives to combat land degradation, particularly deforestation and desertification; allocations totaling \$2 billion in 120 countries through 500 enabling activities and projects; the development of principles for financing targeted scientific research; the establishment of a monitoring and evaluation program; and efforts to enhance the role of NGOs in the design and implementation of projects.

Despite these achievements, El-Ashry also recognized the importance of increasing the level of co-financing in the years ahead to levels far higher than the \$5 billion achieved to date; reviewing and better defining the intended results of country-level involvement; seeking out greater opportunities for partnerships with the private sector; building stronger relationships with the international scientific community and increasing the involvement of national scientists and local communities in GEF work; strengthening the monitoring and evaluation program; and defining and applying the concept of incremental costs more pragmatically.

In closing, El-Ashry committed the GEF to acting on the recommendations of the independent review of the GEF in advance of the next meeting of the GEF Council in October and urged shareholder nations to actively engage in the process of collectively strengthening the GEF.

Comments from the Assembly. Some 80 representatives of GEF participating governments commented on the results and future of the GEF. Major discussions included the need to ensure that GEF projects are country-driven and that the proposal process is streamlined and more transparent; further clarify the concept of incremental costs; support the recommendation for a strong monitoring and evaluation system; and further diversify the GEF's project portfolio, possibly including agro-biodiversity, land use practices, freshwater systems, emerging technology, and coastal and marine management.

A number of representatives spoke favorably of their overall experiences with the GEF and highlighted ongoing projects in their own countries. The commitment of \$2.75 billion to the GEF was applauded, though many nations felt that an even larger commitment would have been appropriate.

The official Assembly was complemented by a number of parallel panels and workshops featuring interna-

tionally respected environmentalists, parliamentarians, business leaders, scientists, and NGO organizers. These talks focused on efforts towards sustainable development, particularly in India; the linkages between science, development, and environmental concerns; "The GEF in the 21st Century," a panel organized by NGO representatives; challenges parliamentarians face in dealing with global environmental issues; the role of the media in building public awareness; private sector responses in developing countries to the Kyoto Protocol; and a roundtable by a panel of "eminent persons," chaired by Sweden's Speaker of the Parliament Birgitta Dahl, which discussed efforts at sustainable development with regard to transboundary issues, including biodiversity loss, growing freshwater demand, and the challenges posed by climate change.

Some 75 journalists were accredited to attend the Assembly. In the days leading up to and during the meeting, the GEF Assembly received considerable media coverage, particularly in India, including the airing of the GEF video "Keeping the Promise," narrated by Harrison Ford, on national television.

The First Global Environment Leadership Award. The winner of GEF's first Global Environment Leadership Award — José María Figueres, president of Costa Rica — was announced during the Assembly. The Award was established by GEF in 1997 to annually honor a head of state or government, or a leader in industry or the non-governmental sector, who "has spearheaded significant national and/or international actions to protect the global environment and promote sustainable development." An open nominations process was conducted in early 1998, followed by a panel review involving seven prominent environmental leaders from around the world.

"Just as his father helped to launch Costa Rica on a democratic path, President Figueres has accelerated its transition to sustainable development," said GEF CEO El-Ashry. "Under his leadership, Costa Rica has attempted to phase out fossil fuels by the year 2010 and instituted the pioneering concept of payment for environmental benefits from forests like watershed services and greenhouse gas absorption." Figueres received the award at a ceremony in Washington, D.C., in April.

Closing Statement & The Road Ahead. The GEF Assembly applauded the government and people of India as gracious hosts and praised the GEF itself as "a unique and successful example of international cooperation that offers lessons for other endeavors." Acknowledging the progress made by the GEF since its restructuring and the support given by GEF donors in the replenishment, the Assembly urged the institution to remain innovative and flexible in dealing with transboundary environmental issues, to strengthen country ownership of GEF projects, and to increase efforts toward ensuring the sustainability of the global environmental benefits generated by GEF financing. Other recommendations in the New Delhi Statement reinforced comments arising from the *Study of GEF's Overall Performance* and the *CEO's Report on the Policies, Operations, and Future Development of the GEF*.

GEF is working to maintain the momentum generated by its first Assembly meeting, and is committed to making significant progress on the Assembly's recommendations. A plan of action was presented to the fall 1998 meeting of the GEF Council and its implementation is in full force.

The New Delhi Statement of the First GEF Assembly

The Assembly of the Global Environment Facility,

Having met for the first time in New Delhi from April 1-3, 1998,

Expressing its utmost appreciation to the Government and people of India for hosting the Assembly and for their generosity, hospitality, and the excellent arrangements made available to all Participants,

Taking note of the views expressed by Representatives of GEF Participant states at this Assembly,

Recognizing that the GEF is the multilateral funding mechanism dedicated to promoting global environmental protection within a framework of sustainable development by providing new and additional grant and concessional funding,

Recognizing also that its beneficiaries are all people of the globe, and that the need for the GEF is even greater as we enter the new millennium given the state of the global environment and of underdevelopment,

Stressing that the GEF is a unique and successful example of international cooperation that offers lessons for other endeavors,

Affirming the significant role of the GEF in supporting the objectives of agreed global environmental conventions and protocols, such as the Convention on Biological Diversity, the UN Framework Convention on Climate Change and the Kyoto Protocol, the Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer, and the UN Convention to Combat Desertification,

Acknowledging the significant progress that has been made by the GEF, its Implementing Agencies (UNDP, UNEP, and the World Bank), and the Secretariat, in the four years since its restructuring in its organization and management, in establishing its institutional and operational framework, and in supporting developing countries and countries with economies in transition in their efforts for global environmental improvements and in implementing the Rio conventions,

Acknowledging further the excellent work of the Scientific and Technical Advisory Panel (STAP) in providing strategic advice and in reviewing projects,

Welcoming the Second Replenishment of the GEF Trust Fund of \$2.75 billion which will enable the GEF to continue its successful efforts to promote global environmental goals and sustainable development,

Taking note of Council's decisions and drawing, as appropriate, upon analyses and recommendations from the *Study of GEF's Overall Performance*, the *Study of GEF Project Lessons*, the *GEF Project Implementation Review*, and the *CEO's Report on the Policies, Operations, and Future Development of the GEF*,

Agrees that for the GEF to meet its deepening potential and fulfill its multiple missions:

1. GEF should remain a facility at the cutting edge, innovative, flexible, and responsive to the needs of its recipient countries, as well as a catalyst for other institutions and efforts.
2. GEF activities should be country-driven and efforts should be strengthened to achieve country ownership of GEF projects. To achieve this,

- a. GEF activities should be based on national priorities designed to support sustainable development and the global environment,
 - b. GEF should develop and implement a strategy for greater outreach and communication which targets GEF's multiple constituencies, with a view to enhancing global awareness of the global environment and the GEF, and should increase consultations with non-governmental organizations (NGOs) and local communities concerning GEF activities,
 - c. GEF should develop and implement an action plan to strengthen country-level coordination and to promote genuine country ownership of GEF-financed activities, including the active involvement of local and regional experts and community groups in project design and implementation.
3. GEF should increase efforts towards ensuring the sustainability of the global environment benefits generated by GEF financing and should act as a catalyst to bring about longer term coordinated efforts with other funders for capacity building and training.
 4. GEF should streamline its project cycle with a view to making project preparation simpler, transparent, and more nationally driven.
 5. GEF should undertake longer term planning and multi-year support programs with a view to maximizing global environmental benefits.
 6. While recognizing the importance of the principle of incremental costs for the GEF, its definition should be made more understandable. GEF should make the process of determining incremental costs more transparent and its application more pragmatic.
 7. GEF should be a learning entity and should strengthen its monitoring and evaluation functions and increase efforts to disseminate lessons learned from its experience in implementing its portfolio of projects and to stimulate the transfer and adoption of new technologies by recipient countries.
 8. In consultation with the Secretariat of the UN Convention to Combat Desertification, GEF should seek to better define the linkages between land degradation, particularly desertification and deforestation, and its focal areas and to increase GEF support for land degradation activities as they relate to the GEF focal areas.
 9. GEF Implementing Agencies should promote measures to achieve global environmental benefits within the context of their regular programs and consistent with the global environmental conventions while respecting the authority of the governing bodies of the Implementing Agencies.
 10. GEF should build strong relationships and networks with the global scientific community, especially with national scientists and scientific institutions in recipient countries.
 11. GEF should promote greater coordination and co-financing of its activities from other sources, including bilateral funding organizations, and should expand opportunities for execution of activities by those entities referred to in paragraph 28 of the Instrument, in particular the Regional Development Banks and non-governmental organizations (NGOs).
 12. GEF should strive to mobilize additional resources from both public and private sources. The GEF, as a platform for technological change, should also explore new opportunities for private sector partnerships as well as private-public joint ventures.

GEF Projects by Country & Program Area

Countries with GEF-Funded Projects *

BIODIVERSITY

Albania
 Algeria
 Angola
 Antigua & Barbuda
 Argentina
 Armenia
 Bahamas
 Bangladesh
 Barbados
 Belarus
 Belize
 Benin
 Bhutan
 Bolivia
 Botswana
 Brazil
 Bulgaria
 Burkina Faso
 Cambodia
 Cameroon
 Cape Verde
 Central African Republic
 Chad
 Chile
 China
 Colombia
 Comoros
 Congo, Dem. Republic of
 Congo, Republic of
 Cook Islands
 Costa Rica
 Côte d'Ivoire
 Cuba
 Croatia
 Czech Republic
 Djibouti
 Dominica
 Dominican Republic
 Ecuador
 Egypt
 El Salvador
 Equatorial Guinea
 Eritrea
 Estonia
 Ethiopia

Fiji
 Gabon
 Gambia
 Georgia
 Ghana
 Grenada
 Guatemala
 Guinea
 Guyana
 Haiti
 Honduras
 Hungary
 India
 Indonesia
 Iran (I.R.)
 Jamaica
 Jordan
 Kazakhstan
 Kenya
 Kiribati
 Korea (D.P.R.)
 Kyrgyz
 Lao (P.D.R.)
 Latvia
 Lebanon
 Lesotho
 Liberia
 Lithuania
 Madagascar
 Malawi
 Malaysia
 Maldives
 Mali
 Marshall Islands
 Mauritania
 Mauritius
 Mexico
 Micronesia (F.S.)
 Moldova
 Mongolia
 Morocco
 Mozambique
 Namibia
 Nauru
 Nepal
 New Zealand
 Nicaragua

Niger
 Nigeria
 Niue
 Pakistan
 Palestinian Authority
 Panama
 Paraguay
 Peru
 Philippines
 Poland
 Portugal
 Romania
 Russian Federation
 Saint Lucia
 Saint Vincent & Grenadines
 Samoa
 Senegal
 Seychelles
 Sierra Leone
 Slovak Republic
 Slovenia
 Solomon Islands
 South Africa
 Sri Lanka
 St. Kitts and Nevis
 Sudan
 Suriname
 Swaziland
 Syria
 Tanzania
 Tokelau
 Tonga
 Trinidad & Tobago
 Tunisia
 Turkey
 Uganda
 Ukraine
 Uruguay
 Uzbekistan
 Vanuatu
 Venezuela
 Vietnam
 Yemen
 Zambia
 Zimbabwe

CLIMATE CHANGE

Argentina
Benin
Bolivia
Brazil
Bulgaria
Cape Verde
Chile
China
Costa Rica
Côte d'Ivoire
Egypt
Ghana
Hungary
India
Indonesia
Iran (I.R.)
Jamaica
Jordan
Kenya
Lao (P.D.R.)
Latvia
Lithuania
Malaysia
Mali
Mauritania
Mauritius
Mexico
Morocco
Pakistan
Palestinian Authority
Peru
Philippines
Poland
Romania
Russian Federation
Senegal
Sri Lanka
Sudan
Syria
Tanzania
Thailand
Togo
Tunisia
Uganda
Ukraine
Zimbabwe

INTERNATIONAL WATERS

Albania
Algeria
Antigua & Barbuda
Argentina
Azerbaijan
Belarus
Benin
Bolivia
Bosnia & Herzegovina
Bulgaria
Burundi
Cambodia
Cameroon
China
Congo, Dem. Republic of
Côte d'Ivoire
Croatia
Czech Republic
Djibouti
Dominica
Egypt
Georgia
Ghana
Grenada
Hungary
Indonesia
Iran, (I.R.)
Jordan
Kazakhstan
Kenya
Korea (D.P.R.)
Korea (Rep.)
Kyrgyz
Lebanon
Malaysia
Moldova
Mongolia
Morocco
Nigeria
Philippines
Romania
Russian Federation
Saint Lucia
Saint Vincent & Grenadines
Slovak Republic

Slovenia
St. Kitts and Nevis
Sudan
Syria
Tanzania
Thailand
The F.Y.R. of Macedonia
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
Uzbekistan
Vietnam
Yemen
Zambia

OZONE DEPLETION

Azerbaijan
Belarus
Bulgaria
Czech Republic
Estonia
Hungary
Latvia
Lithuania
Poland
Russian Federation
Slovak Republic
Slovenia
Turkmenistan
Ukraine
Uzbekistan

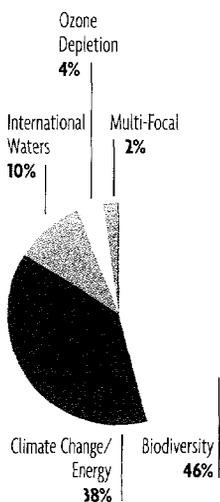
**Excludes funding for
Enabling Activities*

A Guide to GEF Funding



The operational strategy approved by GEF's Council in 1995 lays the groundwork for its efforts to address four critical problems through 10 operational programs. The strategy incorporates guidance from the two conventions for which GEF serves as financial mechanism: the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. It also establishes operational guidance for international waters and ozone activities, the latter consistent with the Montreal Protocol on Substances that Deplete the Ozone Layer and its amendments.

