

Working for a Sustainable World

U.S. Government Initiatives
to Promote Sustainable Development



Full Report
August 2002



“Countries that live by these three broad standards—ruling justly, investing in their people, and encouraging economic freedom—will receive more aid from America. And, more importantly, over time, they will really no longer need it, because nations with sound laws and policies will attract more foreign investment. They will earn more trade revenues. And they will find that all these sources of capital will be invested more effectively and productively to create more jobs for their people.

My administration will adopt a new spirit of respect and cooperation, because, in the end, that is the better way to protect the environment we all share—a new environmentalism for the 21st century. Citizens and private groups play a crucial role. Just as we share an ethic of stewardship, we must share in the work of stewardship. Our challenge is to work in partnership.”

President George W. Bush
March 14, 2002 and May 30, 2001



“We live in a century of promise. Our responsibility now is to turn it into a century of hopes fulfilled, a century of sustained development that enriches all our peoples without impoverishing our planet. When we talk of sustainable development, we are talking about the means to unlock human potential through economic development based on sound economic policy, social development based on investment in health and education, and responsible stewardship of the environment that has been entrusted to our care by a benevolent God.

Sustainable development is a marathon, not a sprint. It does not follow from a single event like the Johannesburg Summit, important as that meeting may be, but from a sustained global effort by many players working together over a long period of time. Sustainable development requires institutions, policies, people, and effective partnerships to carry out our common effort beyond Johannesburg and well into the future.”

Secretary of State Colin L. Powell
July 12, 2002

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Executive Summary

This report distills the results of a survey of 400 sustainable development initiatives supported by the U.S. Government. While the survey is not exhaustive, it reveals a wide range of U.S. departments and agencies making substantial commitments to achieve sustainable development using varied and novel strategies in practically all developing and transition countries. Further, the survey shows the U.S. Government is working to leverage economic and social resources from the private, nonprofit, and academic communities.

U.S. policy, reflecting broad international consensus on how to promote sustainable development, rests on three pillars: fostering economic growth, investing in people (particularly education and health), and promoting stewardship of natural resources.

Good governance is necessary for sustainable development. To strengthen governance, the U.S. Government promotes conflict resolution, competitive elections, and democratic systems; strengthens judicial systems; and helps developing and transition countries better manage natural resources.

Other initiatives address human resources, seeking to improve education and health. Health initiatives fight HIV/AIDS, tuberculosis, and malaria, and support population planning and maternal and child health. The U.S. Government also invests in improving basic education and ending child labor, and in science and technology training that can meet environmental challenges.

The report focuses on how U.S. policy is translated into action through partnerships to mobilize public sector, private sector, and civil society resources for sustainable development. There are four principal types of partnerships:

- *The nonprofit sector:* The United States helps nongovernmental organizations become active partners in sustainable development.
- *Private sector finance:* The United States promotes market development through project-specific alliances with the very poor in microenterprise initiatives and preparing economies to attract private finance.
- *Public-private partnerships:* The United States creates synergies across nongovernmental organizations, private sector firms, foundations, academia, and public institutions.
- *Science and technology partnerships:* Many U.S.-supported programs provide data for sustainability initiatives around the world. The United States is the leading source of scientific and technological innovations and is committed to sharing this bounty.

These partnerships address critical issues like energy, water resources, and biodiversity. Some, like the world's largest climate and global change research program, are notable for their magnitude; others, like the Caspian Environmental Partnership Program, are notable for their mobilization of private resources to strengthen cooperation among nongovernmental organizations, the business sector, and government. ■

Introduction

“The Johannesburg Summit aims to find practical ways for humanity to respond to ... better the lives of all human beings, while protecting the environment. The Summit also aims to move from commitments—of which we have had plenty—to action.”

UN Secretary General
Kofi Annan
May 14, 2002

Background

This report, prepared for the World Summit on Sustainable Development, highlights current U.S. actions and programs that further sustainable international development. It summarizes a survey of 23 U.S. Government agencies on their international sustainable development initiatives. Agencies returned information on more than 400 such initiatives. These demonstrate the commitment of the United States to helping developing and transition countries promote economic growth, vibrant civil societies, and protection of the environment. This report offers students, policymakers, and development practitioners greater insight into how the United States is addressing the complex challenges of creating a sustainable world.

The survey and the case studies featured in this report reveal the engagement of numerous governmental entities, experts, and financial resources to strengthen the three pillars of sustainable development—economic growth, investment in people, and environmental stewardship. While the survey is not an exhaustive catalogue, its data fairly illustrate the kinds of work in sustainable development that the U.S. Government supports. The case studies presented describe dynamic partnerships with nongovernmental organizations (NGOs), the private sector, and experts in science and technology, as

well as innovative approaches to mobilizing resources to achieve sustainable development. These strategies hold promising possibilities for achieving the aims of the World Summit on Sustainable Development.

In 1987, the UN’s World Commission on Environment and Development defined sustainable development as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.” The United States is helping people in developing and transition countries to meet their own needs in sustainable ways.

What Makes Development Sustainable

Sustainable development requires three fundamental strategies: promotion of economic growth to provide resources; investment in people, particularly in basic education and health services; and good environmental stewardship, which is dependent upon improved resource management, good governance, and application of new technologies. Growth needs to be consistent with good stewardship and must not preclude opportunities for future generations.

Governance that rules justly is also an essential prerequisite for sustainable development. Governments must

assure access to quality health care and education, whether provided by public or private means. Governments must promote economic freedom so that growth can take place. Governments must also set the rules and responsibilities for good environmental stewardship. Good governance also permits societies to function productively, providing the social investments that enable people to flourish. A well-functioning and progressing society will be economically productive enough to afford investments in social development and resource stewardship. Such societies will apply new technologies in their quest for sustainability and will attract sufficient domestic and international investment to preclude further aid dependency.

The primary responsibility for sustainable development rests with domestic governments, who must establish their own courses of action, their own capacities for effectiveness, and their own mobilization of social and economic forces for the common good.

How the United States Supports Sustainable Development

The United States believes that better-off countries must assist poorer countries that are working effectively on the fundamentals of sustainable development. The obligation is moral as well as practical. Leading to the World Summit in Johannesburg, South Africa, the United States took numerous actions that support sustainable development, including the following:

- Announced that core development assistance will be increased by \$5 billion, an increase of 50 percent

over current levels. This increase will be managed through a Millennium Challenge Account, which aims to recognize countries that demonstrate commitment to sound policies that support economic growth.

- Launched the Global Development Alliance to foster public-private partnerships.
- Announced a \$500 million initiative for International Mother and Child HIV Prevention for Africa and the Caribbean, and raised its pledge to the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria to \$500 million.
- Announced an initiative to support primary education in Africa, with funding of \$200 million over five years.
- Announced a commitment to increase the number of Peace Corps volunteers over the next five years to help people at the grassroots level meet their communities' sustainable development needs.
- Requested increased support for agricultural development—by 25 percent in FY¹ 2003 over FY 2002.
- Invested \$1.5 billion in trade capacity building in developing and transition countries between 1999 and 2001.
- With its partners, worked to increase World Bank grants (rather than concessional loans) to the poorest of developing countries.
- Plans to increase expenditures for climate-change-related programs and activities by an expected \$653 million.

“America supports the international development goals in the UN Millennium Declaration, and believes that these goals are a shared responsibility of developed and developing countries.”

President George W. Bush
March 14, 2002

1. In the United States, the fiscal year (FY) begins on October 1.

“We fight against poverty because opportunity is a fundamental right to human dignity. We fight against poverty because faith requires it and conscience demands it.”

President George W. Bush
March 22, 2002

Building International Consensus

U.S. policies and initiatives reflect the consensus of the global community on the fundamentals of sustainable development. Its three pillars—economic growth, social progress, and environmental stewardship—were elucidated at the Earth Summit of 1992. Over the last several years, multilateral, UN conferences, the Development Assistance Committee of the OECD, and the UN Millennium Summit contributed to a growing global consensus.

Together, they helped articulate strategies that promote sustainable development. Agreed aims in poverty reduction and social development were expressed as the Millennium Development Goals.

At the World Trade Organization’s conference in Doha, Qatar, in November 2001, trade ministers committed themselves to an inclusive trading system that promotes sustainable development. The ministers agreed that an open and nondiscriminatory multilateral trading system and the protection of the environment “can and must be mutually supportive.” The meeting instigated a

pro-development round of trade negotiations. Trade flows with developing and transition countries now amount to \$2.4 trillion per year.

The Doha conference created a new climate for constructive forward movement on development issues. The UN Conference on International Financial Development, held in Monterrey, Mexico, in March 2002, marked the next step in an extraordinary year of progress. Addressing finance for development and poverty reduction, the conference witnessed commitments made by the United States and the European Union that totaled \$12 billion per year in new aid by 2006. This figure represents a momentous change after years of declining global aid levels.

Participants at Monterrey agreed that the global economy is a powerful engine for development, and that each country must take on the responsibility of harnessing it by practicing good governance, adhering to the rule of law, investing in people, and encouraging political and economic freedom. Two other important conferences amplified key components of sustainable development. In May 2002, the UN General Assembly’s Special Session on Children reviewed progress since 1990, articulating goals and indicators for further progress. The following month, the World Food Summit: Five Years Later reviewed ways to cut poverty by half by 2015. These international meetings emphasized the prerequisite of good governance, the importance of stimulating finance for development, and the necessity of assuring effective stewardship of natural resources for the benefit of coming generations.

U.S. Economic Leadership	
U.S. imports from developing countries in 2001	\$449 billion
U.S. official development assistance in 2001	\$11 billion
U.S. annual private capital investment in developing countries, 1997–2000	\$36 billion
U.S. private charitable donations to developing countries in 2000	\$4 billion
U.S. humanitarian assistance and food aid in 2001	\$2.5 billion
U.S. contribution to multilateral development banks, 2002–2003	\$1.4 billion

How the Report Is Organized

This report begins by reviewing collaboration to increase the effectiveness of governance. It continues with a chapter on investing in people—mainly in education and health. It draws attention to partnerships for sustainable development: strategies that strengthen NGOs, leverage private sector finance, and collaborate with the scientific community. The report concludes with a discussion of partnerships and collaboration in key areas of resource stewardship, including climate change, energy, biodiversity, freshwater, oceans, land degradation, and forests.

The crosscutting theme in this report is the creation and impact of different kinds of partnerships and the approach each brings to strengthening sustainable development. To highlight the differences, these partnerships are presented separately, although this separation can be artificial. Creative programs bring together in one endeavor government aid, the private sector, NGOs, and the science and technology community. In partnerships, government aid is amplified, and large quantities of technological, human, and financial resources are brought to bear upon sustainable development. ■

Major Commitments to Study Global Climate Change

Half of the world's climate and global change research is financed by the U.S. Government. This amounts to \$1.7 billion a year since FY 2000, through the U.S. Global Change Research Program, not including a five-year, \$1 billion effort by USAID to help strengthen developing-country participation in the UN Framework Convention on Climate Change and to engage the private sector and other actors in climate change issues. This massive research effort assists sustainable development around the world in many ways. One example is advance warning of El Niño that allows farmers and fishermen in many tropical Pacific regions to quickly adapt to imminent climate change.



Good Domestic Governance

“Self-governing people prepared to participate in an open world marketplace are the very foundation of sustainable development, and that begins with good governance. Without a foundation of good governance, no amount of outside assistance will produce sustainable development.”

Undersecretary of State
Paula J. Dobriansky
May 23, 2002

Why Good Domestic Governance Is Essential

Almost every aspect of sustainable development will be affected by the quality of civil society, political participation and decisionmaking, and responsible and reliable governance. Because good governance is the fundamental requirement for progress and sustainability, furthering it is at the core of U.S. strategy to foster sustainable development.

The goals of U.S. assistance programs that support good governance are

- democratic institutions that are effective, accountable, and transparent
- an independent and fair judiciary
- law enforcement that—with integrity—protects the people while strengthening their capacity to combat corruption
- sound monetary, fiscal, and trade policies that promote economic growth, social development, and environmental protection
- participation by all members of civil society in decisions that affect them

Democratic governance supports sustainable development by making institutions and policymaking more accountable, transparent, and responsive. Free and fair elections allow people to select and change their leaders and to express their preferences for political parties and popular movements. Increasing political participation

allows citizens to influence the allocation of health services, food, clean water, and sanitation. A vibrant and politically active civil society, with a free press and the right to free association, will hold institutions accountable—the more so when policymaking is transparent and responsive to the concerns of citizens.

An independent and fair judiciary is also crucial. Solid judiciaries support laws that protect people, commerce, and the environment, and they enable enforceable contracts, a cornerstone of a functioning economy. Good governance also facilitates economic growth and equity. Both are shackled by corruption, a worldwide problem that distorts investment decisions, leads to misallocation of resources, and has a disproportionate impact on the poor.

The U.S. Government promotes good governance in every region of the world and believes that a good governance component makes environmentally oriented programs more effective. USAID is the lead agency in this work, providing \$700 million annually to support an array of democracy and governance activities. It is worth noting that over half of the 400 sustainable development initiatives surveyed had a good governance and anticorruption component.

Initiatives for Good Domestic Governance

The United States has dedicated \$19.5 million per year to the development of

international law enforcement academies. The Department of State, with the Departments of Justice and Treasury, will bring the expertise of their 12 law enforcement agencies to strengthen the capacity and integrity of the law enforcement profession throughout the world. The regional International Law Enforcement Academies (ILEAs) in Thailand, Hungary, Botswana, and the United States provide training in environmental protection and criminal investigations, anticorruption investigative task forces, and prosecutorial and judicial reform. A fifth academy is planned in Costa Rica. The National Center for State Courts, with USAID support, is strengthening judicial systems in more than 50 countries, including Brazil, Croatia, the Dominican Republic, Eritrea, Guatemala, Hungary, Mongolia, Nepal, Nigeria, and the Philippines. The National Strategy Information Center, with support from the Department of State, provides public education programming that aims to provide citizens and media with strategies to combat corruption and crime. The National Endowment for Democracy, with support from the U.S. Congress, promotes competitive elections and democratic systems throughout the world. The U.S. Government's support for reducing corruption is exemplified in the funding provided for Transparency International, an agency that publicizes and works to reduce corrupt practices.

Governance issues are critical at local levels, where participatory problem solving permits effective resource stewardship. A population and child nutrition program in Morocco receiving \$8.7 million from USAID promotes localized management of public health services in order to reduce bureaucracy

and permit more direct assistance. This assistance will be more efficiently targeted through collaboration between public health officials, NGOs, community associations, and the private sector. USAID is also helping build related capabilities within Morocco's Ministry of Health.

The Ukraine Local Environmental Action Program, begun in 2000, has increased the effectiveness of policies at the local level, and empowered citizens to influence environmental decision-making. With USAID support, the program reached out to over 5,000 local communities, NGOs, and local businesses through eight newsletters entitled *Chysta Hata* (Clean Hut).

"As our Peruvian colleague Hernando de Soto has so aptly said, 'The hidden architecture of sustainable development is the law.' The law The rule of law that permits wonderful things to happen. The rule of law that permits people to be free and to pursue their God-given destiny, and to reach and to search and to try harder for their country, for their family. The rule of law that attracts investment. The rule of law that makes investment safe. The rule of law that will make sure there is no corruption, that will make sure there is justice in a nation that is trying to develop."

Secretary of State
Colin L. Powell
July 12, 2002

Local Rights and Participation in Indonesia

Reports of decentralized environmental decisionmaking and influential non-governmental constituencies come from Indonesia, where \$12 million of USAID support promoted pluralistic and transparent decisionmaking and management. Key components in the process are site-specific natural resource management plans; agreements among local stakeholders; cooperation between resource user groups, local communities, private sector companies, and traditional groups; and the development of an integrated coastal management framework at a national level. In 2001, USAID assisted the implementation of 51 site-specific plans that placed 700,000 hectares of Indonesian forest and coastline under better management. This resulted from more than 180 Government of Indonesia policy decisions made in a participatory and transparent manner with local communities. Two site-specific examples follow:

- In North Sulawesi, community-based coastal zone management plans helped to more than double fish



abundance in "no-take" protected areas, significantly increased fish diversity, and improved or stabilized more than 72 percent of coral reefs.

- In the Bird's Head Peninsula area of Papua, USAID helped to protect endangered sea turtles by working with communities to establish land tenure and to resolve conflicts over natural resource rights. As a result of village patrols and public awareness activities, the number of turtles nesting has increased by 50 percent since 1999.

“When development projects are infused with democratic principles and approaches, a cycle of benefits accrues. The projects not only achieve better results but also can change the way communities go about solving problems.”

Linking Democracy and Development: An Idea for the Times, USAID June, 2001

These spotlighted local environmental projects in Ukraine and disseminated success stories from other countries in the region. The project helps 10 communities solve specific environmental problems and developed a team of Ukrainian professionals who provide local communities with needed technical support for environmental activities. As a result, NGOs and local authorities

are being mobilized to undertake environmental cleanup and nature conservation activities across Ukraine.

The Value of an Integrated Approach

The U.S. Government is promoting an integrated, cross-sectoral approach to addressing governance and sustainable development. USAID efforts to assure clean water in El Salvador provide a good example. The project went well beyond protecting vital watersheds: it enhanced the governance of participating water municipalities by organizing and training small community groups, municipalities, and national water agencies. Activities that emphasized improved extension practices, watershed conservation, and production of high-value commodities contributed to substantial gains: 325 demonstration farms worked with 3,859 neighboring farms to increase the area of land conserved to almost 9,000 hectares—more than double the original end-of-activity target. Further, 50 potable water systems were completed, rehabilitated, or improved; these serve 50 percent of the households in 24 municipalities.

The cross-sectoral approach was also embraced for the creation of Regional Environmental Centers in Hungary, Ukraine, Moldova, Russia, Central Asia, and the Caucasus. The U.S. Environmental Protection Agency provided direct support to improve local environmental governance and public participation in Mariupol, Ukraine. The project instigated the first participatory approach to local planning and priority setting in Mariupol, and provided a lasting forum to allow NGOs, citizens, private businesses, and local authorities to cooperate on environmental problems.

Transboundary Water Issues in the Middle East

Around the world, solutions to environmental challenges require regional cooperation. Supporting the efforts of nations to work together on common environmental problems brings benefits beyond the scope of the particular issue. This point is exemplified by U.S. efforts concerning the river basins of the Nile and the Jordan, where the State Department is committed to a regional strategy that complements U.S. bilateral and multilateral diplomatic efforts.

Historically, the rest of the Middle East and North Africa envied Egypt and Sudan’s access to the Nile’s water, but today this great river struggles with increasing demands made upon it by population growth, economic development, droughts, and environmental degradation. As demand for water grows, so does the possibility of political and economic instability, especially if bordering countries unilaterally attempt to exploit water resources. With a host of other partners, the United States supports progress being made by the riparian states to address these issues, resolve regional water questions, and advance economic integration efforts.

Concomitantly, the Department of State is encouraging transboundary cooperation in order to promote better management of the water resources of the Jordan River and the Gulf of Aqaba. These efforts toward regional environmental cooperation exist within the context of



the broader efforts to promote Middle East peace. To this end, the Department of State established one of its 12 worldwide Regional Environmental Hubs at the U.S. Embassy in Amman, Jordan. To promote, develop, and support regional water activities that arise from the Middle East peace process, the Amman Hub facilitates cooperation between regional mechanisms and institutions, and with national governments, environmental NGOs, donor organizations, and the business communities of the region. Many of these activities derive from the Multilateral Working Groups on Water Resources and the Working Group on the Environment. Participants include experts and officials from Jordan, Israel, the Palestinian Authority, Egypt, Tunisia, and Oman. They grapple with such topics as regional water data banks, public awareness and water conservation, electronic networking for water information, integrated pest management, watershed monitoring, dryland management, and desalination research and training.

Bringing nations together to find regional solutions to environmental challenges that transcend national boundaries can advance good governance practices in ways that go far beyond the scope of the environmental issues themselves.

Partnerships for Good Domestic Governance

The U.S. Government promotes good governance through a wide range of partnerships. Often, funding goes directly to governments that have demonstrated political will to strengthen and make more transparent their judicial and legislative bodies. In Armenia, for example, USAID provided nearly \$2.2 million to improve the National Assembly's ability to communicate with its constituents and others and conduct financial and economic analyses.

The U.S. Government provides significant assistance to NGOs experienced in fostering civil society and democratic processes. For example, USAID supports PACT, a U.S. NGO, in its work with the Black Entrepreneurship and Enterprise Support program in South Africa, helping it to better advise small and micro-entrepreneurs on advocacy and participation in policy formulation.