GEF'S PORTFOLIO
(1991-1998)
(by number of projects)



Eligibility for GEF funds is determined in two ways. Biodiversity and climate change projects are eligible in developing countries that have ratified the appropriate treaty. In other countries, primarily those with economies in transition, projects are eligible if the country is a party to the appropriate treaty and it is eligible to borrow from the World Bank or receive technical assistance grants from UNDP.

GEF funds the "incremental" or additional costs of going beyond actions to achieve sustainable development at the national level to maintain sustainability at the global level. A simple example: choosing solar energy technology over coal or diesel fuel meets the same national development goal (power generation) but imposes an additional cost associated with cutting greenhouse gas pollution. (Simplified guidelines for calculating incremental costs are under development by the secretariat to expedite this portion of the project approval process.)

GEF's three implementing agencies work with the operational focal point in each recipient country to develop project ideas that are consistent with the country's national programs and priorities as well as GEF's operational strategy and programs. Regional programs and projects may be developed in all countries that endorse this GEF activity. Global program and project proposals are designed to facilitate national-level efforts to achieve global environmental benefits.

Enabling activities. GEF-funded enabling activities in 126 nations are steadily building capacities to prepare national inventories, strategies, and action plans in response to the U.N. Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity. By the end of July 1998, the GEF Council had approved 114 enabling activities in biodiversity and 113 in climate.

This assistance enables nations to assess biodiversity and climate change challenges from their own perspective, determine the most promising opportunities for project development, and then pursue full-scale projects with support from the international community.

Medium-sized projects. GEF investment or technical assistance projects typically average \$5.5 million in GEF financing. In 1997, the Council approved procedures to expedite the processing and implementation of projects for which the requested GEF financing does not exceed \$1 million. These medium-sized grants are already increasing flexibility in programming resources and encouraging a wider range of interested parties to



Without finance, conservation is nothing more than conversation.

M.S. Swaminathan, India

propose and develop project concepts.

As with all initiatives in the GEF portfolio, medium-sized projects must be based on the national priorities of the countries in which they are to occur. They must also reflect the GEF's operational policies and principles and respond, where indicated, to convention guidance. The Council further directed that the medium-sized project process include: selective reviews by GEF's scientific and technical advisory panel; monitoring and evaluation criteria and indicators; sufficient time for national operational focal points to endorse project ideas in writing; and Council review of the implementation of these procedures and their effectiveness.

Project Preparation and Development Facility (PDF). Funding for project preparation is available through three categories or "blocks." Block A grants of up to \$25,000 fund very early stages of project or program identification at the national level. These are approved through the implementing agencies. Block B grants of up to \$350,000 fund information gathering necessary to complete project proposals and provide necessary supporting documentation. The CEO of the GEF approves these grants, taking into account the recommendations of the GEF operations committee. Block C grants (up to \$1 million) provide additional financing, where required, for larger projects to complete technical design and feasibility work. (Block C grants are normally made available after the GEF Council has approved a project proposal.)

Small Grants Program. Grants of up to \$50,000 are made available through this project administered by UNDP. (See p. 46.)

Full audited financial information about all GEF activities is available from the GEF secretariat and at www.gefweb.org.

BIODIVERSITY

GEF operates the financial mechanism for the Convention on Biological Diversity and receives guidance from the conference of parties concerning policy, strategy, program priorities, and eligibility criteria related to the use of resources for purposes of the Convention.



A wide spectrum of efforts to conserve and sustainably use earth's biological diversity account for nearly half of all projects. By mid-1998, the GEF Council had approved \$775 million for biodiversity projects that generated an additional \$1.2 billion in co-finance. This cumulative total includes a fiscal 1998 work program of \$152.65 million in new biodiversity funding for 94 initiatives.

Projects are generally built around one or more of four critical types of "ecosystems" and the human communities found there.

Arid and semi-arid zones. GEF resources have placed primary emphasis on conservation and sustainable use of threatened biodiversity unique to arid and semi-arid areas of Africa and Mediterranean-type ecosystems.

Coastal, marine, and freshwater resources. Tropical island ecosystems have received special attention under this operational program.

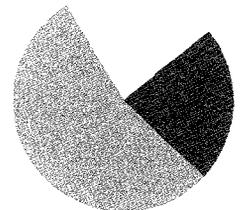
Forests. GEF's primary focus has been on tropical humid forests which hold the largest share of biodiversity and where the urgency for action is greatest.

Mountains. GEF is promoting conservation and sustainable use of biodiversity areas under increasing human pressure and imminent threat of degradation, including the Mesoamerican, Andean, East African, and Himalayas regions, as well as the mountainous regions of the Indochina peninsula and tropical islands. For examples, see p. 40.

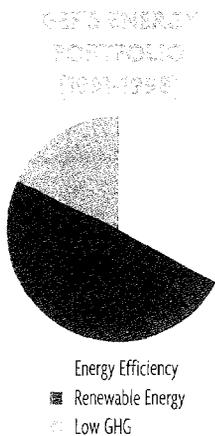
CLIMATE CHANGE

GEF operates the financial mechanism for the U.N. Framework Convention on Climate Change and receives

GEF'S
BIODIVERSITY
PORTFOLIO
(1991-1998)



■	Arid & Semi-Arid
■	Coastal, Marine & Freshwater
■	Forest Ecosystems
■	Mountain Ecosystems



guidance from the conference of parties on policies, program priorities, and eligibility criteria related to the Convention.

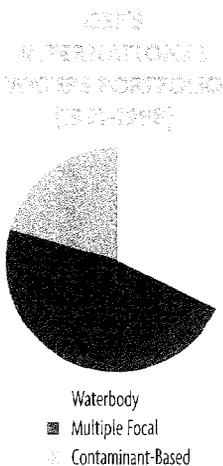
Nearly 40 percent of all GEF-financed projects since 1991 have been in this focal area. They are designed to reduce risks of global climate change, while providing energy for sustainable development. By mid-1998, about \$753 million had been allocated to these projects, matched by more than \$4.3 billion in co-finance. The fiscal 1998 work program included over \$136 million in new funding for 61 initiatives.

GEF climate change projects are organized in three operational programs, each with a different approach. They:

- Remove barriers to energy efficiency and energy conservation.*
- Promote the adoption of renewable energy by removing barriers and reducing implementation costs.*
- Reduce the long-term costs of low greenhouse gas (GHG) emitting energy technologies.*

Two other operational programs on sustainable transportation and carbon sequestration are under development.

For examples, see p. 51.



Since 1991, GEF has allocated over \$242 million to international waters efforts. In fiscal 1998, GEF work programs committed over \$56 million in new funds for 14 international waters initiatives.

GEF projects combine strategic fact-finding, priority setting, and action oriented processes that enable countries to know more about their shared water-related challenges, find ways to work together, and focus on important domestic changes needed to solve problems. GEF projects address manageable watershed units with a number of specific actions.

Projects fall into three categories:

- Water bodies.*
- Integrated land and water projects.*
- Contaminants.*

For examples, see p. 58.

OZONE DEPLETION

Phasing out ozone depleting substances (ODS) is a highly effective means to achieving global environmental benefits now and in the future. Thanks to international cooperation over the last decade, the concentration of some of these chemicals in the atmosphere has already started to decline. The incidence of ultraviolet radiation-related skin cancers and cataracts and radiation damage to crops and other natural resources is significantly lower than would otherwise have been the case.

GEF's objective is to enable countries with economies in transition to comply in the most cost-effective manner possible with agreed control measures and other commitments under the Montreal Protocol. This experience offers insights for other GEF programs in the region, and informs GEF's wider efforts to scale up partnerships with the private sector.

By the end of fiscal 1998, GEF had allocated about \$120 million to cover incremental costs of phasing out ozone depleting substances in 12 countries with economies in transition (Azerbaijan, Belarus, Bulgaria, Czech Republic, Hungary, Latvia, Lithuania, Poland, Russian Federation, Slovak Republic, Slovenia, and Ukraine). Projects for Turkmenistan and Uzbekistan were added in the fall of 1998.

These countries represent more than 95 percent of the total consumption of ozone depleting substances in the region. By assisting them, GEF will help to eliminate an annual consumption of more than 30,000 metric

FACTORS DRIVING DEMAND FOR GEF'S WORK

Institutional arrangements provided for in the Instrument for the Establishment of the Restructured GEF are in place.

Ten operational programs provide clear strategic direction for GEF financing.

There has been a rapid increase in the number of eligible recipient countries.

Many countries have benefited from GEF activities enabling them to address objectives of the conventions on biological diversity and climate change, increasing future demand for GEF project financing and the capacity to implement projects.

The project pipeline is developing rapidly with the help of GEF's Project Development Facility.

tons of ozone depleting substances at an overall rate of cost effectiveness better than \$4 per kilogram. See examples on p. 63.

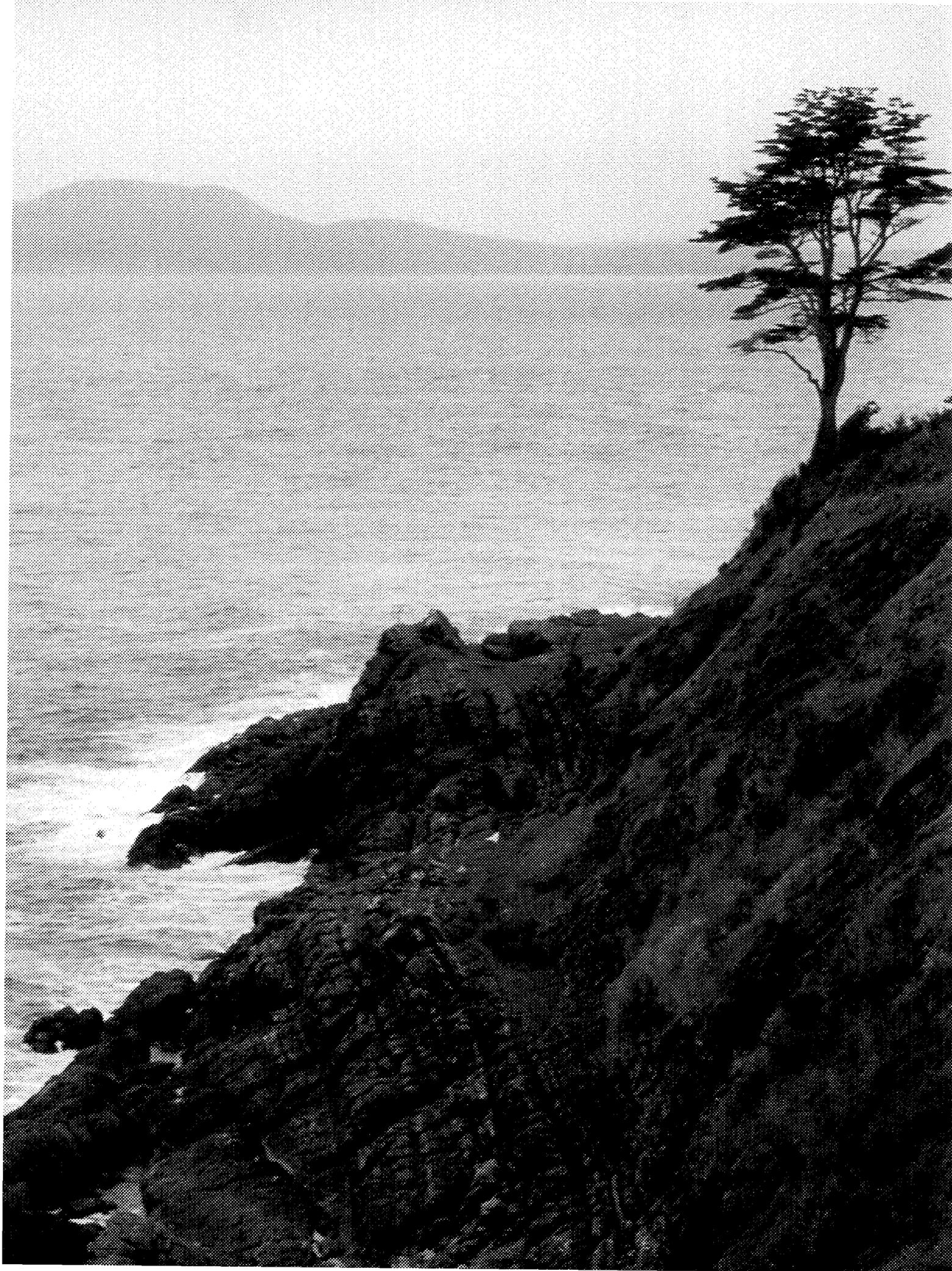
LAND DEGRADATION

Looking across GEF's four main program areas, a total of \$350 million in GEF funds, and additional co-financing of more than twice that amount, are currently addressing land degradation issues.

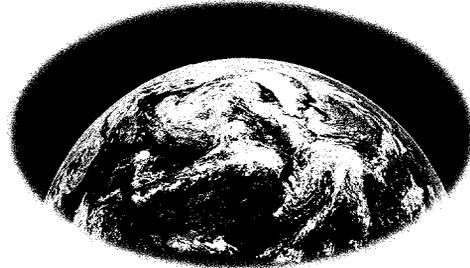
GEF's interest in financing activities to prevent and control land degradation is derived from the nature and extent of their relationship with global environmental change. These activities benefit from guidance from the biodiversity and climate change conventions, their conferences of the parties, and from consultations with convention secretariats, including that of the Convention to Combat Desertification, and institutional frameworks for international waters.

Consultations with affected countries and development agencies have helped ensure that GEF projects are complementary to their ongoing activities, do not duplicate or substitute for development initiatives, and are cost effective in the achievement of global environmental benefits.

GEF activities involving prevention and control of land degradation usually provide local and national benefits apart from global environmental benefits. In this context, achieving gains in agricultural productivity, output, incomes, and environmental quality are legitimate and valuable outcomes of GEF's strategic approach in this area. See examples on p. 64.



Early Impacts, Promising Futures



The best test of the Global Environment Facility is the extent to which its projects produce positive, measurable, and lasting results for people and the environment, and encourage others to follow suit.

This section offers a sampler of GEF projects, some examples of impacts to date (marked with the ♦ symbol) and developments under way as part of newer or longer term initiatives (marked with the ● symbol).

These project stories illustrate ways in which GEF invests in each program area, catalyzes additional financial support, informs and applies science, provides policy models, spurs new legal protections, strengthens non-governmental organizations, increases community involvement, partners with the private sector, and inspires larger scale replication of its work.

This collection attests to the fact that most projects tend to exhibit strengths in some areas, while falling short in others. In this special edition annual report, we have focused on aspects worth emulating in future work. For an in-depth consideration of pros and cons of GEF projects and lessons learned, please see the 1998 *Project Performance Report*.

The implementing agency for each project is found in parentheses. For complete information on GEF's portfolio, including GEF allocations, co-finance, and executing partners, please see *Project Fact Sheets* and the *Operational Report on GEF Projects*, published twice yearly and updated quarterly on GEF's website.

Along the coast of Chile:
GEF's projects provide
models, catalyze
additional financial
support, and inspire
larger scale replication.

Conserving & Managing Biological Diversity



◆ **Argentina's** Patagonia region has 3,000 kilometers of coastline nourished by a rich Antarctic Ocean current. This makes it a breeding ground and habitat for a diverse, yet highly interdependent, array of life, including endangered right whales, elephant seals, and Magellanic penguins. Patagonia also has the world's fastest growing commercial fishery, and wildlife-based tourism has become one of the country's most important industries.

GEF's *Patagonian Coastal Zone Management* project gained the support of whale-watching boat owners and inshore fishermen by demonstrating how it could help them. The coastal zone management plan reserved zones for inshore fishers, reducing competition from large offshore fishing fleets. In exchange, the fishers agreed not to work in sensitive areas. Whale-watching boat owners agreed to make trips with full boats, reducing the number of trips as well as costs, while maintaining income and lowering the impact on right whales.

A survey of visitors at wildlife reserves improved reserve management and the value of the tourism sector. A project-sponsored national beach walk alerted the government to public concern for the quality of beaches, and a public awareness campaign on coastal issues fostered community participation. (UNDP)

GEF is now funding a complementary coastal contamination/sustainable fisheries project for Patagonia through the World Bank, as well as continued work by UNDP.

◆ **Belovezhskaya National Park in Belarus** is among the most important in Europe. Home to a number of threatened or endangered species and ecosystems, it borders the last remaining remnant of the once vast lowland European forest, Bialowieza

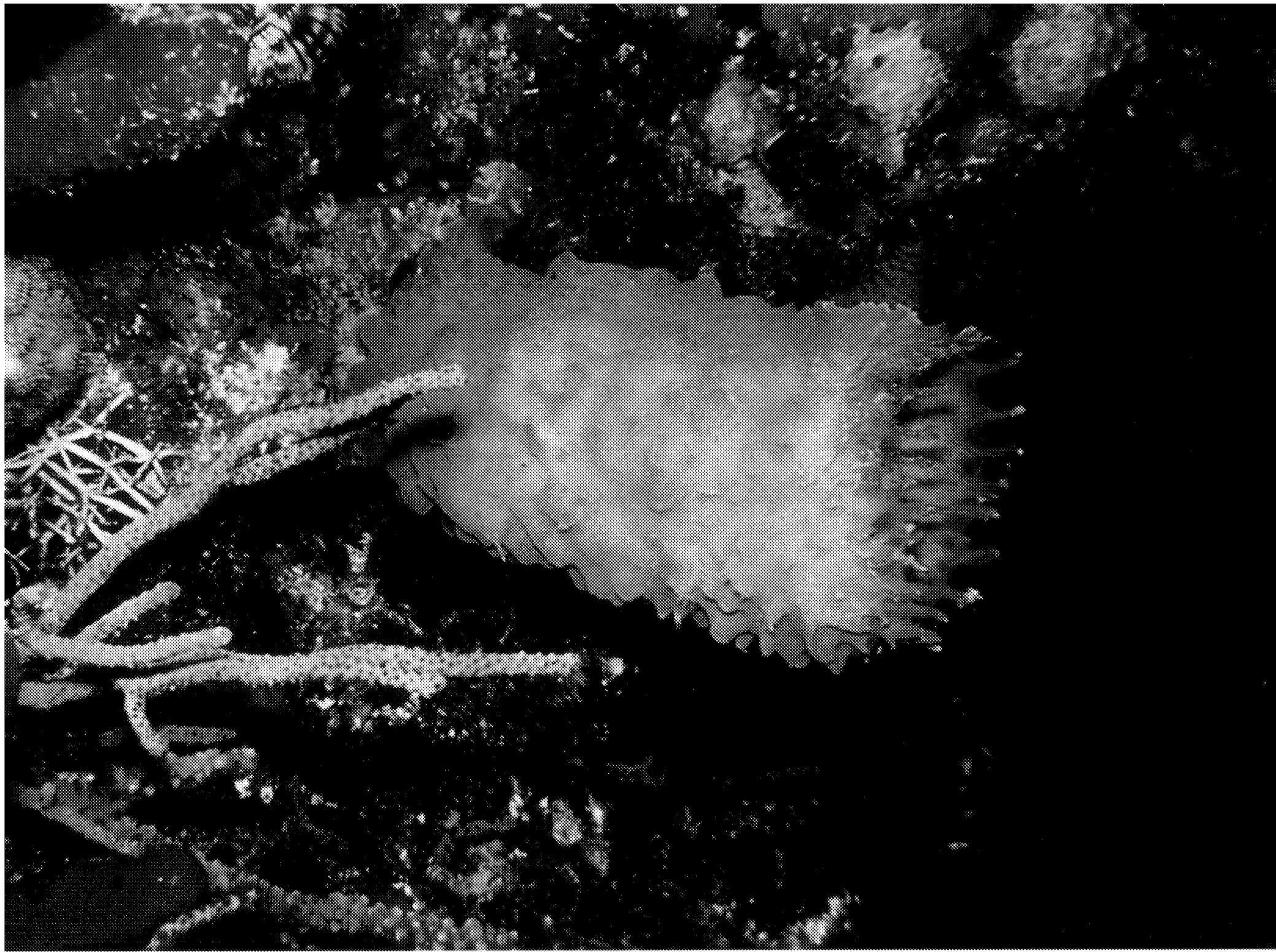
Primeval Forest in **Poland**. GEF's *Forest Biodiversity Protection* project enabled Belarus to protect a zone of substantial international ecological importance, fostered innovation in conservation planning (including consultations at the local level), provided a model of integrated management, and tested approaches to trans-boundary cooperation with Poland. (World Bank)

◆ The coral reefs of **Belize**, unparalleled in the Caribbean, are critical to its tourism industry, essential to the survival of many commercial species of fish, and have been identified as a potential source of valuable pharmaceuticals.

A GEF-funded project strengthened national institutions responsible for coastal resources, led to coastal zone management legislation as well as new executive branch policies and guidelines, expanded the nation's network of marine protected areas, and prompted the designation of seven World Heritage sites. Five non-governmental organizations (Belize Audubon Society, Programme for Belize, Wildlife Conservation Society, Coral Cay Conservation, and Smithsonian Institution) and bilateral aid programs of Denmark, the United Kingdom, and the United States were instrumental in the project's success. A project to further consolidate these gains has been approved. (UNDP)

◆ **China's Nature Reserves** project is developing more effective management and protection systems in pilot areas of international significance, including important wetland, forest, and montane habitats. With the help of local communities and non-governmental organizations as well as international organizations like World Wildlife Fund, the Wildlife Conservation Society, the International Crane

Diversity under attack:
half of all coral reefs
are sick or dying.





Ethiopian farmers can
serve agro-biodiversity.
Farmers as far away as
California have
benefited from barley
germ plasm conserved
in GEF's project.

Foundation, and the Ford Foundation, this GEF project is providing China with new models of nature reserve management, human resource management, and land use conflict resolution. (World Bank)

◆ **Cuba's** Sabana-Camaguey archipelago (more than 2,500 islands and reefs of sand or coral) is home to sea turtles, crocodiles, manatees, black coral and numerous birds, amphibians, reptiles, invertebrates, and endangered vascular plants. GEF's project developed a strategic plan integrating management of biodiversity, islands, watersheds, and fisheries, and successfully influenced regulations related to the physical planning and construction of tourism infrastructure throughout Cuba and elsewhere in the region.

The project strengthened the technical capacities of the Ministry of Science, Technology, and Environment and other agencies to assess coastal and marine ecosystems and laid the groundwork for improved livelihoods.

This project was rated best environmental science project by the government out of more than 200 submissions in 1997. A second and final phase project has been approved by the GEF Council. (UNDP)

◆ Small farmers in **Ethiopia**, as in many other African countries, play a central role in conserving agro-biodiversity of critical value to plant breeders throughout the world. Farmers as far away as California have benefited from barley germ plasm conserved under GEF's *Dynamic Farmer-Based Approach to the Conservation of African Plant Genetic Resources* project. This was the first major program to bring together farmers and genetic research institutions on "in situ" conservation at the farm level, enabling continued evolution of valuable "land races" through farmer selection, interaction with the environment, and genetic exchange with wild species.

In addition to training farmers and extension agents and building community gene banks in six districts, the project identified incentives for conservation. It examined market and non-market forces that affect seed choices for planting and explored products based on land races for national and international markets.

Over the longer term, the project will help conserve globally important crop genetic resources; strengthen Ethiopian capacity for research and extension; serve as a model for other countries facing

CONSERVATION TRUST FUNDS

Over the past decade, conservation trust funds have helped create new national parks and expanded existing areas by providing a basic resource security for their operations. Six GEF-supported funds with operating experience have raised more than \$33 million in non-GEF contributions at the fund level. At the level of projects financed by the funds, additional resources are raised, generally including substantial counterpart contributions from recipient organizations.

Trust funds enable protected area managers to concentrate on conservation activities, attract project funding, and collaborate with communities and interested organizations. They have increased the level of scientific research applied to conservation and the participation of civil society.

Bhutan's Trust Fund for Environmental Conservation assists the government in conserving its forests and preserving biodiversity and is testing the feasibility of trust funds as a mechanism for long-term and sustainable support.

FUNBIO, **Brazil's** Biodiversity Fund, provides long-term support for biodiversity conservation, and administers a long-term grants program to promote conservation and sustainable use.



Long-distance migrants: Monarch butterflies wintering in Mexico.

donations for sustainable development and conservation through bilateral and commercial debt-for-nature swap agreements; and tests the viability of trust funds as mechanisms for providing long-term and sustainable funding for biodiversity conservation.

Uganda's Mgahinga-Bwindi Impenetrable Forest Conservation Fund supports biodiversity conservation directly by providing incremental support for park management and related research activities, and indirectly, by funding grants to help local community groups develop economic alternatives to harvesting forest resources. The park is home to the world's largest remaining gorilla population. Indigenous communities residing in and around the park are represented in the fund's management.

loss of traditional crop genetic resources and knowledge; provide farmers more secure seed sources and improved knowledge on seed selection and management; provide breeders of crop varieties with a greater range of genetic material from Ethiopia; and maintain a unique living laboratory for national and international crop scientists. (UNDP)

Guyana's forests are home to more than 1,000 tree species and 8,000 plants, half of which occur nowhere else. As the government moves to integrate its more heavily populated coastal belt with the interior, infrastructure is being improved and forested

Mexico's Nature Conservation Fund protects unique biodiversity in eligible biosphere reserves, strengthens protected areas management at the reserve level, promotes local participation, including by indigenous communities in the implementation of protected areas operating and management plans, and ensures long-term recurrent cost financing for core protection and conservation activities.

FONAPE, **Peru's** Fund for Natural Areas Protected by the State, provides a long-term and predictable source of funding, with income used for financing the management of priority protected areas; improves the Natural Resource Institute's capacity to protect and manage these areas; provides the country with a reliable institutional mechanism to channel debt

land increasingly exploited for timber, gold, and bauxite.