Addressing Labor Issues

The U.S. Government recognizes that addressing employment and labor issues is essential to poverty alleviation and sustainable development, and that labor unions often play key roles in promoting civil society, fostering political participation, and demanding accountability from elected leaders. The U.S. Government therefore supports significant international programs to help achieve the healthy, educated

workforce that is vital to a prospering economy and the protection of natural resources.

A program of the Department of Labor—Improving Economic Opportunities and Income Security for Workers—provided \$50 million over the FY 2000–2002 period to strengthen the ability of developing countries to design and institutionalize the social

Ending Child Labor

Child labor is exceptionally pernicious. It deprives its victims of opportunities for education, and places them in working conditions that are often harsh and miserable. It destroys their innocence and their chances for a hopeful future as productive, successful adults.



Between FY 1995 and FY 2001, the U.S. Congress appropriated some \$112 million to the Department of Labor for activities that combat international child labor through the International Labor Organization's International Program on the Elimination of Child Labor. These funds support a wide range of child-labor elimination projects and activities in Africa, Asia, Europe, the Middle East, Latin America, and the Caribbean, and contribute to the following objectives:

- Eliminating child labor in specific hazardous or abusive occupations. These targeted projects aim to remove children from exploitative work, provide them with educational opportunities, and generate alternative sources of income for their families.
- Bringing into the International Program on the Elimination of Child Labor more countries that are committed to addressing their child labor problems.
- Documenting the extent and nature of child labor.

- Raising public awareness and understanding of the international child labor problem.

In 2002, the U.S. Department of Labor will contribute an additional \$45 million to support such projects, including an additional number of Timebound Programs—comprehensive, national initiatives that aim to end the worst forms of child labor in a particular country within five to 10 years. In addition, by September 2003, the Department's new Child Labor Education Initiative will award \$74 million in grants to expand access to education in countries with a high incidence of exploitative child labor. This includes the \$12 million recently awarded to organizations taking on the education of children removed from or at risk of entering child labor to supplement the department's funding in FY 2001 of the first three timebound programs in El Salvador, Nepal, and Tanzania.

safety net policies and programs needed to foster economic growth and worker protection.

Since 2000, the Labor Department has channeled some \$60 million in assistance to help countries implement core labor standards in accordance with the UN International Labor Organization's Declaration on Fundamental Principles and Rights at Work. To promote the adoption and enforcement of these standards, the American Center for International Labor Solidarity receives \$9 million a year from USAID. Other U.S. funding—over \$500,000 since 1999—goes to the International Labor Rights Fund, an NGO that monitors labor practices in the apparel industry and manages two anti-sweatshop programs.

The United States is also extremely active in fighting child labor. It supports programs aimed at removing children from exploitative work, providing them with education and rehabilitation, and helping their families find viable economic alternatives.



Resolving Conflicts

Effective governance is required to prevent and control conflict. The United States has strengthened its organizational abilities to prevent the outbreak of conflicts and to end them as quickly as possible. The United States also tries to help countries quickly recover from conflict and resume a course of sustainable development.

In Afghanistan, the U.S. Government is reducing the potential for future conflict by strengthening government institutions that contribute to political differences being debated and settled peacefully. USAID participated in recent preparations to reestablish the *loya jirga*, the traditional Afghan forum for selecting political leadership. The U.S. Government is providing funding for programs that enhance the nascent government's credibility, strengthen law enforcement, secure borders, and enhance logistical and communication support for the Afghan Interim Authority; it is also funding local initiatives that help communities define priorities and rehabilitate local infrastructures, including village-to-market roads and government facilities.

A new tool in the effort to prevent and control conflict is a mechanism called Conflict Early Warning and Response Network, which was designed in cooperation with heads of seven countries in the Horn of Africa by USAID and GTZ (the aid agency of the Government of Germany). The Network was formally approved by the seven participating African governments in January 2002. It will promote peace and security through cooperation and dialogue with representatives of member state governments, civil society organizations, and bilateral and multilateral donors. ■

Investing in People

Human development is an essential objective of U.S.-assisted programs. Well educated, healthy people can take advantage of opportunities to build their economies and care for the environment. Investments in expanded and improved education are linked to faster and more equitable economic growth, increased productivity, reduced poverty, and strengthened democracy and civil liberties. Furthermore, citizens who are educated, trained, and healthy participate more fully in local, national, and global development.

Investing in Education

The U.S. Government provides field support, technical leadership, and research to help improve education and training in developing and transition countries. In over 25 countries, USAID gives priority to efforts that strengthen primary education, placing particular emphasis on improving educational access, quality, and equity. For FY 2002, the Agency's education budget was increased to \$357 million, up from \$285 million in FY 2001.

Other U.S. agencies, including the Small Business Administration and the Department of Education, spend \$1–1.5 million annually on international education activities. USDA also expects to receive \$100 million in FY 2003 for its Global Food for Education Program, which links improved nutrition and education.

In June 2002, President Bush announced that the United States is doubling—to \$200 million—its five-year commitment to the African Education Initiative, launched in July 2001, bringing the total to \$630 million. The initiative, a collaboration with African governments, is designed to

- provide in-service training for more than 260,000 teachers
- train more than 160,000 new teachers
- partner with U.S.-historically black colleges and universities to provide 4.5 million more textbooks and other learning tools to African children
- provide 250,000 scholarships to African girls
- increase the role of parents in education and make schools more open to reform ideas from the community



Basic Education

U.S. Government resources and attention often give priority to basic education, which encompasses primary and secondary education, early childhood development, and literacy training for adults and out-of-school adolescents. The United States also provides training for teachers who work in any of these areas. The activities and objectives of the U.S. Government's overseas basic education initiatives include:

- creating student-friendly classrooms, and providing materials to meet growing demands
- sponsoring in-service teacher training, particularly for teachers in rural, isolated areas
- improving educational opportunities for girls, out-of-school youth, and other underserved populations
- providing educational opportunities to preschool-age children to improve their chances of primary school success
- restoring and improving the education of child victims of earthquakes, hurricanes, war, and the HIV/AIDS pandemic
- providing basic literacy and numeracy instruction in nonformal school settings
- using television, radio, and computers to improve instruction for hard-to-reach students and teachers

Other important projects that support basic education more indirectly involve students and teachers. These aim to

- involve communities in educational decisionmaking, program planning, and implementation
- facilitate dialogue on education policy reform to improve system efficiency and quality
- strengthen planning, management, and evaluation expertise within agencies and institutions

- evaluate private sector initiatives and establish partnerships between public and private institutions
- initiate efforts to minimize abusive child labor through education

The Peace Corps implements basic education projects in 52 countries. Thirty-five percent of its volunteers are engaged in education, the largest single sector of involvement. Most of them teach English, mathematics, or science; others train teachers or their counterparts. Education volunteers also work with communities to expand resources, develop youth camps, design curricula, and become familiar with computer technology.

Information and communication technologies offer outstanding opportunities to provide education. To this purpose, the U.S. Government helps to incorporate them into educational systems and to establish the legal and regulatory frameworks required for the proliferation of such services. In rural and disadvantaged areas, the U.S. Government establishes telecenters that are alternative delivery systems for basic education. USAID supports *Educadores*, run by the Ministry of Education in Honduras, a program that educates youth and young adults by means of interactive radio lessons keyed to accompanying texts. A similar program in Zambia instructs orphans and other vulnerable children. It is the product of collaboration between USAID contractors, the Ministry of Education, the Ministry's Education Broadcasting Service, NGOs, church groups, and communities. USAID also launched the Training Uganda's Teachers with Technology Project. In close cooperation with Uganda's Ministry of Education, this project equipped nine educational centers with computer training laboratories

and is preparing a multimedia, online teacher-training curriculum.

Workforce Training, Higher Education, and Fellowships

Cooperative programs and projects sponsored by a variety of U.S. agencies provide both direct and indirect capacity building to bolster sustainable development. The U.S. Department of Health and Human Services (HHS) Health Resources and Services Administration has aided in the establishment of telehealth networks to train providers in remote areas of U.S. territories and associated jurisdictions in the Pacific. This technology platform allows states in the Pacific to develop the infrastructure necessary to establish the telehealth system as a key strategy for improving primary care delivery, enhancing prevention activities, and supporting the training of health personnel.

USAID's Education for Development and Democracy Initiative aims to improve education and strengthen access to the technology and information needed to compete in the twenty-first century. One activity of the initiative is a partnership with Georgia State University to establish the Ronald H. Brown Institute in memory of the late U.S. Secretary of Commerce. The Institute is designed to contribute to private-sector-led economic growth in Africa by strengthening the skills of people already in business and providing training to other individuals, especially students, aspiring to enter the business world. The focus will be on state-of-the-art technologies, marketing techniques, and management systems to raise productivity, efficiency, and standards of quality control to help companies achieve and maintain international competitiveness.

Among a variety of U.S.-supported international workforce development and training initiatives is one run by the U.S. Department of Education that trains educators from Eastern and Central Europe in civics education, human and financial resource management, and education policy reform. Another run by the U.S. Small Business Administration provides training and advice to Egyptian business owners. In addition, the U.S. Department of Health and Human Services, through its agencies, the National Institutes of Health, the Centers for Disease Control and Prevention, and the Health Resources and Services Administration, promotes human capacity development in areas such as health research, provision of health and medical services, and health system organizational capacity.

Sustainable societies require a critical mass of highly trained people, including experts in scientific discovery and the management of data and information systems.

To this end, the U.S. Government supports capacity building programs that offer a wide variety of education, training, and information resources, and fosters public-private partnerships between academic institutions. The Higher Education and Workforce Development Partnership Program has created partnerships in 53 countries among 130 U.S. community colleges and universities and 120 institutions in developing countries. This Program developed or upgraded university curricula in HIV/AIDS (India, South Africa), human rights (Colombia), community health (Senegal), agronomy and agricultural extension (Rwanda), environmental engineering (Philippines), child welfare and nutrition (India),

pesticide disposal (Tanzania), teacher training (South Africa, Ghana), solid waste and wastewater management (Uganda), and mathematics and science (South Africa).

A large number of fellowships and exchanges for specialists working on sustainable development issues are supported by the U.S. Government and by U.S. foundations and universities. Such institutional awards strengthen home country capability and bolster the training conducted by U.S. faculty in home country institutions.

Promoting Health and Combating Disease

The U.S. Government also supports initiatives that strengthen laboratory capabilities, and training in areas like epidemiology and health services delivery. USAID and HHS's National Institutes of Health, Centers for Disease Control and Prevention, and the Health Resources and Services Administration have made substantial commitments. The National Institutes of Health alone manages more than 20 different international programs to build research capacity.