GEF's *Program for Sustainable Forestry* focused on the Iwokrama rain forest and laid the groundwork for sustainable conservation and forestry demonstration programs. Working closely with indigenous communities, the project resulted in: Iwokrama's establishment as an international center for rain forest conservation by the Guyanese Parliament, baseline surveys of its flora, fauna, timber, and non-timber resources; an operational field station; and a biodiversity and sustainable forestry information



The ecological features and isolation of the Seychelles have combined to yield hundreds of species found there alone.

center at the University of Guyana. The project's efforts to develop an Iwokrama business plan, fundraising strategy, and eco-tourism plan have paid off: substantial funding to carry on this work has been provided by other donors as a result of project actions. Most of these resources were not calculated as co-financing when the project was approved. (UNDP)

◆ GEF's *Conservation Strategies for Rhinos in South East Asia* project helped stabilize populations and reduce poaching of the Javan and Sumatran species of rhinos in Indonesia and Malaysia. Rhinos were moved from isolated locations into intensive protection zones and their movements monitored by radio telemetry. Local people were trained and employed to run rhino protection units in both countries, with up-to-date information on rhino status and biology. The project also helped counter habitat loss for such endangered species as the orangutan, tiger, and elephant. (UNDP)

◆ **Jordan's** Dana Nature Reserve is an arid and semi-arid area encompassing 20 percent of the nation's floral species and small but viable populations of ibex, gazelles, and wolves. Azraq Wetland Reserve

provides critical habitat to millions of migratory, wintering, and breeding birds. GEF's project created the Friends of Azraq, brokered an agreement between the government mining agency and a local cement plant to curb activities threatening Dana Nature Reserve, completed 15 baseline surveys of the core area, introduced range land zoning and management to restrict livestock grazing, and built a field center which serves as a hub for alternative income-generating activities. Visitors to the Dana Reserve in 1997 generated 70 percent of the revenue required for operations and supported the creation of 39 jobs for local people. At the Azraq Oasis, the project put in place a comprehensive water management plan (ensuring that more water would be pumped into the oasis); constructed a new headquarters, visitor center, and two ranger stations; and launched a national awareness campaign.

The protected area management model and community-based approach carried out under this project was applied successfully to several other protected areas. The Royal Society for the Conservation of Nature was strengthened in the course of executing the project, enabling it to become an effective part-

ner with government in developing national policy for protected areas. The Society now provides training courses in protected area management, public awareness techniques, and eco-tourism development for Yemen, Syria, Lebanon, and the Palestinian Authority. (UNDP)

❖ A GEF medium-sized project in **Mauritania** has helped to coordinate the recovery of the endangered Mediterranean monk seals. By mobilizing global and in-country scientific support for habitat protection, the project is implementing a rescue and rehabilitation program for the Cap Blanc colony of the seals. (UNEP)

❖ **Seychelles**, a group of 115 islands in the western Indian Ocean, contains the world's only oceanic archipelago of continental granite. Its ecological features and isolation have combined to yield hundreds of species found in these islands alone. An ecosystem new to science (the Mapou de Grand Bois community on Silhouette Island) was discovered as recently as 1983.

Fisheries and tourism, the two main sources of economic growth, both depend on a healthy environment. GEF's project has two thrusts: biodiversity conservation and the abatement of marine pollution. It has worked to protect the Green and Hawksbill marine turtles, controlled feral goats, staffed and upgraded the Picard Island scientific research station, and promoted improved ship wastes treatment facilities. Harvesting of turtles has now been prohibited by law, monitoring of turtle populations is underway, and a tortoise management plan is under development. Turtle shell carvers were directly involved in planning a retraining program that has enabled them to start new businesses. (World Bank)

❖ Three-fourths of all documented bird and mammal extinctions have occurred in the **South Pacific**. Previously established nature reserves failed to protect the region's biodiversity because they raised conflicts with local communities, were too small to be ecologically viable in the long term, and depended on donor aid.

GEF's *South Pacific Biodiversity* project identified, established, and initiated 14 conservation areas in 11 countries. Each is served by a conservation area coor-

inating committee to ensure participation in management. Local communities are permitted to use the areas for subsistence. Trust accounts have been established with funds from income-generating activities to support the areas following project completion.

The project launched a regional "year of the sea turtle" campaign which resulted in a four-year moratorium on commercial harvesting of sea turtles in **Fiji**, and helped develop a whale-watching industry in **Tonga**, which is withdrawing its support for renewed whaling.

This GEF initiative helped communities research income options, initiated an agro-forestry trial and seven eco-tourism projects, trained Pacific Island nationals in conservation management and sustainable development, and established a regional biodiversity database and monitoring systems. (UNDP)

❖ **Ukraine's** portion of the Danube Delta and its associated wetlands cover some 150,000 hectares in southwest Odessa. Just 15,000 hectares are protected, all in the Danube Plavny Nature Reserve. The delta is also an agricultural center for wheat, grapes, maize, sunflower, rice, and livestock. Construction of dikes and lakes for irrigation had reduced water quality and flow. Wetland ecosystems were degraded and several fish species were threatened by pollution and overfishing. GEF's project has helped restore wetlands, improving water circulation in some and blocking a connection between the delta and a coastal lake in another instance. The project expanded the area of the reserve, strengthened its management, and led to its designation as a biosphere reserve. (World Bank)

❖ Half of **Vietnam's** forest cover was lost during the war years, and deforestation has continued due to uncontrolled logging, high population growth in forested areas, and slash and burn agriculture. Even so, Vietnam is a country with internationally recognized biodiversity, as demonstrated by the recent identification of two large mammal species new to science.

This GEF project developed and secured approval of a biodiversity action plan, with specific actions, time frames, and budgets necessary to preserve Viet-

GEF'S SMALL GRANTS PROGRAM

◆ Administered by UNDP, this program complements and contributes to the larger GEF work program by supporting community-based activities addressing local aspects of global environmental challenges. In GEF's pilot phase (1991-1993), small grants of up to US\$50,000 were awarded to 720 different community groups, non-governmental organizations, and NGO networks in 33 countries.

From 1994 to 1998, some 450 projects were funded with many more in development or under review. These projects primarily target poor, rural communities in which livelihoods depend directly on the natural resource base.



Building a dry dam in Mali, a young laborer in Burkina Faso, and Moroccan women: GEF's small grant program makes the most of NGOs and community-based organizations to pursue innovative solutions to natural resource management.

The grants program works to encourage application of locally appropriate solutions and the participation of local stakeholders as essential partners in efforts to address global environmental issues.

The program operates on the premise that people will be empowered to protect their environment when they are organized to take action, have a measure of control over access to the natural resource base, have the necessary information and knowledge, and believe that their social and economic well-being is dependent on sound long-term resource management. By raising public awareness, building partnerships, and promoting policy dialogue, the program also seeks to help create a more supportive environment within countries for achieving sustainable development and addressing global environment issues.

Local NGOs or community-based organizations implement most activities funded by the grants program. Due to their small size, administrative flexibility, and relative freedom from political constraints, these organizations can pursue innovative solutions to the complex problems typical of GEF focal areas. NGOs and community-based organizations are also able to build a high degree of trust with low-income people. This leads to their fuller participation — often through collective action — in their own development and natural resource management.

The program has operated in 46 countries: **Antigua and Barbuda, Barbados, Dominica, Grenada, St. Christopher and Nevis, St. Vincent and the Grenadines, St. Lucia, Belize, Bhutan, Bolivia, Botswana, Brazil, Burkina Faso, Cambodia, Cameroon, Chile, Costa Rica, Côte d'Ivoire, Dominican Republic, Ecuador, Egypt, Ghana, Guatemala, India, Indonesia, Jordan, Kenya, Lao PDR, Malaysia, Mali, Mauritius, Mexico, Morocco, Nepal, Pakistan, Palestinian Authority, Papua New Guinea, Peru, Philippines, Senegal, Sri Lanka, Suriname, Tanzania, Thailand, Trinidad & Tobago, Tunisia, Uganda, Vietnam and Zimbabwe.**

Going forward, the Small Grants Program expects to sharpen its funding focus to achieve global benefits and to better align with GEF's operational strategy and programs. Up to five new countries representing different regions of the world are expected to join the program.

THE MESOAMERICAN BIOLOGICAL CORRIDOR

◆ Eight countries (**Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama**) are participating in this GEF-funded regional program for the consolidation of the Mesoamerican biological corridor, a proposed network of protected areas and their buffer zones to be linked by biological corridors with a variety of uses and degrees of protection. The goal is to protect the region's rich biodiversity across a diverse landscape of some 770,000 square kilometers.

A priority of the Central American Alliance for Sustainable Development, this program—jointly implemented by UNDP, UNEP, and the World Bank — is providing technical assistance that will enable governments and communities to integrate conservation and sustainable uses of biodiversity within the framework of economic development priorities over the medium to long term.

◆ For example, **Nicaragua's** Atlantic slope accounts for more than half of the country's 12 million hectares and contains outstanding biological diversity and habitats that are nationally and globally recognized. This region includes the largest remaining area of relatively pristine forest in Central America and serves as a vital link in a chain of humid forest stretching from Mexico to Colombia.

Growing concern that the biological riches of the Atlantic slope are threatened by unsustainable patterns of frontier development led Nicaragua to request GEF assistance through the World Bank in undertaking an ambitious management program, generating long-term national and global benefits. The project will:

- ◆ *Establish a mechanism, based on municipal governments and community organizations, for reducing poverty through rural investment, and small-scale communal productive activities*
- ◆ *Ensure that central government institutions can provide a coherent overall framework for natural resource policy making and enforcement, accounting for global, national, and regional environmental priorities*
- ◆ *Promote the long-term integrity of a biological corridor along the Atlantic slope of Nicaragua, conserving key global biodiversity values and ensuring a critical link in the regional Mesoamerican biological corridor.*



Guatemalan women at work: the goal is to protect the region's rich biodiversity while integrating sustainable uses into economic development priorities.

nam's biodiversity and protect remaining natural forest lands through a system of protected areas, community buffer zones, conservation measures, and sustainable use of biological resources outside of protected areas.

The project also established conservation training centers at three national parks, where more than a thousand park guards, rangers, area managers, technicians, scientists, and provincial and central government staff have learned about conservation methods and techniques and other environmental issues. (UNDP)

◆ The *Global Biodiversity Assessment* financed by GEF has become a standard scientific reference on the main issues of biological diversity. A large number of scientific organizations, donor agencies, and private sector entities are using the assessment as a foundation for their biodiversity initiatives. (UNEP)

◆ GEF support for the development of common methodologies for conducting biodiversity as well as climate change country studies and assessments has provided important tools and models for many nations, including countries not involved in these activities, to carry out similar projects. (UNDP & UNEP)

◆ GEF is assisting 125 countries as they develop National Biodiversity Strategies and Action Plans for submission to the Convention on Biological Diversity. (UNDP & UNEP)

◆ A *Biodiversity Data Management* project assisted numerous countries as they conducted national institutional surveys of existing capabilities for handling biodiversity data and prepared national guidelines for improved data management. (UNEP)

◆ **Bhutan** lies entirely within the eastern Himalayas, one of the world's ten biodiversity "hotspots." Jigme

Dorji National Park, largest in the nation, contains some 1,500 species and 144 families of plants. Many have special agricultural, commercial, medicinal, and traditional significance to the 6,500 people living in the area. The park connects four adjacent protected areas, linking high alpine grasslands with lowland forests. Of 31 mammals and more than 300 bird species found in Jigme Dorji, the Bengal tiger, red panda, musk deer, blue sheep, snow leopard, and takin, a large ruminant resembling a goat, are endangered.

A GEF-funded project is strengthening park protection through better demarcated boundaries, training, basic infrastructure development, and improved zoning in consultation with 13 local communities. It is also generating new economic opportunities based on traditional agriculture and livestock raising as well as the nontraditional supply of electricity from micro-hydroelectric facilities. (UNDP)

◆ Ten million hectares extending the entire length of **Colombia's** Pacific coast—a region known as the Chocó — has one of the greatest plant diversities on earth. People living there have the country's highest poverty rate. The initial work plan for GEF's *Conservation of Biodiversity in the Chocó Region* project was distributed for comment in 1993 to more than 150 groups. Follow-up workshops built a consensus among diverse and often contentious interests that has reversed the traditional process of most development programs: the local community became the project's primary designer and implementor. Project responsibilities are now distributed among eight national and local NGOs, 27 Afro-Colombian grassroots organizations, four indigenous people's grassroots organizations, six universities, and two scientific research groups. (UNDP)

● GEF funds are being used in **Ghana** to design and implement a coastal zone management plan to protect five environmentally sensitive and threatened coastal areas. The Ghana Wildlife Society, a national NGO, implements the community-based activities, including formation of local site development committees, which are the main decision making bodies in the management of the wetlands and coasts.

Muni and Sakumo lagoons, Songor and Anlo-Keta

lagoon complexes, and the Densu River Delta represent a variety of wetland ecosystems, including open and closed brackish lagoons, river deltas, and estuaries. The Songor and Anlo-Keta sites in the Volta Delta are important nesting sites for three species of threatened or endangered sea turtles. Sakumo Lagoon and Densu Delta/Panbros Salt Pans in the Accra Tma metropolitan region have been designated for greenbelt, open space, and recreation zones.