Numerous cooperative international programs and projects sponsored by many U.S. federal agencies and non-profit groups build capacity and bolster sustainable development. Programs that provide training in epidemiology, collaboration on education and advocacy programs, and the strengthening of laboratory capabilities are supported by USAID and HHS through several institutes and centers at the National Institutes of Health and the Centers for Disease Control and Prevention.

U.S. Government efforts to promote sustainable development concentrate on

- improving maternal and child survival, health and nutrition
- contributing to the advancement of scientific knowledge about health and helping to transfer this knowledge to developing countries
- preventing HIV/AIDS and mitigating its impact
- preventing disease and reducing deaths from other major infectious diseases

Maternal and Child Survival

Since the 1960s, the U.S. Government has been a global leader in the worldwide effort to improve maternal and child health. It has supported the development of tools—such as vaccines and oral rehydration therapy—used to lower mortality rates for children under age 5. Between 1985 and 2000, these rates dropped from 105 to 70 per 1000 (excluding China). Current contributions include

- HHS/CDC and USAID efforts to eliminate or eradicate measles, and U.S.-supported family planning programs that reduce maternal and child deaths in poor families.
- Supplemental vitamin A programs that USAID helped establish in more than 50 countries in an effort to reduce the mortality rate for children under 5 by 23 to 34 percent.
- USAID's development food aid program in 38 countries that helps to reduce child malnutrition and mortality. In India, CARE's program reaches 8 million women and children. The program also promotes sustainable solutions to poverty and hunger.

Preventing and Controlling HIV/AIDS

Historically, the U.S. Government has been the largest bilateral donor helping to prevent and control HIV/AIDS, and

it has substantially increased its commitments since 2000. Many departments and agencies lend their expertise and resources. A partnership formed by the Departments of State, Defense, Labor, Health and Human Services, and USAID provides financial and human resources to the international effort to combat the pandemic, and is active in 24 of the most vulnerable countries. The work includes establishing and promoting voluntary counseling and testing programs, workplace education, surveillance that tracks HIV seroprevalence, and communication to change behaviors that contribute to HIV infection.

Many agencies lend their expertise and resources to the campaign, including several within the Department of Health and Human Services. During the past 15 years, the International AIDS Research and Training Program of the National Institutes of Health has trained over 2,000 scientists from over 100 countries. The HHS Centers for Disease Control and Prevention (CDC), active in 24 countries, expands and strengthens surveillance programs for HIV/AIDS and sexually transmitted diseases, and strengthens laboratory support for their diagnosis and for blood safety screening. Among the countries included in the initiative, Zambia reduced HIV prevalence among 15- to 19-year olds by 42 percent between 1993 and 1998. Contributing to this result was a USAID-supported mass media campaign aimed at young adults and a CDC public health program.

The International Training and Education Center for HIV works to improve the care of people living with HIV/AIDS in heavily affected countries, and especially in sub-Saharan

Africa and India. Established by the HHS Health Resources and Services Administration and the HHS/CDC, the center is increasing the capacity for the training of HIV/AIDS care providers—physicians, nurses, clinical administrators, and other key personnel. The center enhances training capacities in diagnosis, treatment, and prevention of the HIV virus, including the prevention of perinatal transmission and the prevention and treatment of opportunistic infections, including tuberculosis.

Breakthrough Innovations on HIV/AIDS in Uganda

In the fight against HIV/AIDS, the example of Uganda is instructive. Between 1992 and 2000, strong political leadership by the country's president and innovative and rigorous approaches to HIV prevention and care contributed to reducing the country's HIV-prevalence rate by over 50 percent—down to an estimated 8.3 percent of the adult population. The president's political leadership encouraged broad and frank discussions. Radio, television, churches, mosques, media, schools, and political institutions disseminated information. Women were also encouraged to be more assertive in promoting safe sex.

USAID, the HHS Centers for Disease Control and Prevention, and the Department of Defense played important roles in this success. They supported such innovative projects as:

- the AIDS Information Center, the first program in Africa to offer voluntary counseling and testing for HIV, now expanded to 51 locations



- TASO—The AIDS Support Organization—the first and largest indigenous HIV/AIDS care and support organization in Africa
- an innovative “model district” program that is developing comprehensive, integrated HIV/AIDS services in 10 districts throughout Uganda
- the first AIDS in the Workplace project in Africa, and one of the first AIDS in the Military projects
- an activity that used U.S. Department of Agriculture emergency humanitarian food aid to help meet the nutritional needs of families and orphans affected by the HIV/AIDS epidemic

The Department of Labor's Workplace Education Program also aims to reduce the rate of HIV/AIDS infections in Malawi, Nigeria, Zimbabwe, Ukraine, Vietnam, the Dominican Republic, India, and Haiti, by working with employers, trade unions, and government ministries.

In June 2002, President Bush announced an International Mother and Child HIV Prevention Initiative. It will spend \$500 million to prevent the transmission of HIV/AIDS from mothers to infants and improve health-care delivery in the Caribbean and 12 African countries. The improved drug treatment and healthcare provided by this new initiative stand to reach up to 1 million women annually, and are expected to reduce the incidence of mother-to-child transmission by 40 percent within five years.

The United States provided initial funds and pledged \$500 million to the Global Fund to Fight AIDS, Tuberculosis, and Malaria, and is committed to increase the contribution as the fund shows results. The grants and drugs thus provided should enable a six-fold increase in anti-retroviral treatment for HIV in Africa.

The largest investment in AIDS research belongs to the HHS National Institutes of Health, which will invest \$2.5 billion in FY 2002. These unparalleled expenditures concentrate on such key areas as the development of vaccines and microbicides; biomedical and behavioral prevention strategies, including prevention of mother-to-child transmission; and care and treatment approaches, including antiretroviral therapies and treatment and prevention of coinfections. The HHS/NIH Plan for HIV-Related

Research includes a strategic plan for international AIDS research, including training of researchers, enhancing laboratory capacity, developing clinical capability, and transferring sustainable technologies such as low-cost diagnostics. An important HHS/NIH focus is the translation of the results of research to improve patient care, develop prevention programs, and inform policy decisions in resource-poor settings around the world.

Fighting Other Endemic Diseases

U.S. Government programs also contribute to reducing deaths and sickness from other endemic infectious diseases. Malaria requires particular attention; it causes an estimated 1 million deaths annually, as well as another 1.8 million malaria-related deaths. USAID supports efforts to develop a malaria vaccine and sponsors innovative, low-cost health care technologies for use in developing countries. These include a rapid diagnostic strip test—an easy-to-use and low-cost test for malaria—and syringes that self-destruct after one use to prevent reuse and transmission of blood-borne diseases. U.S.-supported malaria programs work to improve prevention and treatment, increase local capacity to combat the disease, and accelerate vaccine development. Among them is the International Malaria Research Training Program, funded by the Fogarty International Center of the HHS National Institutes of Health. Health professionals from Kenya, Mali, Senegal, Uganda, and Zimbabwe have trained in malaria research under its auspices.

In 2000, tuberculosis caused an estimated 1.7 million deaths worldwide. To help control this epidemic, USAID

recently funded the Tuberculosis Coalition for Technical Assistance. It comprises six partners with great expertise in tuberculosis prevention and control, including the American Lung Association and the Royal Netherlands Tuberculosis Association. They will provide technical assistance to developing country governments and organizations. To fight tuberculosis, USAID also assists programs in 31 countries. The Agency collaborated with the Gorgas Memorial Institute to adapt the Directly Observed Therapy Shortcourse approach for tuberculosis victims in Brazil. The trial program in a rural area near Rio de Janeiro achieved an 84 percent treatment success rate, considerably higher than usual.

With the Bill and Melinda Gates Foundation, the U.S. Government is a key partner in the Global Alliance for Vaccines and Immunization, which seeks to reduce the disparities in immunization access in 60 developing countries where the need is greatest. For this purpose, the Alliance has made five-year commitments that total over \$900 million to make available vaccines against yellow fever, hepatitis B, and haemophilus influenza B, a leading cause of meningitis and other diseases. Mozambique received 1.3 million doses of a combined vaccine and funding to strengthen immunization services from the Alliance in 2001. Such efforts to fight and prevent devastating diseases combine the energies, capabilities, and inventiveness of the public and the private sectors, involving NGOs, foundations, and academia.

For nearly 20 years, the HHS Centers for Disease Control and Prevention have collaborated with ministries of health and universities around the world to establish and conduct

Applied Epidemiology Training Programs for developing local specialists in epidemiology. These programs are modeled on the Epidemic Intelligence Service, the centers' premier applied epidemiology training program. The two-year training and service programs are designed for health professionals in entry or mid-level positions. Approximately 95 percent of all graduates remain in government service as public health practitioners at local, district, provincial, and national levels. Trainees have conducted investigations that encompass virtually every known area of public health, including vaccine-preventable diseases, diarrheal diseases, malaria, HIV, Ebola, occupational and environmental health issues, and noncommunicable diseases.

The Asia Pacific Economic Cooperation strategy against infectious disease, led and supported by the United States, includes a Network-of-Networks initiative. This initiative will help to improve disease surveillance and monitoring in the region, boost national capacity to respond to outbreaks, and train health authorities. ■



Mobilizing Partnerships for Sustainable Development

“At Johannesburg, governments will agree on a common plan of action. But the most creative agents of change may well be partnerships—among governments, private businesses, nonprofit organizations, scholars, and concerned citizens.”

UN Secretary General
Kofi Annan
May 14, 2002

Why Partnerships Are Effective

Support by the U.S. Government for partnerships has been both extensive and balanced. To reach the goals of sustainable development, the U.S. has supported different kinds of partnerships. Those between governments achieve common goals and contribute to capacities to rule fairly and productively. Partnerships between governments and the private sector, foundations, NGOs, the scientific and technology communities, and labor organizations bring a wide range of talents and resources to bear on the critical tasks of resource stewardship, economic progress, and social development.

Partnering with the Nonprofit Sector

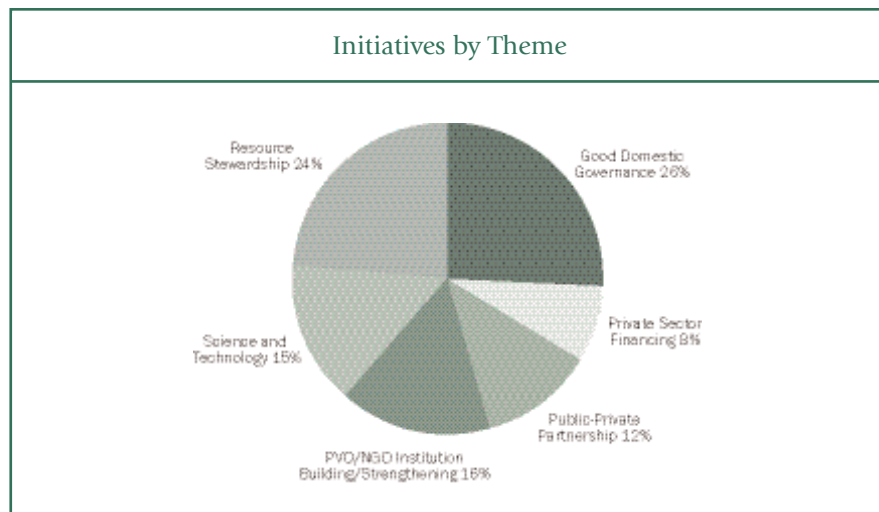
Domestic NGOs and international private voluntary organizations (PVOs)

play vital roles in sustainable development. Frequently, they work to increase the skills and assets of poor people, and they advance the causes of environmental stewardship, human rights, and good governance. The U.S. Government has long recognized the contributions of PVOs and NGOs and has funded a variety of programs that build their capacities and support their work.

With USAID assistance

- PVOs work with poor rural communities to improve incomes and welfare in almost all countries in Africa
- NGOs, including faith-based organizations, play key roles in responding to the AIDS epidemic in Africa and elsewhere
- NGOs involve parents and community groups in support of schooling
- NGOs and PVOs carry out significant environmental tasks, including safeguarding watersheds, providing pure water, maintaining biodiversity, and ensuring sustainable forest use

Over the past 40 years, progress in international development has become increasingly dependent on the nonprofit sector, which brings significant resources to the task. U.S. PVOs alone provide an estimated \$4 billion annually in assistance grants—or about 60 percent of all such flows. In 2000, U.S.



PVOs implemented an additional \$2.7 billion annually to programs financed by the U.S. Government.

Promoting Good Governance

PVOs and NGOs committed to participatory development and sound development practices are often strengthened by U.S.-funded technical and organizational management training assistance and funding to develop consortia and umbrella organizations. Of the initiatives surveyed, 20 percent supported PVOs or NGOs. One such recipient is the Democracy Network Program in Macedonia, which enhances democratic institutions and promotes citizen participation by strengthening civil society organizations through training, technical assistance, and grant support.

USAID also supports NGOs that strive to improve conditions of work. Funding provided to the American Center for International Labor Solidarity helps bring technical assistance to unions, labor NGOs, and others, enabling them to promote the adoption and effective enforcement of core labor standards and the crusade against child labor. The Center also helps establish legal frameworks to protect and promote civil society, increases the institutional and financial viability of labor unions and labor NGOs, supports anti-sweatshop activities, and improves health through workplace and peer-to-peer health education and prevention. The USAID-supported Women's Economic and Legal Rights program trained women market vendors in Cambodia to deal more effectively with market authorities, and provided legal aid on work-related issues that has helped women in Bangladesh form trade unions and prompted government responses to worker's complaints.

Promoting Economic Growth

U.S.-supported PVOs and NGOs promote economic growth. USAID supports efforts of herder groups in Mongolia to increase their incomes, and funds business development services and business-focused civil society organizations in Ecuador. USAID also funds business skills training for micro-finance institutions in Zimbabwe. Assisted by USAID, Technoserve, a U.S. NGO, established business organizations that support small farmers in El Salvador and many other countries.

The U.S. Government Overseas Private Investment Corporation's loan to Living Water International helps address a serious shortage of drinking water in Kenya by financing drilling equipment that will permit the digging of 20 new wells a year. Citizens are also trained to maintain these wells, pumps, and storage tanks.

"Good policies are not enough. People must be able to seize the opportunity Governments, civil society, and the private sector must work in partnership to mobilize development resources. We must work together to unleash human productivity, to reduce poverty, to promote healthy environments and foster ... sustainable growth. We've got to help young people to get the skills they need, the education they need, the motivation they need to take part in a changing economy and a changing political environment."

Secretary of State
Colin L. Powell
July 12, 2002

Caspian Partnership Program

The Caspian Environmental Partnership Program builds and strengthens a network of NGO partners that addresses environmental and social issues. Initially funded by USAID, the program now receives support from the Open Society Institute, the Trust for Mutual Understanding, and Rockefeller Family Associates. Its objectives are to:

- build a network of informed activists to share information and plans in Caspian-related activities
- increase effectiveness of NGOs at the local level
- increase partnership among NGOs working on environmental issues relevant to the Caspian region
- strengthen inter-sectoral cooperation among NGOs, business, and government

The Caspian Cooperative Grants Program funds programs in such areas as environ-



mental education, monitoring of pollution impacts, and promotion of safe transit of oil by Kazakh and Russian NGOs. The Program also includes the Caspinfo Newsletter and website, and the Caspian Seminar Series. Its Caspian E-mail Grants Program provides e-mail access to environmental NGOs in the region and in remote areas, assisting communication between them, and providing e-mail training to over 40 environmental NGO representatives in four countries.

The Food for Peace Program, supported by USAID and the Department of Agriculture, provides significant resources to PVOs seeking to increase agricultural production. The program also provides strengthening support to cooperating agencies such as Food Assistance Management, a consortium of PVOs offering a forum for sharing information and technical training for its members.

Peace Corps volunteers also support economic development through NGOs. In Panama, they work with numerous small business associations, while in Bolivia they build capacity in NGO artisan associations. The Peace Corps Community Economic Development Project in Romania places volunteers in NGOs, chambers of commerce, public administration offices, and schools and universities.

Promoting Social Development

Much is being done at the country level to strengthen NGOs working in health. In Bangladesh, USAID provides technical assistance to expand and improve the package of health services available from NGOs, including assistance relating to behavior change communications. The members of an NGO health consortium in Bolivia that USAID helped to establish provide health services to lower income citizens. In Yemen, part of a larger health and education program will mobilize and train community women's organizations to address women's health issues and mobilize and strengthen community participation and parental involvement in basic education.

Funding provided to TASO, the Ugandan AIDS Support Organization,

enabled it to support other NGO programs in 21 Ugandan districts. USAID provides support for the International HIV/AIDS Alliance, which not only builds the capacity of local NGOs and community-based organizations in every region of the developing world, but also documents and shares lessons about mobilization and capacity building. USAID also supports NGO Networks for Health, a consortium of five PVOs led by Save the Children, that builds and strengthens the capacities of PVO/NGO networks to deliver family planning, maternal health and child survival programs, and HIV/AIDS prevention services.

In education, USAID helps to involve parents and community groups in schooling through support for parent-teacher associations, school committees, and development teams. The Agency also supports community schools that are either established by local residents with support from the government or established by a local NGO and managed by community members. In such schools, parents improve facilities, establish needed programs, monitor teacher performance, and sustain community interest in education.

USAID agreed to support 70 new schools in rural areas of Egypt where gender imbalances were greatest. Individuals, villages, and the government donated the land. Community education teams took responsibility for identifying sites, securing deeds, obtaining the necessary permits, and helping coordinate school construction. These volunteer teams were also responsible for helping enroll girls and making local school management decisions. In one year, 10,600 children were enrolled in primary grades.

In an effort to rehabilitate and advance basic education, USAID/Ethiopia has been working to increase community participation in schools. Under the Community Schools Grants Program, 1,300 schools received grants that were matched by local contributions. These funds permit community groups to be involved in day-to-day management decisions to improve school facilities and create girl-friendly school environments. Primary school enrollment rates have more than doubled, and girls' participation has dramatically increased in targeted schools.

Some NGO/PVO strengthening activities simultaneously support economic growth, social progress, and resource stewardship. Among these are agricultural development projects that increase production and reduce use of expensive and environmentally damaging fertilizers and pesticides. Another example is a USAID initiative in the Democratic Republic of the Congo that works, with broad NGO and PVO involvement and emphasis on civil society participation, to improve food security and health and to protect biodiversity.

Promoting Environmental Stewardship

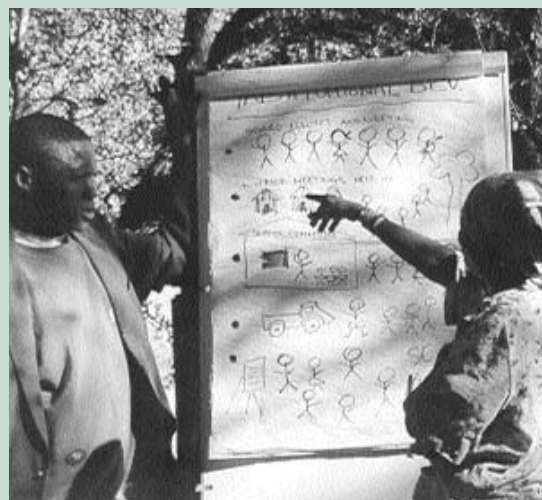
Often with the assistance of U.S. Government agencies, NGOs play important roles in resource stewardship. They help to mobilize the interest of local people in conservation, promote equitable access and good governance, and encourage alternatives to resource exploitation.

The Environmental Protection Agency's International Safe Drinking Water Initiative, launched in 1999, is making efforts to build capacities of local water professionals and communities to

improve drinking water quality in Central America and eastern and southern Africa. In response to the devastation caused by Hurricane Mitch in Central America, the agency joined forces with USAID and other U.S. Government agencies to aid the reconstruction of the region. The agency addressed improvements to drinking water quality by helping to protect source water and develop safe drinking water programs. Through a series of train-the-trainer workshops, technical assistance, and hands-on practical experience, NGOs, community members, and water professionals learned how to analyze water quality data and use them in the decisionmaking process. These strategies have been applied in Africa, where the agency addresses the water and sanitation needs of the urban

Natural Resource Management in Namibia

In Namibia, USAID is supporting a community-based natural resource management program that is establishing, managing, and sustaining conservancies. One component of this support is technical assistance and training to NGOs, conservancies, and the Ministry of Environment and Tourism. Since 1996, the government has registered 15 communal area conservancies that engage over 32,000 historically disadvantaged



Namibians and encompass 4 million hectares of prime wildlife habitat. Income earned by these conservancies—primarily through tourism—has doubled since 2001 and is 230 percent over targets set in 1999. One conservancy is financially self-sufficient and three others should be within the next 12 months.

Employment has also increased: over 500 full- and part-time skilled jobs were created, an estimated 300 people received income from the production and sale of handicrafts, and over 700 people took advantage of seasonal, unskilled employment opportunities.

poor, in partnership with Water for People, a U.S.-based NGO.