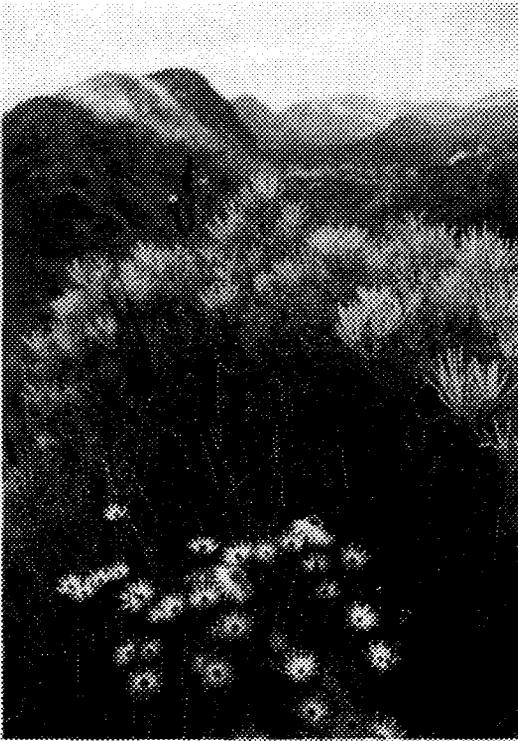
These wetlands protect more than 80 percent of the migratory waterbirds that stop in Ghana. All five are internationally important waterfowl habitats protected under the Ramsar Convention. Peak populations of more than 100,000 shorebirds and waders have been recorded. (World Bank)

● **Indonesia's** 17,000 islands make it the world's largest archipelago. Coral reefs, sea grasses, and mangroves shelter 2,500 species of mollusks, 2,000 crustaceans, six species of sea turtles, 30 marine mammals, and over 2,000 fish species. For the more than 67,000 villages dotting Indonesia's 81,000 kilometers of coastline, coral reefs are a major productive and aesthetic asset, playing a key role in fisheries, marine tourism, and coastal protection. But because of destructive fishing practices, coral mining, sedimentation, land-based pollution, and physical damage linked to fishing and tourism, more than two-thirds of Indonesia's reefs are now in poor to fair condition.

GEF's *Coral Reef Rehabilitation and Management* (COREMAP) program is working to establish a sound framework for effective management of reef systems and put in motion measures to stop their deterioration. The first phase of a 15-year effort aims to develop community awareness and participation, improve management of existing marine conservation areas and expand to new sites, increase and improve institutional coordination, create an information and research program for coral reefs, and increase and improve surveillance and enforcement systems. (World Bank)

● The **Lao People's Democratic Republic** (Lao PDR) depends on its still extensive forests to support the bulk of its people and to earn foreign exchange. GEF's *Wildlife and Protected Areas Conservation* project is supporting the development and management of

SOUTH AFRICA'S CAPE FLORAL "KINGDOM"



● **South Africa** is the only country encompassing an entire plant kingdom (the Cape Floral Kingdom) within its borders. Cape Peninsula, in the southwest, has the highest plant diversity of any similarly sized temperate or tropical region in the world. If left uncontrolled, invasive alien plant species threaten to overwhelm the Cape's native vegetation.

In 1993, the World Wide Fund for Nature-South Africa established the Table Mountain Fund to mobilize community support for conservation of the Cape Peninsula and to finance small-scale NGO and community-managed conservation initiatives. By supplementing the Fund's capital resources, GEF's project will increase NGO and community conservation activities that complement management efforts by the national parks board. This will strengthen the campaign, within and outside the park boundaries, to clear plants alien to the peninsula (in particular, acacia and pine trees) and take other measures to combat invasive species.

GEF resources have initiated preparation of a comprehensive strategic plan for the entire Cape Floral Kingdom, identifying information gaps, prioritizing and commissioning conservation planning work to close these gaps, and exploring funding possibilities for the future. (World Bank)



A GEF-WWF partnership (left) protects Cape Peninsula from invasive species. Southwestern South Africa has the highest plant diversity of any similar size region in the world.

four new protected areas in partnership with nearby communities. Over the long term, the project will protect important watersheds and wildlife habitats supporting the nation's more than 10,000 species of plants and animals. (World Bank)

● In ten priority areas representing the **Philippines'** six most important bio-geographic zones, a GEF project

is working to improve protected area management, incorporating local non-governmental organizations (NGOs) and communities into protected area management, and supporting alternative economic activities compatible with biodiversity protection.

The sites cover a total of 1.25 million hectares, including forests, wetlands, and marine areas, of



Women in the marketplace
Indonesia's more than
67,000 coastal villages
depend on coral reefs
for fisheries, tourism,
and coastal protection.

which significant tracts of forests are legally declared indigenous territories. Major project responsibilities are in the hands of a consortium of non-governmental organizations. (World Bank)

• The Convention on Biological Diversity has recognized that biotechnology can contribute to the improvement of agriculture, fisheries, forestry, industry, health care, and environmental management but also to the loss of important natural resources owing to adverse impacts caused by the introduction of liv-

ing modified organisms. To help countries regulate and manage risks associated with biotechnology, UNEP and government experts drafted *International Technical Guidelines for Safety in Biotechnology*.

GEF's *Pilot Project on Biosafety* is assessing what the capacity-building needs in developing countries might be. It is assisting 18 representative countries through the development of national biosafety frameworks, and through regional workshops and consultations.

Combating Climate Change & Promoting Energy Development



❖ Most households in **Benin** rely on firewood for cooking and other energy needs. Together with slash and burn agriculture, this practice was deforesting the country's woody savannas at a rate of 100,000 hectares per year and contributing to increased carbon dioxide emissions. Benin's annual per capita gross domestic product of just \$380 limits options. Unless energy and agricultural systems change, desertification will advance further into remaining woody savannas.

In GEF's *Village-Based Management of Woody Savanna and the Establishment of Woodlots for Carbon Sequestration* project, eight government ministries and numerous local and national NGOs cooperated to sustainably manage three protected forest areas covering about 126,700 hectares. The project educated farmers, herders, hunters, and traditional beekeepers on the crucial role of trees in woody savannas; taught women how to build improved, energy-saving cooking stoves; and engaged local people in the development of rules, techniques, and management plans for the sustainable multipurpose use of forest resources (including fire protection systems, wildlife management, and sustainable livestock grazing initiatives).

The project helped most local people switch to controlled early burning and controlled site clearing. More herders are now growing legume trees to feed their animals. More than 600,000 seedlings were planted with an average survival rate of 70 percent.

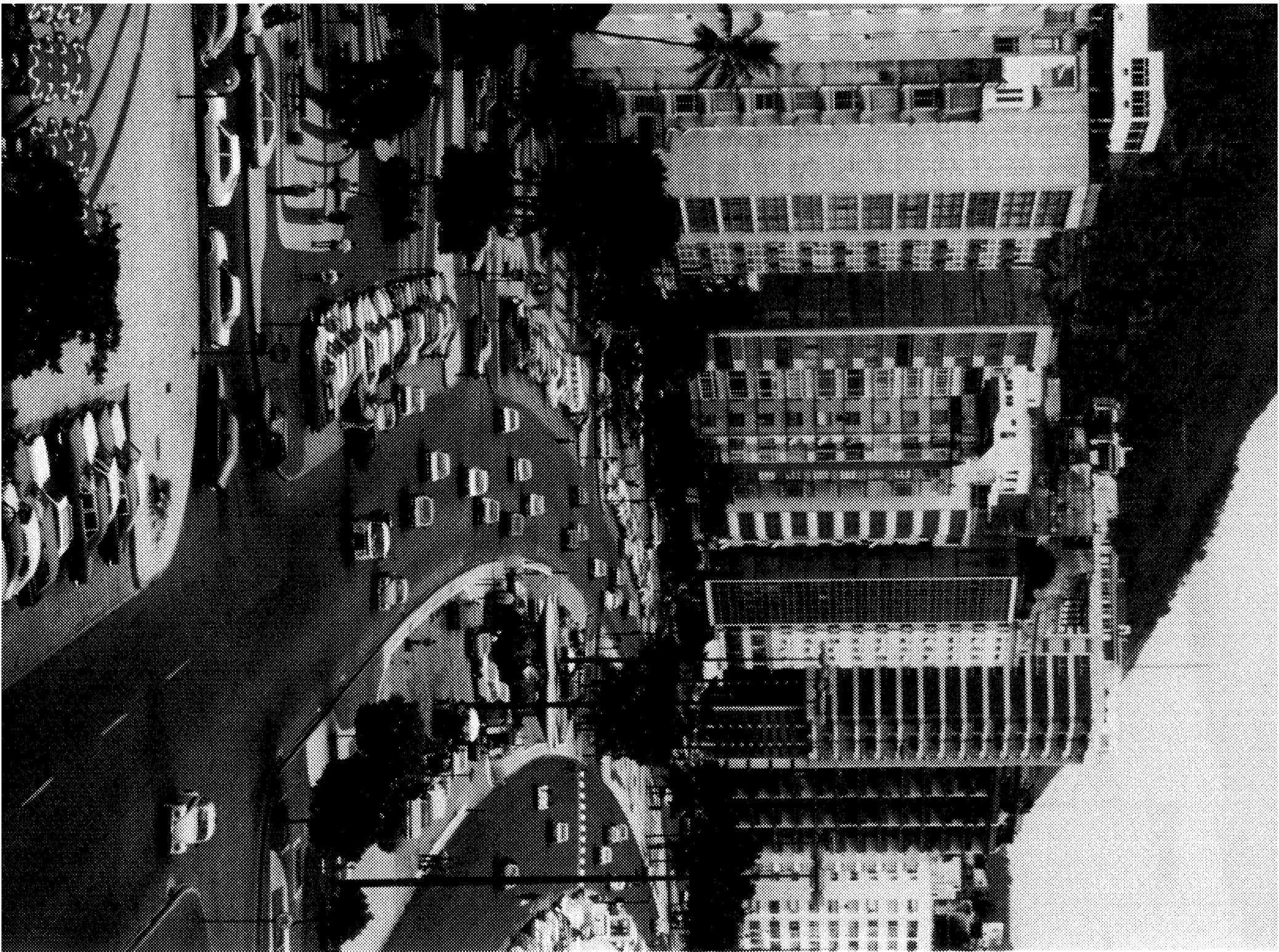
❖ More than 2 billion tons of biomass residue from agriculture and the forest industry are produced annually worldwide. These residues are either burned or left to rot, a process that oxidizes their carbon content into carbon dioxide released into the atmosphere as a greenhouse gas.

Brazil is at the forefront in the use of renewable energy resources. It produces 95 percent of its electricity from hydro power and 30 percent of its gross domestic primary energy consumption from biomass products. Half of the energy derived from biomass in Brazil today is produced commercially from sustainable forests and plantations, providing energy to steel, sugar cane, and pulp and paper industries. Pig iron and steel industries use charcoal made from short-rotation crops of eucalyptus forests.

A GEF project seeks to demonstrate the potential for biomass as fuel for power generation. An energy consortium is constructing a 32-megawatt power plant in the state of Bahia that will use a biomass integrated gasification/gas turbine with a combined cycle technology. This technology was developed under an earlier project involving both UNDP and the World Bank, the Rockefeller Foundation, and a number of private companies, including General Electric.

Eucalyptus chips from the consortium's own plantation will supply about 60 percent of the plant's fuel; the rest will come from third-party forest plantations. The consortium will sell the electricity generated through a long-term contract, providing sufficient revenues to ensure the plant's continued economic operation. Over the long term, this type of plant should become more technically, financially, and economically viable as the learning curve on this technology goes down and it becomes competitive with other alternative energy sources.

In addition to eliminating carbon dioxide emissions that would have been produced by thermal generation, the project promises to help establish



globally replicable, commercial-scale demonstration technology for generating electricity and provide new jobs in rural areas. Owing to the labor intensive nature of biomass fuel production, a Princeton University study concluded that 240,000 jobs could be created by replicating the demonstration plant throughout Brazil's northeast. (World Bank)

Atmospheric concentrations of methane, a greenhouse gas up to 20 times more potent than carbon dioxide, are rising due to human activities. Fortunately, efforts to control methane emissions, in contrast to other greenhouse gases, bring greater rewards. Reducing methane emissions lowers atmospheric concentrations more quickly, and smaller reductions are needed to stabilize these levels. In addition, methane is a useful energy source when captured and used effectively; reductions can pay for themselves or even earn a profit.

Coal mining contributes an estimated 10 percent of total methane emissions from human activities. A third of these emissions come from **China**, the world's largest coal producer. Of 600 state-run coal mines, only 40 have systems in place to recover and use the methane. With the right external assistance and training and storage and distribution systems, coal bed methane recovery could grow by as much as 25 to 30 percent annually and contribute 5 to 6 billion cubic meters by 2000.

GEF's *Coal Bed Methane* project addressed safety issues and demonstrated at three mining sites a wide variety of techniques and technologies Chinese coal mines can employ to reduce atmospheric methane emissions and recover clean-burning methane as a fuel.

The project helped China make landmark policy and institutional reforms, including creation of the China United Coal Bed Methane Corporation and regulatory reforms putting methane on an even economic footing with other similar fuels in China's energy market, that support replication of coal bed methane recovery.

The Chinese Ministry of Coal has since negotiated joint exploration agreements with Philips-U.S., Amoco, Enron, Arco, Texaco, and other companies for additional coal bed methane projects. The Asian

Development Bank and Asia-Pacific Economic Cooperation have also designed coal bed methane projects in China using the model developed by the GEF. (UNDP)

When GEF first broached the possibility of a wind energy initiative in **Costa Rica** in 1992, commercial developers were not interested. Through preparation of the *Tejona Wind Power* project, GEF demonstrated its financial and technical viability. Private developers are now planning a 40-megawatt wind farm without GEF assistance and are looking to invest in similar facilities in other developing countries.

India's electricity sector depends heavily on coal, and household energy needs are usually met by burning cow dung, wood, or crop residues. In the early 1990s, the Indian Renewable Energy Development Agency was searching for ways to attract both users and investors to viable alternative technologies. GEF's *Alternate Energy* project lowered market barriers and promoted investment in wind farms by demonstrating commercial credit and leasing arrangements, as well as model contracts between private power developers and state utilities. The project also allowed first-time investors to access slightly below-market loans to establish modest commercial systems.