In Jamaica, USAID's program to improve the quality of key natural resources provides a small grants program to local NGOs to implement community-based environmental projects in the Great River watershed. These involve such areas as water and sanitation, disease resistant crops, biological soil conservation, and waste management.

USAID is also financing the construction of a water supply network for 23 villages in the southern West Bank that will result in potable water being available for the first time in these villages. Village councils are involved in decisions on how to pay for and maintain the distribution system.

In Mexico, the Department of Agriculture's Forest Service is helping NGOs conduct watershed assessments and design restoration programs in order to improve the health, functioning, and products of watersheds serving critical natural and urban areas. In the State of Guanajuato, Forest Service experts helped assess the Rio Laja watershed and train communities to undertake restoration activities in streambeds. In Queretaro, the Forest Service is supporting efforts of a local group to conduct an inventory of forest and river ecosystems in the Sierra Gorda as a first step toward improving their management.

NGOs and PVOs play key roles in sustainable development. The U.S. Government has helped make this impact even greater through its many programs to strengthen NGOs and PVOs and support their efforts.

How Private Investments Support Sustainable Development

In the last few decades, the role of private investment in developing and transition countries has overshadowed official development assistance in terms of resource flows. In the 1960s, official development assistance accounted for over 70 percent of total U.S. resource transfers, while in the 1990s, private flows accounted for nearly 80 percent of total U.S. transfers. Overall, developing countries earn \$2.4 trillion per year from trade and receive \$180–200 billion a year in foreign investment (in addition to a very large amount of domestic private investment). This compares to total foreign aid of about \$55 billion per year.

Helping countries engage the private sector for development and growth is an integral part of U.S. efforts to assist developing and transition countries. The United States works with national governments to develop policies that encourage the private sector and laws that protect business owners and investors. More directly, the United States works with business associations, businesses, and individual entrepreneurs to prepare them for many of the tasks of sustainable economies. This includes helping develop financial services for micro and small enterprises to assist in developing new generations of entrepreneurs. Training and technical assistance is also provided to business people to increase efficiency, productivity, and competitiveness.

The U.S. Government forms partnerships with multilateral and bilateral donors as well as with the private sector to plan and implement these initiatives. An important aspect of the initia-

tives is partnering between private sector organizations to foster the transfer of knowledge and resources.

Private sector financing contributes to all three pillars of sustainable development: social progress, economic growth, and environmental stewardship. Social progress is enhanced through a vibrant private sector that provides choices to individuals for their employment and opportunities for training and education.

Worldwide, the private sector has been the most efficient avenue for economic growth, as competition promotes efficiency and ingenuity. The private sector also encourages sustainable natural resource management as companies pursue ways to increase their profits by using fewer resources such as energy, water, soil, and land.

Private Sector Finance and Good Governance

Countries throughout Eastern Europe and Asia are in the midst of a transition from centrally planned to market economies. In Mongolia, USAID provides technical assistance and training in the privatization and commercialization of publicly-owned companies. A USAID-funded management contract introduced sound commercial practices and brought about a dramatic turnaround in Mongolia's Agricultural Bank. Eighteen months of management and employee training helped render the bank solvent and saved its vital network of 356 rural branch offices.

The bank is now slated for privatization. Since 1998, USAID-funded advisors have been instrumental in the sale of 47 government-owned enterprises

through a sealed bid auction that has raised more than \$15.4 million for Mongolia.

One of the most important engines of growth is markets that can expand through fairly run trade regimes. However, a significant barrier to efficient trade in southeastern Europe is at the border of each country in the customs house. Corruption, inconsistently enforced regulations, and poor customer service often impede the flow of goods. The result is that customs procedures often account for a significant portion of the total costs of moving goods through the region.

To address this problem, USAID has developed an innovative partnership under the Trade and Transport Facilitation in Southeast Europe Program. The program aims to increase the volume and value of trade in

"The evidence is that where nations adopt sound policies, a dollar of foreign aid attracts two dollars of private investment."

President George W. Bush
March 14, 2002

Domestic Shelter and Municipal Services for the Poor in South Africa

To bring together stakeholders that provide shelter and municipal services to the poor, the U.S. has used grant funds to provide technical assistance, training, and grants to NGOs, combined with credit guarantees. In South Africa, these guarantees have supported private financial institutions efforts to better serve lower- and middle-income populations as well as increase private investment in critical municipal services such as water, sanitation, and electricity, particularly among the country's historically disadvantaged populations.

These efforts have yielded significant results. Since 1994, \$15 million in grant funds have guaranteed nearly \$230 million in lending from private partners for shelter and municipal water and



sanitation services. In exchange for access to these funds, the domestic private sector in South Africa has lent over \$700 million to individual households for shelter and to local authorities for critical municipal services. An estimated 1.2 million households benefited from these services. A survey of beneficiaries under one program found that over one-third were female heads of household.

southeast Europe by improving customs infrastructure and efficiency and increasing the capacity of second-tier transporters to move goods throughout the region. The World Bank has approved \$64 million in loans to Romania, Bulgaria, Moldova, Macedonia, Albania, Croatia, and Bosnia and Herzegovina to improve the physical infrastructure of customs stations. USAID, working with U.S. Customs, will improve the technical capacity and efficiency of customs agencies by streamlining operations and reducing paperwork. A grant to the American College of Thessaloniki is funding development of a distance-learning program for second-tier freight forwarders to increase their knowledge of customs procedures and develop a standardized code of ethics and operations.

In Croatia, USAID is assisting in the long process of creating a full-service private sector. The Government of Croatia's portfolio of state-owned enterprises has been reduced from approximately 1,900 at the outset of USAID assistance to the present level of around 1,200. Croatia is now beginning to modernize, restructure, and privatize its energy sector. USAID advisors assisted the Ministry of the Economy and the Energy Institute in the drafting of five laws that provide the legal framework for this process. Additionally, with the support of the USAID-funded Croatian Competitiveness Initiative, the chief executive officers of 14 of the largest businesses in Croatia have formed a business roundtable that meets regularly. They are developing long-term strategic plans to increase Croatian competitiveness in cooperation with key government officials, national labor leaders, and universities.

How Private Sector Finance Increases Incomes and Opportunities

In a number of countries, the United States is fostering the creation of enterprises, focusing both on the general economy and on creating opportunities for the poor to increase their incomes. Jordan has taken a wide range of measures to open markets, overcome structural economic obstacles, and integrate more fully into the global economy. For example, the Aqaba Special Economic Zone is a model of streamlined investment procedures. USAID played a critical role in providing advisory services for this initiative and will continue to provide assistance until the zone is fully established and efforts are made to expand trade and attract new investment. Already, the zone has attracted \$422 million in private investment, far exceeding the target of \$100 million. USAID also initiated the construction of a light industrial estate in Aqaba, which is anticipated to generate over 5,000 new light industrial jobs within five years.

In India, USAID's economic growth program focuses on improving the regulatory environment for the private sector. USAID is working with India's Securities and Exchange Board, the Insurance Regulatory and Development Authority, and the Ministry of Finance Pension Reform Task Force to strengthen capital market regulation and oversight. One activity is developing regulatory and performance standards for microfinance institutions and promoting linkages between the microfinance subsector and the mainstream financial sector.

Businesses need financial backing, but micro and small businesses often do

not have access to the services of commercial banks. Banks are often not well structured to cater to the micro and small-scale market, and their costs are often too high to make microlending profitable. Through programs in a large number of countries, the U.S. Government promotes the growth of micro and small businesses by strengthening institutions servicing microenterprises. In follow-up to the NGO-led Microcredit Summit, the United States has strengthened its programs to foster microenterprises. Annual appropriations now total \$155 million a year, of which half must be expended in programs aimed at the poorest.

In 1999, USAID's Microenterprise Initiative reached 4.5 million poor clients—2.5 million in Indonesia alone—with active loans from USAID-supported institutions. The loans totaled \$1.5 billion. Of the 2 million clients outside of Indonesia, 69 percent were below the line designated by the U.S. Congress for poverty lending. Worldwide, 70 percent of microfinance clients are women, and loan repayment rates average 95 percent. Current plans for USAID microfinance activities emphasize expanding the number of sustainable intermediaries assisted, expanding their client base to include more and poorer clients, and broadening the range of services to include insurance, savings, and transfers. USAID is also expanding its business development services, such as technical and management skills training, marketing services, and productivity-enhancing technology. Priority interventions will strengthen private sector vendors of business development services to better serve the needs of urban and rural microenterprises.

Supported by USAID's leadership, the microenterprise field is continuing to receive substantial attention from donors, international organizations, and NGOs. The Consultative Group to Assist the Poorest (CGAP), a multi-donor effort founded by USAID, now numbers 27 donors and has established a strong program of global microenterprise development. USAID is now spearheading the creation of a CGAP working group on market research and product development and is establishing donor coordination through CGAP to strengthen African programs. USAID also played a leadership role in promoting market-driven business development services for microenterprises, coordinating this work through the Donors' Committee on Small Enterprise Development.

In Senegal, USAID provides institutional support, technical training, and equipment to seven microfinance institutions that have networks totaling 95 individual bank branches. The support has helped the microfinance institutions open new branches in unserved areas, expand and strengthen their existing branches, increase client confidence, and increase their outreach. As a result, the number of clients, volume of savings, and value of loans have increased sharply.

As noted above, entrepreneurs often need training in how to manage a competitive business. One local-level provider of such training is the Peace Corps. In 2001, the Peace Corps reported business development projects in 36 countries benefiting about 2,400 communities. In the process it trained 6,700 service providers and strengthened 3,700 groups.

USAID is partnering with the Organization of Eastern Caribbean States to help companies in the eastern Caribbean strengthen their ability to compete in the international marketplace. Technical assistance and training is provided to targeted small and medium-sized companies in areas such as product and quality assurance, computerization, productivity tooling, marketing information and research, and gaining access to new markets. Efforts are also underway to help educational institutions build human capacity in areas such as information technology and business management.

The U.S. Small Business Administration is providing technical assistance to

Nigeria to create two business information centers to promote private sector enterprise and small business development through public-private partnerships. The centers serve as one-stop community-based business assistance centers where small- and medium-scale entrepreneurs can receive technical assistance, gain computer access, explore financial options, and link up with other businesses. The project also provides center managers with U.S.-based and in-country training.

How Private Sector Finance Promotes Environmental Stewardship

The private sector can help manage and conserve natural resources and the environment by using environmentally sound production methods. Production that limits pollution, and conserves water, soil, land, and fuel, protects natural resources for the future. Conservation techniques may also increase current food yields by, for example, conserving rich soils and replenishing depleted soil. An informative case on how this works in forestry is found in Russia where, with USAID assistance, forestry sustainability and the private sector are finding common purpose.

The Nicaraguan agricultural sector, slowly recovering from Hurricane Mitch, has recently suffered further setbacks from a series of droughts and a decline in international coffee prices. USAID has formed partnerships with U.S. and Nicaraguan NGOs to help small farmers adopt environmentally sustainable agricultural practices and use improved and certified seeds. Crop diversification, improved soil and water conservation, environmentally sound cultivation practices, and improved

Increased Environmental Management Capacity to Support Sustainable Economic Growth in Russia

The forests of the Russian far east and Siberia contain immense potential for jobs, and for business opportunities in secondary wood processing, non-timber forest products, and ecotourism. To help Russia establish sustainable economic growth, USAID initiated improved environmental management activities in 2000, which, upon completion in 2005, will have cost approximately \$30 million.

USAID support has helped about 150 ecobusinesses in the Russian far east to grow and improve their environmental performance. New tourism facilities in protected areas have meant increasing opportunities for tourism and new businesses and jobs for local residents, who now have more stake in preserving the environment. Reforested acreage has increased in one major forest region, due to USAID assistance in forest management for forestry administration and small businesses.

For economic reasons, businesses are also taking environmental issues more serious-



ly. USAID's grantees have been helping Russian businesses become more profitable by improving their energy efficiency and reducing pollution from their operations. USAID is helping Russian businesses comply with the World Trade Organization's required international environmental standards for companies competing in the global market. More than 100 businesses are now pursuing certification. USAID support is also helping to widen investment opportunities and expand markets in secondary wood processing, non-timber forest products, and ecotourism.

post-harvest storage can increase incomes for farmers while protecting the environment. These methods are improving the resilience of agricultural producers, teaching them how to best identify, use, and conserve their productive resources.

Public–Private Partnerships

The U.S. Government recognizes that sustainable development can be enhanced when public institutions collaborate with private for-profit and nonprofit institutions and organizations. Such partnerships can greatly extend the impact of public programs with limited operating budgets and trained staff. Local private entities can engage local groups in solving their own problems and can offer feedback that enhances the effectiveness of public agencies. On an international level, U.S. private sector entities—PVOs, professional societies, academic institutions, firms, and enterprises—can share ideas, technologies, financial resources, and management approaches with developing-country governments and local NGOs.

These partnerships reflect a spectrum of arrangements. The following hold the most promise for fostering sustainable development:

- networks of public and private organizations address global and regional goals, such as improved health and education, increased food production, and better stewardship of natural resources
- bilateral partnerships—between U.S. NGOs or private enterprises and developing country governments or NGOs—transfer knowledge and expertise to implement national sustainable development programs

- national-level partnerships—of developing country governments and local private enterprises, NGOs, or community-based organizations—enhance the sustainability of economic growth, delivery of social services, and management of natural resources

In late 2001, the United States announced the Global Development Alliance, a framework for leading, facilitating, and integrating partnerships between government agencies and private universities, nonprofit NGOs, and for-profit domestic and multinational firms. USAID administers its incentive fund and staffs the Alliance secretariat. This facilitates U.S. Government outreach to potential partners with significant resources to devote to countries receiving U.S. Government development assistance.

Alliance partnerships are a new development assistance business model and one of the pillars of USAID’s reorganization and reform strategy. Governments and multinational development institutions are no longer the only assistance donors. Today, NGOs, PVOs, cooperatives, foundations, colleges and universities, corporations, and even individuals participate in development assistance. The Global Development Alliance’s role is to create a synergy between private philanthropy and public assistance, thus increasing the impact of each.

Partnering for Sustainable Economic Growth

Public–private partnerships are at the heart of efforts to foster global economic growth through improved productivity and trade. Some partnerships address economic growth concerns

common to sustainable development: producing enough food to feed a growing global population, expanding investment and competitive global commerce, generating employment and incomes from environmentally sustainable enterprises, and increasing supplies of energy and potable water to meet industrial and urban demand.

The network of 14 International Agriculture Research Centers provides a prominent example of a global public-private partnership that advances economic growth. Dedicated to research that increases food crop productivity, the centers are responsible for launching the “green revolution” of the last half-century. Their work today continues to boost crop yields and promote environmentally sound cultivation practices. The centers are responsible for the development of crops more tolerant of pests, disease, and drought that do not need costly and environmentally damaging agricultural chemicals. Crop breeding that boosts yields on lands suitable for cultivation means farmers can produce enough to eat and sell without resorting to use of environmentally fragile marginal lands. The centers’ success rests on a partnership between international agricultural researchers, both from developed-country academic and commercial research institutions and developing-country government agriculture programs. Some 40 bilateral and multilateral donors and some private foundations contribute to this partnership at the centers, which receive an annual contribution from the U.S. Government that should reach \$40 million in 2002.

In Armenia, the Department of Agriculture supports a Marketing Assistance Program that builds partner-

ships between experts at U.S. land grant universities and their local counterparts. The program offers a package of training, credit, and technical assistance to ease adoption of market-oriented practices and helps farmers identify opportunities for long-term market development in neighboring countries. In 2002, the program contributed funds to build an agriculture education system for the next generation of agricultural leaders. As an aspirant to WTO membership, Armenia will benefit from this assistance in meeting its requirements.

The U.S. Government supports partnerships with U.S. environmental NGOs and commercial firms to foster ecotourism in Kenya, Indonesia, and Madagascar. USAID has similarly teamed up with environmental NGOs in Latin America and the Caribbean to demonstrate how environmental stewardship can generate jobs and income. In 2002, the U.S. Government will provide \$12.5 million for an ongoing Parks in Peril initiative in that region. Implemented in part by the Nature Conservancy, a U.S. NGO, the initiative organizes and equips communities in and around endangered protected areas to develop income and employment alternatives to logging, hunting, and farming. In the 10 years of the program, the Nature Conservancy has leveraged an additional \$343 million in public and private sector funds for conservation programs in the region.

In Indonesia, a USAID-funded partnership between local communities and U.S. NGOs manages fragile coastal resources. With \$10 million in U.S. Government funding, the partnership has begun replanting mangrove trees

and other coastal management activities that increase the abundance and variety of native fish species on which local communities depend.

The U.S. Trade and Development Agency fosters public–private partnerships through annual conferences and meetings of U.S. Government and developing-country government officials with representatives from sector-specific private enterprises. In 2002, the Agency budgeted nearly \$1 million to fund meetings on clean water and more efficient transportation networks.

In sub-Saharan Africa, USAID sponsored cooperative agreements between developing-country utilities, the Business Council for Sustainable Energy, and the U.S. Energy Association. These agreements address power pooling and other ways to maximize efficiency of electric power generation; improvements in environmental performance; commercial provision of clean energy, and the expansion of its delivery for rural and urban populations. In 2002, USAID is budgeting \$4 million for the program and expects to broker 11 partnerships with U.S. firms for investment in clean energy production and more efficient management of existing facilities.

Partnering for Sustainable Social Development

Public–private partnerships are central to effective delivery of health, education, and other social services, especially when public resources are limited and social needs are expanding rapidly. International and local PVOs and private commercial enterprises are enhancing public capacity to meet those needs, particularly by providing

schooling and health care to millions of children who do not have access to education and are exposed to deadly communicable diseases.

The United States plays a lead role in providing structure and support for two critical global health partnerships: the Global Polio Eradication Program and the Global Fund to Fight AIDS, Tuberculosis, and Malaria. The polio eradication program is the outgrowth of a 20-year commitment by the U.S.-based NGO, Rotary International. With the HHS Centers for Disease Control and Prevention, WHO, and UNICEF, Rotary International has raised nearly \$500 million and contributed to the certification of 150 countries as polio-free in 2000. The Global Polio Eradication Program has built and strengthened surveillance systems, established a global laboratory network, and trained epidemiologists. In 2002, Rotary International and its partners budgeted more than \$50 million for immunizations in countries where polio is endemic. The Global Fund to Fight AIDS, Tuberculosis, and Malaria is newer, but by the end of 2001, it had garnered more than \$2 billion in pledges from 30 countries, including \$500 million from the U.S. Government. Substantial pledges came from more than 20 U.S. NGOs, international agencies, corporations, and foundations, including \$100 million from the Bill and Melinda Gates Foundation.

A partnership of international scientists contributes to the work of the Cholera Research Laboratory in Bangladesh, a health research and outreach facility that benefits from public and private sector funding and a large grant from

the Bill and Melinda Gates Foundation. More than 30 years old, the laboratory developed oral rehydration therapies that saved millions of children from death by diarrheal diseases. The International Micronutrient Malnutrition Prevention and Control Program is another U.S. Government-

supported global partnership that brings together private industry (Morton Salt and Procter and Gamble), professional groups (International Council for Control of Iodine Deficiency and the Global Alliance for Improved Nutrition), U.S. Government agencies (HHS National Institutes for Health and Centers for Disease Control and Prevention), and international organizations (WHO, FAO, and UNICEF) to strengthen the capacity of partner countries to assess nutritional status and establish surveillance systems. USAID contributes funding.

In the survey, several examples of public-private partnerships in education emerged. Community-based partnerships with education systems could be seen in Africa. In Malawi, community organizations monitor pupils' classroom performance and pupil-teacher interactions. In Ethiopia, USAID helps local community partners make after hours use of classroom space in government-run schools for adult literacy and other community-sponsored programs.

Another exciting initiative is the partnership between the private U.S. Children's Television Workshop and the governments of Egypt and South Africa to develop local "Sesame Street" equivalents for educational television. With funding from USAID, these ventures reach an estimated 60 percent of targeted children under age 8. In South Africa, a similar program reached 1.2 million children during its debut. Its projected audience is nearly 6.5 million children under 6 who do not have access to the equivalent of kindergarten.

In El Salvador, USAID sponsors a government and media partnership with

The Lifesaving Use of Bednets

Each year in Africa, about 2.5 million people die of malaria and malaria-related illnesses. Of these deaths, 2.25 million are children under 5. Research has shown that use of bednets treated with insecticide could reduce by 20 percent all childhood deaths in Africa—not solely those caused by malaria. Bednets could reduce severe malaria by about 45 percent, but there are not nearly enough available, even for the relatively few people who know about these lifesaving devices.