It financed 41 megawatts of wind power with Indian co-financing (public and private) of \$61 million, more than twice GEF's \$26 million investment. Following the project, public utilities and private energy developers have applied the GEF credit and service models in follow-on projects which have added several hundred megawatts of new wind energy nationwide. A local manufacturing base for producing wind power generation equipment also emerged as a result.

Mauritania is one of the windiest countries in West Africa, while petroleum products must be imported, reflected in high prices for kerosene in rural areas. GEF's *Decentralized Wind Electric Power for Social and Economic Development* project sought to build a financially self-sustaining local private sector to support the manufacture, assembly, installation, and maintenance of wind electric technology.

The project provided electricity to 900 households as well as wind-generated electrical services—energy

Urban Brazil: The nation gets 30 percent of its energy from biomass; a GEF-funded project in Bahia seeks to demonstrate a new biomass gasification technology which turns eucalyptus chips into electricity.

Bicycle commuters in Beijing. With GEF assistance, China is working to address air pollution which, according to a recent study, costs the country as much as 5 percent of its gross domestic product (GDP).

to pump and purify water and run health stations and public lighting, refrigeration for fishing villages, ice making, small-scale irrigation, and lighting for small stores and workshops.

A second phase of the project, to bring wind power to another 8,000 households, is being funded by the French government's Global Environment Facility. (UNDP)

✦ Using conventional means to meet **Mexico's** fast rising electricity demand would have required an additional 14,000 megawatts of installed capacity over the next decade, at a cost of \$3 billion per year.

GEF's *High Efficiency Lighting Pilot* project, or "Illumex," replaced more than 1.7 million incandescent light bulbs in the cities of Guadalajara and Monterrey with compact fluorescent bulbs.

Cost-saving energy efficiency technologies like this one sometimes are not adopted readily due to higher first cost, lack of awareness, and other barriers. To entice consumers to pay the initially higher cost of high-efficiency bulbs, Illumex provided rebates and financing through its utility bills. The project deferred new generating capacity and cut annual carbon dioxide emissions by 90,000 tons. Airborne particulates, a local health hazard, and sulfur dioxide and nitrogen oxides pollution were also reduced.

Consumers and businesses in the two cities installed nearly 400,000 more energy-efficient lights than GEF had projected, avoiding an additional 20,000 tons of carbon dioxide emissions. The project's success has convinced Mexico to dramatically expand energy efficiency programs in other locations and sectors. (World Bank)

✦ GEF is supporting other energy efficiency programs, addressing demand as well as supply-side problems, in **Brazil, Bulgaria, Chile, China, Côte d'Ivoire, Egypt, Jamaica, Poland** (see below), **Russia, Senegal, Syria, Thailand**, and a number of other nations.

✦ In the early 1990s demand for electric power in the **Philippines** far outstripped supply. Prolonged outages hampered industry and commerce, costing the economy jobs and an estimated US\$1 billion a year in lost productivity.

GEF's *Leyte-Luzon Geothermal* project is promoting the use of an indigenous form of energy which is



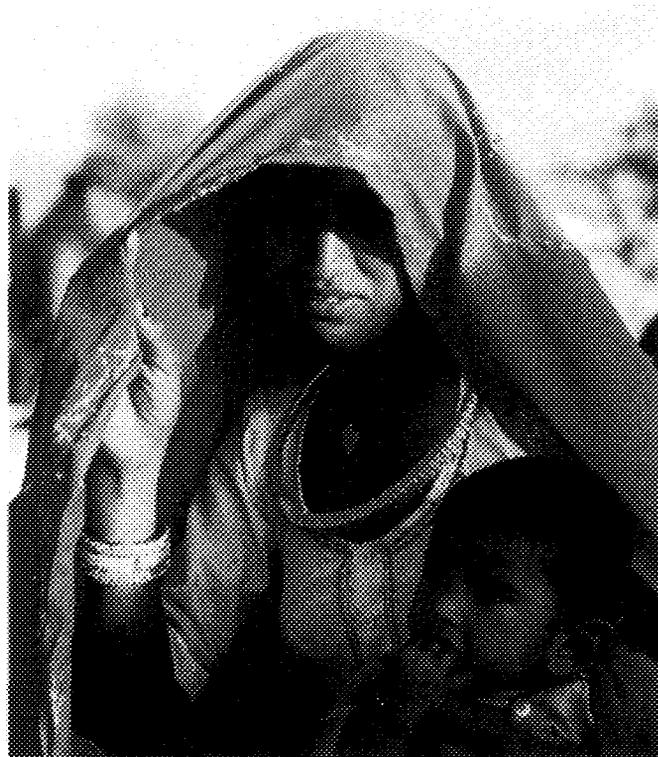
also environmentally friendly. Although the GEF grant was small relative to the total project cost (more than \$1 billion), it encouraged the government to choose geothermal over the least-cost coal alternative.

The project is building 440 kilometers of twin overhead transmission line from two new converter stations to their respective cable terminal stations. Extending the national power grid will support private sector participation in power generation. Over the long term, the project will provide a reliable, cost-effective, and environmentally benign power supply to the Luzon region while reducing emissions of carbon dioxide by 120 million tons over 25 years. (World Bank)

✦ Efforts to expand community participation in GEF's *Small Hydroelectric Resources in Hilly Regions* project are now leading state governments in India to adopt this approach more broadly with the small-scale hydroelectric sector. (UNDP)

✦ **Poland** is generally acknowledged as one of the 12 largest emitters of carbon dioxide in the world. Major opportunities for energy conservation do exist—among them, energy-efficient light bulbs made and/or assembled locally.

Five Polish manufacturers of compact fluorescent lights participated in a GEF-funded utility demand-side management program through a competitive process. The project awarded about \$2.6 million in subsidies for 1.2 million compact fluorescent lights



for residential and small business use. It also conducted a high-profile national public education campaign, targeted school children in an environmental education effort that retrofitted three Polish schools, and conducted a pilot demonstration program of the distributed utility concept in three small municipalities.

This pilot activity installed compact fluorescent lights to demonstrate that efficient lighting can be used by utilities to reduce and manage peak electricity consumption. Here, as in other countries, GEF found that the success of demand-side management activities is strongly linked to effective public awareness and information campaigns. The project commissioned a Polish advertising agency to promote energy-efficient lighting on television, in print media, and through other means.

This program helped spur significant growth in the local market for compact fluorescent lighting; average CFL product prices have been reduced by 32% since the program began. The project has directly resulted in power savings of 628 gigawatt hours and reduced emissions from coal-fired generation plants by 602,000 metric tons, exceeding its original goals. (World Bank/International Finance Corporation)

❖ In a measurement taken in 1989, 30 percent of carbon dioxide, methane, chlorofluorocarbon, and nitrous oxide emissions originated in Asia, and the region's share of emissions is expected to increase

steadily through 2025. Teams of experts from **Bangladesh, China, India, Indonesia, Mongolia, Philippines, Pakistan, Republic of Korea, Thailand, and Vietnam**, home to half the world's population, came together to design cost-effective plans to address greenhouse gas emissions in GEF's *Asia Least-Cost Greenhouse Gas Abatement Strategy* project. National teams were drawn from private consulting groups and research institutions, including national universities, with expertise in climate change issues.

China and the Philippines completed national workshops on least-cost abatement strategies and eight other countries conducted national workshops on greenhouse gas mitigation options. This regional effort also involved empirical measurements of methane emissions from rice paddies, country level application of climate change models, creation of a regional database on climate change, and preparation of greenhouse gas mitigation projects. (UNDP/Asian Development Bank)

❖ A similar initiative involving four countries in sub-Saharan Africa—**Ghana, Kenya, Zimbabwe, and Mali**—led to increased capacity to inventory greenhouse gas emissions and their sinks, cost-effective options based on these inventories, and a spectrum of project proposals suitable for public or private funding. (UNDP)

● Widespread use of coal has created severe local air pollution in **China**. Its cities have some of the highest

Clean energy GEF's *Alternate Energy* project has led to wide replication of renewable energy technologies in India. Several hundred megawatts of new wind power were added after the project, without additional assistance.

particulate and sulfur dioxide concentrations in the world. (A recent World Bank study found that pollution, largely in urban areas, is costing the country as much as five percent of GDP.)

GEF's *Efficient Industrial Boilers* project is adapting high-efficiency foreign technologies to local conditions for small and medium-size, coal-fired industrial boilers. These technologies use less coal and emit less pollution. The urban areas selected to participate in the pilot dissemination program are Shanghai and Jinan; residents of many more Chinese cities will benefit from this improved technology in the near future.

Chinese boiler enterprises are financing \$20 million of this project, complimented by a local Chinese bank loan of nearly \$50 million.

● A newer initiative, GEF's *China Energy Conservation* project, also has replication built into its design. The project is supporting the establishment, pilot-testing, and commercial demonstration of market-oriented energy management companies that will promote investments in energy-efficient technologies through a mechanism known as "energy performance contracting." (Customers are guaranteed financial savings through the use of higher efficiency technologies. A portion of the savings rebounds to the company to cover costs.) After a pilot phase in three provinces, this project will be expanded to other regions, with Chinese-foreign joint ventures envisioned.

● There are some 300 to 400 million households worldwide, nearly 2 billion people, without electric power who are unlikely to receive grid power in the near future. Other potential applications for stand-alone renewable power systems range from water pumping and agricultural uses to captive power for companies or even grid augmentation. The *Photovoltaic Market Transformation Initiative* (PVMTI) is beginning to address this opportunity by supporting private sector investments to expand the market and use of photovoltaics in three countries: **India, Kenya, and Morocco.**

Photovoltaics convert sunlight into electricity using a modular, zero-emission technology. PVMTI seeks to accelerate their commercialization and market penetration by investing in sustainable and replicable business and financing models, and demonstrat-

ing that the large-scale use of photovoltaics is one of the best long-term strategies for reducing greenhouse gas emissions in developing countries.

The project will directly engage the private sector (the best agent for catalyzing investment and business activity, as well as overcoming and reducing barriers) by making concessional investments in commercially oriented projects. It is expected that the project will generate competition and stimulate joint ventures at the country and international levels, pioneer a variety of financing mechanisms, and promote public-private partnerships that will transform photovoltaics and offer significant progress toward reducing global greenhouse gas emissions. (World Bank/IFC)

● GEF's *Solar Thermal-Electric* project is financing the incremental costs of construction and operation by the private sector of a grid-connected, 140-megawatt solar-thermal/fossil fuel hybrid power plant in the state of Rajasthan in India, incorporating a parabolic trough solar thermal field of about 35 to 40 megawatts. With \$196 million in cofinancing from the German bank KfW and local power producers, this plant will demonstrate the operational viability of solar trough technology and its use by independent power producers with commercial sales and delivery arrangements to the grid. The project is designed to stimulate the expansion of solar-thermal technology worldwide. (World Bank)

● Even with some of the richest reserves of oil, natural gas, coal, hydro, and geothermal energy in the world, **Indonesia** has been unable to extend electrical power to more than 115 million of its citizens, nearly 60 percent of its population. Most who do without electricity live on remote outlying islands in Indonesia's huge archipelago, which extends 5,100 kilometers east to west and 1,800 kilometers north to south. As many as 39,000 villages are dispersed among 13,600 islands other than the two largest, Java and Bali. Individual households also tend to be scattered over some distance, complicating energy delivery.

Indonesia has sponsored a series of pilot solar photovoltaic demonstration programs; 20,000 solar home systems have already been installed. However, such projects have been hampered by a lack of in-



country experience in organization and financing. Efforts have not focused on cost recovery or building a base for future product or market development. Nor have they offered a means to mainstream private sector delivery and sustainability.

This project will support installation of about 200,000 such systems in up to four regional markets, focusing on areas that are too remote to connect to existing electrical power grids but reasonably close to urban centers.

A \$20 million World Bank loan and \$24 million GEF grant will enable rural households and commercial establishments to purchase solar home systems on an installment plan basis. Technical assistance will strengthen the Indonesian Agency for the Assessment and Application of Technology's testing and certification capabilities for solar home systems.

Over time, the project will provide electricity to many rural residents now without it, involve the private sector in commercializing renewable energy, promote environmentally sound energy resource development, strengthen Indonesia's capacity to support and sustain decentralized rural electrification through solar photovoltaics, and mitigate greenhouse gas

emissions from fossil fuel electrical generation in rural areas, estimated at 2.2 million tons of carbon dioxide.

● A GEF project is promoting geothermal energy in **Lithuania** at a demonstration site in Klaipeda, the nation's third largest city, situated on the Baltic coast. The plant will produce up to 650 terajoules per year, the equivalent of 16,500 metric tons of oil. Continued development of Lithuania's geothermal resources could meet up to 20 percent of district heating demand, reduce annual carbon dioxide pollution by 750,000 metric tons and sulfur dioxide emissions by 22,000 metric tons, and serve as a model to other Baltic nations. (World Bank)

● Solar power is a particularly attractive option for **Tunisia** because sunshine there, unlike fossil fuels, is virtually unlimited. GEF's *Solar Water Heating* project is mobilizing grant and local financing combined with technical assistance to procure technologically efficient, price-competitive solar water-heating equipment on the international market. To make this equipment economically attractive and sow the seeds of a self-sustaining market, GEF is also subsidizing 25 percent of the equipment's cost to users.

A GEF project promoting energy efficient light bulbs in Poland produced power savings of 628 gigawatt hours and reduced emissions from coal-fired generation plants by 602,000 metric tons.

Reversing the Degradation of International Waters



Untreated sewage, industrial effluents, oils, pesticides, and hazardous wastes from land and sea-based activities are polluting the East Asian Seas. One-sixth of the world's people live along their shores.

• The Black Sea is a vacation destination for 40 million tourists annually and once supported two million fishing families. Sixteen countries with 162 million people generate enough pollution to make this water body the most seriously degraded regional sea on the planet. Major land-based sources of pollution include sewage and industrial and agricultural effluents. Minor impacts result from oil, garbage, and toxic waste from commercial and military shipping and offshore oil exploitation. The combined effect of over-fishing, eutrophication, loss of tourism, health care costs, and procurement of alternative drinking water supplies totals more than \$1 billion each year.

Six of the 16 nations draining to the sea (**Bulgaria, Georgia, Romania, Russia, Turkey, and Ukraine**) participated in the GEF project, *Developing the Implementation of the Black Sea Strategic Action Plan*, which identified and quantified all main sources of pollution, and developed an integrated coastal zone management plan to address agricultural development, fisheries, urban waste, and the restructuring of industries and port facilities. Pilot programs to implement this plan were developed in parallel with improvements in tourist facilities and fisheries. The project also established training facilities, harmonized water quality standards, set emission limits, and led all participating countries to agree on analytical procedures. (UNDP)

• The Danube River basin drains close to 800,000 square kilometers in the heartland of **south-central and southeastern Europe**. The river itself, close to 3,000 kilometers long, has irreplaceable value, providing a vital resource for power generation, transport, fishing, and tourism. Urban populations generate pollution from largely inadequate wastewater

treatment, and solid waste disposal and agricultural run-off overburdens the system with nutrients, while industrial discharges from textile, mining, chemical, pulp, paper, and metal processing seriously threaten surface and ground water.

GEF's *Danube River Basin Environmental Management* project, executed by the U.N. Office of Project Services, established a network of government ministries, national and local government agencies, industries, agricultural bodies, and non-governmental organizations within Danube countries. It also fostered consultations leading to the development and implementation of a strategic action plan and a second GEF project to reduce pollution in the Danube basin and also mitigate downstream effects on the Black Sea. (UNDP)

• The Gulf of Guinea is a large marine ecosystem extending from **Guinea-Bissau to Gabon** in western Africa. Endowed with commercially valuable fish species, both deep sea and coastal, the gulf produces an estimated one million metric tons of fish annually, of which a third is exported.

Despite their importance, none of the gulf's mangroves were protected and many were subject to industrial, urban, agricultural, and other forms of pollution.

GEF's *Industrial Water Pollution Control in the Gulf of Guinea Large Marine Ecosystem* project, executed by the United Nations Industrial Development Organization, formulated a program for pollution control, developed mechanisms to promote the health of the ecosystem, and set up demonstration sites for mangrove protection and waste reuse and recycling. (UNDP)

• The economic demands on oceans, in terms of protein, fiber, metals, minerals, and energy, continue



MARINE POLLUTION PREVENTION & MANAGEMENT IN THE EAST ASIAN SEAS

✦ The maritime countries of East Asia hold one-third of the world's population, and more than half live in the coastal zone. During the last few decades, however, rapid industrial development, coupled with the expansion of maritime trade, have placed the East Asian Seas under severe environmental stress. These waters have become contaminated by untreated sewage, industrial effluents, oils, pesticides, and hazardous wastes from land and sea-based activities.

GEF's *Marine Pollution Prevention & Management in the East Asian Seas* project was designed to demonstrate how marine pollution can be prevented and managed in developing countries through the application of appropriate policy, institutional, and technological interventions. Eleven countries participated in the regional initiative.

Project-funded demonstration sites at Xiamen, **China**, and Batangas Bay in the **Philippines** serve as laboratories for hands-on training on integrated coastal management for planners, managers, economists, and natural scientists. Inter-sectoral councils were established to develop policies with the participation of a wide diversity of stakeholders. In addition to workshops and conferences, over 300 professionals attended integrated coastal management training courses that have played a crucial role in regional capacity building.

Waste management was developed as an opportunity not only to protect the coastal area, but to improve social well-being, create jobs, enhance quality of life, develop new commercial activities and markets, and reduce operating costs.

Results include comprehensive marine management legislation approved by the People's Congress of China, and a strategic environmental management and action plan for Batangas Bay. The project set a precedent for public consultation and scientific input throughout the region, and conflicts among users are now being resolved in ways that favor the sustainable use of the marine environment. Consistent government policies are encouraging private sector involvement in the construction of environmental infrastructure and the provision of services.

A third demonstration site in the **Molucca Straits** resulted in environmental and risk assessment principles that are being used as the basis for a follow up initiative in shipping. (UNDP)

to grow. Offshore drilling provides more than 20 percent of all petrochemicals and natural gas. Fisheries and shipping continue to expand.

The challenge for many developing countries lies in devising integrated management skills and technologies to exploit these marine resources, while protecting the ocean environment for future generations. GEF's *Support for Regional Oceans Training* project reinforced the capacity of developing countries to manage their ocean resources by assisting the International Ocean Institute in setting up four new operating centers in **Colombia, India, Fiji, and Senegal** to develop curricula and train scientists and officials from their respective regions. (UNDP)

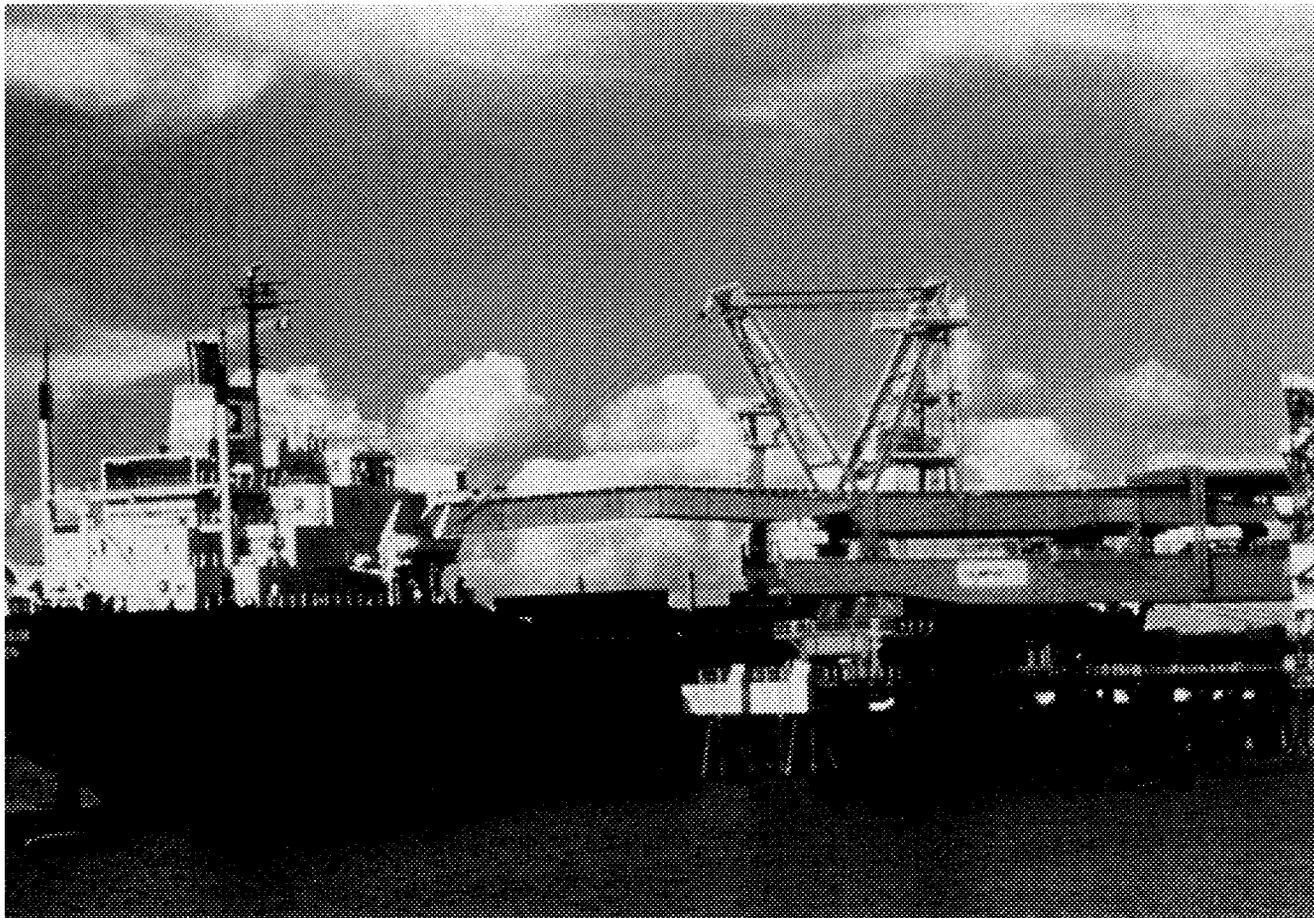
✦ Reducing the pollution of international and territorial waters caused by the discharge of ship-generated solid wastes is a top priority of the governments of the eastern Caribbean — **Antigua & Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, and Saint Vincent & the Grenadines**. GEF's *Ship-Generated Waste Management* project established port waste reception facilities and expanded landfills to handle wastes. A regional initiative supported a common legal framework for ship waste management,

explored waste recycling opportunities, and conducted public awareness programs. (World Bank)

✦ The Bermejo River basin comprises an array of rain forests, humid valleys, and mountain deserts in its upper reaches and dry forests and humid and gallery forests in the lower basin. These ecosystems harbor exceptional biological and habitat diversity.

GEF's *Water Resources Management in the Bermejo River Binational Basin* program responded to a request by the governments of **Argentina and Bolivia** for technical assistance in formulating a strategic action plan. More than 50 institutions, government agencies, and non-governmental organizations participated in proposing the project and many also took part in its execution. (UNEP)

● The Aral Sea basin, drained by the Syr Darya and Amy Darya Rivers, covers parts of **Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan**, and a small area of **Afghanistan**. The sea and its rivers have played a vital role in the economic and social life of arid Central Asia, supporting the livelihoods of farmers, hunters, fishers, and herders. Following the absorption of the basin into the USSR, an ambitious program for cotton cultivation was



launched, tripling irrigated areas. By 1991, almost all river water draining to the Aral Sea was being diverted, and an ecological catastrophe ensued.

The Aral Sea Basin Program of the Five Central Asian States concentrates on stabilizing the environment, rehabilitating the disaster zone around the Sea, improving the management of the international waters, and building the management capacity of regional institutions.

GEF's *Water and Environmental Management in the Aral Sea Basin* project will help harmonize national and regional policies, strategies, and action plans in water and salt management, create public awareness on the underlying issues and the need to conserve water, upgrade dam safety in the region, build capacity to monitor the quantity and quality of transboundary water, and improve a nearby wetland. Ultimately, it will release 15 percent more water from irrigation to the environment for restoration purposes. (World Bank)

● Located at the junction of three major bi-geographical realms and characterized by an arid coastal zone with minimal freshwater input, the Red Sea and Gulf of Aden region contains some of the

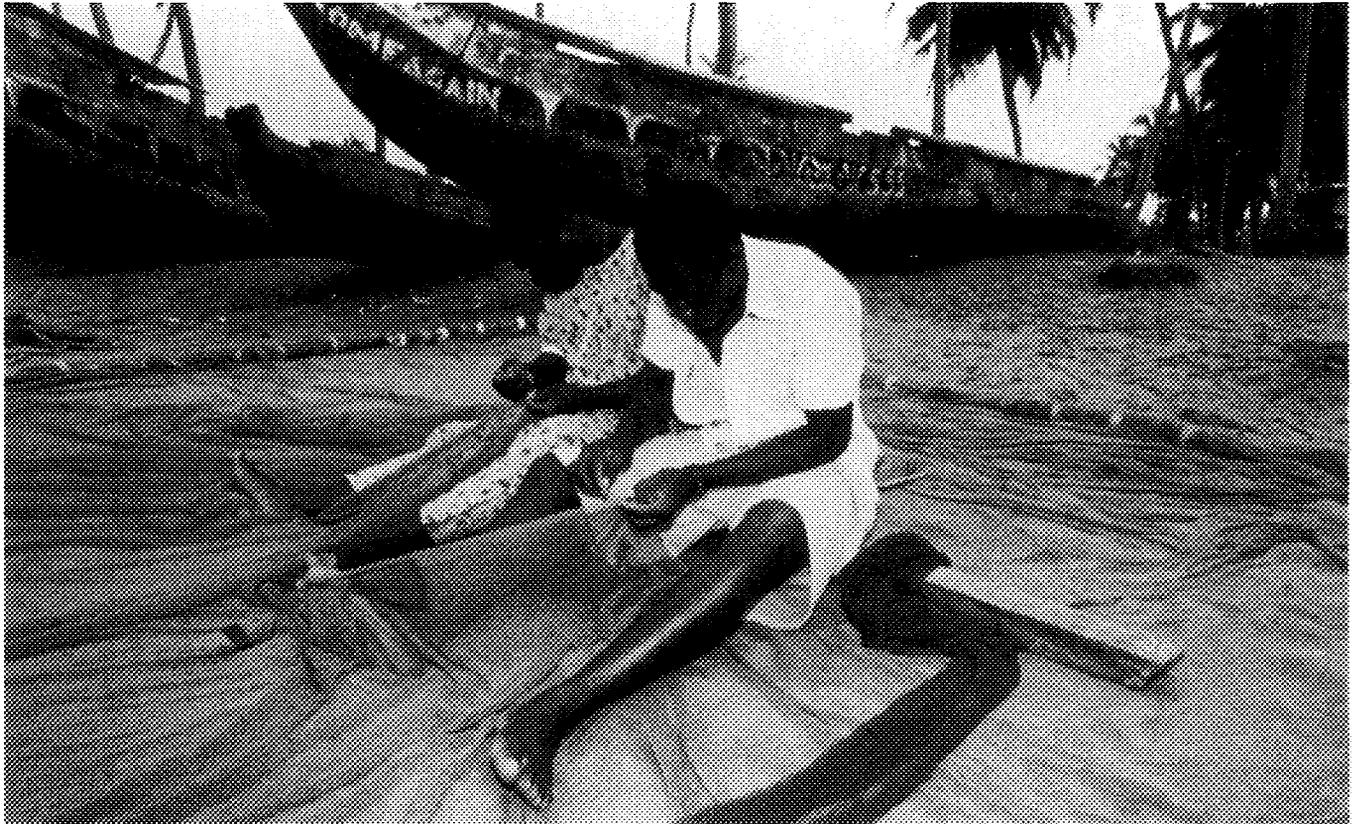
world's most important coastal and marine environments and resources.

Extensive mangroves, sea grass, and large algal beds form highly productive habitats for unique assemblages of species. There is a great variety of reef types, and the diversity of corals is greater than anywhere else in the Indian Ocean. More than 1,300 species of fish have been recorded, higher than any other enclosed sea. Endemism at generic, species, and sub-species levels is extremely high, especially among reef fishes and invertebrates.

The Gulf of Aden, one of the biologically least known branches of the Indian Ocean, is heavily influenced by seasonal upwelling and contains fishery resources of global importance. Situated at the gulf's eastern extreme, the Socotra Archipelago is of global significance in terms of island biodiversity and species endemism. It has been rated as being one of the highest priority areas warranting protective management in the Arabian Seas region.

Although the Red Sea is still one of the least disturbed seas relative to other enclosed international water bodies, it is in increasing jeopardy. The transboundary issues of concern are wide ranging, from

Reducing pollution caused by the discharge of ship-generated solid wastes is a top priority in the Caribbean.



Repairing nets in Ghana. GEF projects help protect the livelihoods of local fishers from over-fishing by over-capitalized industrial fleets.

maritime pollution caused by international shipping, to unregulated exploitation of shared fish stocks, to widespread habitat destruction by uncontrolled coastal zone development leading to loss of important species. There is a growing risk of marine pollution, notably from maritime transport of petroleum, and environmental degradation from rapidly expanding coastal zone development including tourism facilities.

Fisheries in the Gulf of Aden are under great pressure from over-exploitation and illegal fishing. The rich cultural heritage of the region, including a number of significant archaeological, historical, and sacred sites on the coast, may come under increasing risk due to development pressure.

This project to develop and implement a regional framework for protection of the environment and sustainable development of coastal and marine resources is being jointly undertaken by UNDP, UNEP, and the World Bank.

● The lack of a thorough assessment comparable with the report of the Intergovernmental Panel on Climate Change, the Global Biodiversity Assessment, and the Stratospheric Ozone Assessment has hampered the world community's understanding of the increasingly degraded state of many international water bodies and what that means to the people and economies depending on them.

GEF is supporting a *Global International Waters Assessment* to produce a comprehensive and integrated analysis of transboundary water-related issues and problems. The assessment will consider water quality and quantity, associated biodiversity and habitats, and the effects of development and overfishing, as well as analyze future scenarios based on demographic, economic, and social projections. The goal is to provide a framework within which to identify priority remedial and mitigating actions with significant environmental benefits at national, regional, and global levels. (UNEP)

● GEF project preparation funds are supporting the development of several projects addressing the critical problem of persistent organic pollutants (POPs). They include the use of alternatives to pesticides and their management in **Central America** and **Colombia**, an assessment of the impacts of POPs on Arctic populations off the **Russian Federation**, and efforts to reduce mercury releases in artisanal mining operations in a number of developing nations. An initiative on cost-effective alternatives to DDT in malaria prone regions of **Central America** is under preparation with outside funding.

● In addition, GEF is supporting a *Regionally Based Global Assessment of Persistent Toxic Substances* aimed at providing a scientific assessment as well as guidance and regional priorities. (UNEP)

Protecting the Ozone Layer



◆ In the early 1990s, the Czech Republic was using approximately 2,000 metric tons of ozone depleting products each year. GEF's project in the **Czech Republic** eliminated production of chlorofluorocarbons (CFCs) by establishing a national refrigerant recovery, reclamation, and recycling program. A network of 15 collection centers was established.

This "3R" initiative phased out CFCs in commercial, industrial, and transport refrigeration systems, and introduced low and non-ozone depleting foam technologies.

◆ Using 1993 as the baseline, over half of **Hungary's** consumption of ozone depleting substances (ODS) has been phased out through 12 GEF-financed efforts in the solvents, foam, aerosol, halon, and refrigeration sectors, and through a recovery, recycling, and reclamation effort similar to the one mounted in the Czech Republic.

◆ Roughly 286 of the 345 metric tons of ozone depleting substances to be phased out under the GEF project in **Slovenia** have already been eliminated in the local refrigeration, foam, aerosol, and solvent sectors. The project implementation team and an "ecological development fund" have contributed to its success. Staff traveled to Budapest to share experiences with the Hungarian phase-out team.

● In early 1998, a medium-sized GEF project addressing the need to assist all eligi-

ble countries in the implementation of recently approved Montreal Protocol trade control measures was added to the GEF work program.

● GEF support to the **Russian Federation** is by far the most important element of GEF's ozone layer protection work. An umbrella project of \$60 million aims to achieve direct phase out of at least 15,000 metric tons of ozone depleting substances through 17 investment projects covering the major ODS-consuming enterprises.

Russia's phase-out efforts to date (combined with the effects of the economic transition) have already led to a decline in ODS consumption from about 40,000 metric tons in 1993 to 16,000 tons in 1996. GEF's project will directly phase out more than 90 percent of the remaining ODS consumption.

Other aspects of the project include the establishment of a recovery, reclamation, and recycling program for ODS refrigerants in the refrigeration servicing sector and capacity building to ensure overall ODS country program implementation and compliance with Montreal Protocol control provisions.

● A new GEF initiative, in partnership with the Montreal Protocol, is supporting the introduction of ozone layer-friendly, energy-efficient air conditioning units in **Thailand**. This project yields global benefits in both the ozone and climate change areas.



GEF funds are instrumental to the efforts of Eastern European nations and the Russian Federation to phase out substances that deplete the ozone layer.

Addressing Land Degradation



◆ The northern Comoé, located in southwestern **Burkina Faso** and **Côte d'Ivoire**, is one of the largest and most biologically diverse ecosystems in West Africa, and one of the most important remaining natural savanna ecosystems in the region.

The area's biodiversity is inadequately protected. Denied their traditional rights to use wildlife and other wild resources, local communities have little incentive to manage protected areas sustainably or protect them from poachers or settlers.

GEF's *West African Pilot Community-Based Natural Resources and Wildlife Management* project is facilitating conservation of three areas in Burkina Faso and one in Côte d'Ivoire within the Comoé. It introducing a new approach to biodiversity conservation in West Africa intended to find a common solution to development and conservation concerns by involving local communities in the sustainable, profitable exploitation of wild resources and helping them manage their wildlands for economic and biodiversity benefits. It is working to strengthen capacity of local communities to manage natural resources sustainably, improve management and use of habitats and wildlife at each site, improve local land management practices and infrastructure, and establish a durable system for monitoring and evaluating project implementation and impact. Although the governments of both countries are working on or have completed National Environmental Action Plans, both nations have limited capacity to implement natural resource management projects. This project assists them in developing new strategies to increase involvement of non-governmental organizations and the private sector in implementing national projects.

● The Senegal River Valley basin is a case study in land and ecosystem degradation. Contributing factors include: a 30-year drought, unsustainable use of range and forest resources linked to inappropriate land and resource tenure, frequent wildfires, major changes to the hydrological balance of the valley due to the Manatali dam upstream and the Diama salt-water intrusion dam downstream, land clearing for agriculture, large-scale irrigation, and rapid population growth. The resulting loss of herbaceous and woody vegetative cover, wind and water erosion, and decline in soil organic matter, fertility, and water holding capacity, have caused a significant reduction in biodiversity and wildlife habitats, and serious deterioration in soil productivity over wide areas.

A new GEF-financed project will address the root causes of biodiversity loss from land degradation in five critical upland and floodplain ecosystems of a 60,000 square foot portion of the trans-border Senegal River Valley in **Senegal** and **Mauritania**. The project will improve on techniques for rehabilitating the natural ecosystems of degraded lands that are home to more than 1.3 million people. It will develop and apply participatory resource management systems, especially those that generate resource-based income and consequent economic incentives for sustainable management. The long-term goal: improving livelihoods while restoring biodiversity, enhancing soil productivity, and assisting in carbon sequestration on a regional scale. (UNDP/UNEP)

● The "Fertile Crescent," encompassed within the modern territories of the Near East, holds great diversity in wild relatives of important food crops and pasture species. Wheat, barley, lentil, peas, and vetch all originated in this region, as well as such tree

A new GEF project is protecting a major global center of plant diversity in the Levantine Uplands of Lebanon, Syria, Jordan, and the Palestinian Authority. Wheat, barley, lentil, peas, and vetch all originated here.





Deforestation in Brazil, on top of ongoing development, the forest fires of 1997-1998 destroyed wide swaths of Indonesia, Brazil, Mexico, and Central America.

species as the almond, pistachio, and olive. The Levantine Uplands, in particular, comprising **Lebanon**, western **Syria**, small parts of **Jordan**, and the northern **Palestinian Authority**, are considered a major global center of plant diversity and endemism, with seven endemic genera of vascular plants. Wild crop relatives are known for their resistance to disease and abiotic stresses, making them a valuable source of genetic material for enhancing food crops on which the world depends.

This same region is experiencing rapid growth in populations that depend heavily on agriculture for their living with serious impacts on genetic diversity. Agriculture has intensified and expanded land use, degrading vegetation, soils, and water. Food demands and market forces have encouraged substituting higher yielding cultivars for locally adapted varieties. This has impacted the gene pools of these crops and diminished beneficial insects and microorganisms as well as traditional knowledge on these plant species.

Germ plasm banks are important in preserving samples of scattered and small wild populations of species. Large and varied populations, however, can never be adequately represented in germ plasm banks. In

addition, protected areas are not always adequate for species that require active management to conserve their population and genetic diversity. On-farm conservation and continuous use of such species can help conserve these valuable and highly diverse genetic resources.

This project is working to ensure the continuous availability of agro-biodiversity in the Levantine Uplands. National authorities will implement the project in each of the four participating countries; the International Centre for Agricultural Research in the Dry Areas (ICARDA) will handle a regional component. The project will:

- *Create an information base on the genetic diversity of ten target crops and relevant social, economic, land use, and agricultural policies and practices*
- *Develop a replicable approach for conservation and sustainable use of agro-biodiversity*
- *Implement national environmental, land use, social, and economic policy measures to support and ensure the sustainability of agro-biodiversity activities*
- *Strengthen national capability for conservation and sustainable use of agro-biodiversity through training, regional collaboration, networking, and exchange of experience. (UNDP)*

For More Information

To successfully carry out its mission, the Global Environment Facility depends upon the active interest and involvement of many thousands of individuals and groups worldwide.

Detailed information on most topics touched upon here can be accessed via the GEF secretariat's web site (www.gefweb.org) or by contacting the secretariat at the address on the back cover.

All GEF publications can be obtained from the secretariat and most are posted on the GEF website at www.gefweb.org. Most GEF documents are available in English, French, and Spanish; publications prepared for the Assembly are also available in Arabic, Chinese, and Russian.

The GEF web site also contains links to the global environment conventions and protocols and to GEF's three implementing agencies (listed below).



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Special thanks to Michael Wishart, World Bank photo archive

Design: Joseph Yacinski Design

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Cover photo, *Frederik Van Bolhuis*

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GEF Publications & Videos

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Global Environment Facility (1997)**

A 16-page introduction to the GEF.

Valuing the Global Environment: Actions & Investments for a 21st Century (1998) Explores solutions to global environment problems, with more than 30 guest essayists. (162 pages)

Keeping the Promise

Harrison Ford narrates this 1997 video introduction to the GEF (30 min. and 15 min. versions)

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* Available in English, Spanish, and French

** Available in English, Spanish, French, Chinese, Arabic, and Russian

*** Available in English and Spanish

Last Words

*I copy out mountains, rivers, clouds.
I take my pen from my pocket. I note down
a bird in its rising
or a spider in its little silkworms.
Nothing else crosses my mind. I am air,
clear air, where the wheat is waving,
where a bird's flight moves me, the uncertain
fall of a leaf, the globular
eye of a fish unmoving in the lake,
the statues sailing in the clouds,
the intricate variations of the rain.*

*Voy copiando montañas, ríos, nubes,
saco mi pluma del bolsillo, anoto
un pájaro que sube
o una araña en su fábrica de seda,
no se me ocurre nada más: soy aire,
aire abierto, donde circula el trigo
y me conmueve un vuelo, la insegura
dirección de una hoja, el redondo
ojo de un pez inmóvil en el lago,
las estatuas que vuelan en las nubes,
las multiplicaciones de la lluvia.*

—Pablo Neruda, translated by Alistair Reid



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Printed on recycled paper.