To reduce malaria deaths on a broad scale, USAID joined forces with six international and African manufacturers of nets and insecticide. This landmark partnership, NetMark, is making low-cost, insecticide-treated nets commercially available on a national scale in Ghana, Nigeria, Senegal, and Zambia. NetMark uses public sector funds innovatively to reduce barriers to commercial investment. The partnership is creating public demand for treated bednets and promoting appropriate use; removing taxes, tariffs, and other economic barriers; and making strategic investments to build local distribution capacity.

NetMark has been invited to consider starting programs in other African countries. If successful, the commercial partners will expand their distribution networks in sub-Saharan Africa. As NetMark expands, it will become more involved in

designing subsidy programs and will work with the commercial sector to facilitate introduction of improved products. By October 2004, the partners project the sale of enough nets and insecticide retreatments to protect as many as 15 million African children.

Commercial companies, their local distributors, and a \$50-million investment from USAID are funding the program. Commercial partners include global insecticide and net-making manufacturers (Aventis Environmental Science, BASF, and Bayer); makers of a long-lasting pre-treated net (Vestergaard Frandsen); the world's largest net manufacturer (Siamdutch Mosquito Netting Co, Ltd.); and Africa's largest net manufacturer (A to Z Textiles). Other NetMark partners include an African consumer promotion company (Group Africa) and Africa's largest advertising agency (FCB Advertising).

one of the nation's major newspapers, *El Diario de Hoy*, that produces a monthly color Sunday magazine section with environmental games, activities, and messages for children. In Latin America, the Global Development Alliance supports the regional Partnership for Education Revitalization in the Americas, which grew out of the 1998 Summit of the Americas. With a relatively small investment from USAID, the partnership pushes for education reform, including community partnerships with school systems to build a constituency for better instruction.

The U.S. Government supports a partnership between the University of California–Davis and Samarkand State University in Uzbekistan to develop the capacity of scientists in the region to use geographic information systems technology to measure and monitor environmental change in the Central Asian Highlands. Kazakhstan University researchers have partnered with a consortium of U.S. university researchers to build the country's livestock and rangeland management capacity.

In Zambia, a higher education program has teamed up with Cleveland State University and Zambian Copperbelt University to train owners and employees of small and medium-sized enterprises. After their own training, Copperbelt University trainers will provide employees with hands-on factory floor skills and factory owners with managerial skills. The U.S. and Zambian university partners will use web-based training tools to help Zambian businessmen and workers become more competitive in southern African markets.

Similar U.S.–African university partnerships include one in agribusiness development between Ohio State University and Uganda's Makerere University and another in environmental management between Oregon State University and University of Botswana.

Partnering for Sustainable Environmental Stewardship

The U.S. Government has turned to public–private partnerships to manage larger programs. For example, the National Science Foundation, NASA, public agencies, and private organizations from developed and developing countries are tracking greenhouse gases as part of the Global Emissions Inventory Activity. The activity provides a scientific foundation for policy initiatives addressing climate change, stratospheric ozone depletion, and acid rain.

Through its Latin American and Caribbean Environmental Partnership Program, USAID sponsors meetings of government and industry leaders on environmental trade constraints, the benefits of clean production, and national and international opportunities to market eco-certified products. USAID has committed approximately \$1 million a year over the past seven years to promote clean production, catalyzing about \$8 million for clean production activities from international and bilateral donors.

Public–private partnerships for environmental stewardship include the USAID-sponsored Mexico Renewable Energy Program, involving Sandia National Laboratories, a private U.S. firm, and FIRCO, a Mexican federal agency. The partnership has sponsored nearly 200 photovoltaic and wind energy projects

in eight Mexican states, supplying about 100,000 residents with energy to pump water for human and agricultural use. In 2002, USAID provided \$1.5 million to continue the program.

Working with the Center for Energy Efficiency in Moscow, the Environmental Protection Agency is helping develop and introduce energy-efficient building codes in 30 regions of Russia under a grant to the Natural Resources Defense Council. The codes have already avoided carbon dioxide emissions by almost a million tons a year, significantly reduced conventional pollutants, and prompted development of new construction materials and new building materials companies.

In Asia, the U.S. Global Development Alliance is leveraging private sector resources to develop renewable energy in remote areas of the Philippines—most notably conflict-prone Mindanao. USAID is helping electrify some 160 villages; U.S. firms are helping local communities install the alternative production equipment and providing maintenance training to lower electricity rates and simulate business investment.

Economic incentives improve the chances for responsible environmental stewardship. Economic benefits come with the protection of endangered habitats, and the U.S. Government sponsors such integrated conservation and development efforts by promoting community–national government partnerships.

USAID is helping governments in Kenya, Madagascar, Namibia, and South Africa partner with community-based organizations to maintain wildlife sanctuaries. Governments benefit because they need not hire and retain

large park ranger staffs. Community-based organizations reap economic rewards from tourism. Similar programs operate in Indonesia, Nepal, the Philippines, and Sri Lanka.

In Russia, partnerships are emerging to plant trees and restore forests that store or sequester free atmospheric carbon dioxide in natural biomass. The U.S. Government and the University of Moscow is tracking progress toward building carbon stocks. The program is similar to one in Guatemala, where a U.S. utility firm paid for tree planting to offset carbon dioxide emitted from its coal- and diesel-powered electricity generation.

USAID has also fostered partnerships with American pharmaceutical firms to collect materials from tropical forests that will produce new drugs to treat disease. These bioprospecting agreements between U.S. firms and developing country governments have elevated awareness of the value of conserving tropical forests rather than logging them.

How Science and Technology Support Sustainable Development

Confronting new challenges and achieving sustainable development demand new knowledge and tools based on scientific assessment, testing, and prediction. New science produces new technologies. Technological progress and capable labor are fundamental to sustained growth.

Through technological developments and scientific insights, U.S. Government agencies and their global partners are making strides understanding, assessing, and predicting natural

phenomena, monitoring and managing resources, improving environmental quality, and building capacity.

Advances in science and technology underpin sustainable development. Such advances empower people, expand intellectual capital, and make new tools available. Technologies have improved significantly in the past decade, providing new perspectives to observe and understand the environment, and new options for sharing information. They include earth observation from satellites and buoys; global positioning systems that provide accurate georeferences; geographic information systems to organize and display data; and information management and dissemination systems that allow rapid, broad circulation of information. These and other advances offer new ways of envisioning and planning for economic growth, learning, and understanding and managing human and environmental resources.

U.S.-funded research pioneered development of many now-standard tools for monitoring, managing, and transforming problems into sustainable solutions. Of the 400 U.S.-supported initiatives reported in the survey, almost half have science and technology components. A few examples described here address the following challenges: identifying and applying new approaches; understanding, assessing, and predicting natural systems; monitoring and managing resources more effectively; improving environmental quality; and building scientific capacities

Identifying and Applying New Approaches

The challenges of sustainable development are enormously complex. Improving environmental quality

requires a comprehensive research agenda, including the development of analytical tools that integrate social, economic, and natural sciences. Part of this effort involves harnessing information technologies to create new products and services, and new ways to communicate. This is needed, in part, to support policy formulation and decisionmaking that prevents or mitigates damage to social or ecological systems. With significant improvements in productivity and knowledge sharing, many scientific networks are using advances in data collection and information management systems to address issues at global, national, regional, and local levels. The United States is supporting a number of these efforts.

The Geographic Information for Sustainable Development initiative, a U.S.-led international alliance, aims to apply a new generation of earth observation data, state-of-the-art geographic information systems-linked technologies, and field-tested geographic knowledge to sustainable development problems. The alliance collaborates with many partners in Africa and developing countries, helping local, national, and international agencies to address long-term challenges, such as disaster mitigation, natural resource management, trade competitiveness, and poverty reduction. In 2002, USAID and the State Department contributed about \$2 million to the initiative for training, capacity building, and technology transfer. Contributions of in-kind services, technical assistance, software, hardware, and an array of data products by NGOs, U.S. Government agencies, and the private sector more than tripled the value of the USAID and State Department contributions.

The David and Lucile Packard Foundation, the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), and regional contributors funded Harvard University's International Initiative on Science and Technology for Sustainability, an open network of people and institutions dedicated to understanding the links between environment and development. The initiative fosters the infusion of science and technology in decisions about development challenges, including food security, human health, and poverty.

The Climate Information Project is developing another means of sharing information. Managed by NOAA's Office of Global Programs and USAID's Office of Foreign Disaster Assistance, Radio and Internet for the Communication of Hydrometeorological and Climate Information makes climate and weather information available by means of radio and the Internet. The program was initiated with U.S. Government support, and is an international collaboration supported by a

large array of humanitarian and meteorological organizations. It is available to extension and meteorological agencies as well as rural communities through training and technological development. Whenever possible, the program works with women and youth, important groups in the management of community and household resources. The program was successful in Africa, and is exploring needs and opportunities to expand the project.

The U.S. National Science Foundation supports the Inter-American Institute for Global Change Research in São Paulo, Brazil, one of three institutes that integrate multinational global change research programs. In May 2002, the Institute had 18 full members: Argentina, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Panama, Paraguay, Peru, Uruguay, the United States, and Venezuela. It advances sustainable development by promoting the open exchange of environmental data produced in and by countries in the Americas, strengthening cooperative scientific research, and making available to policymakers enriched information about the impact of global change.

Helping Set the Science and Technology Agenda for Sustainable Development

The International Initiative on Science and Technology for Sustainability aims to contribute knowledge to environmentally sustainable development. The initiative aims to achieve significant progress by expanding the research and development agenda of science and technology for sustainability, strengthening infrastructure and capacity to apply science and technology to sustainability, and connecting science and policy more effectively in making the transition toward sustainability.

The International Initiative convened workshops in Nigeria, Thailand,

Germany, Chile, and Canada to create regional science and technology research agendas.

In FY 2002, it also set up a web-based Forum on Science and Technology for Sustainability, and held a Synthesis Workshop on Science and Technology for Sustainable Development in Mexico City. That workshop made the case for the role of science and technology in sustainability to decisionmakers, articulated a shared vision, proposed strategies for achieving science and technology goals, and specified targets for 2005 and 2015.

The International Cooperative Biodiversity Group seeks to improve human health through drug discovery as well as create incentives for biodiversity conservation. The program is creating new models for sustainable development through research and capacity building in biodiversity-rich developing countries. The program is funded and managed jointly by U.S. NGOs, public institutions, and developing-country institutions. U.S. Government participation includes

HHS Fogarty International Center of the National Institutes of Health and other NIH institutes, the National Science Foundation, and the U.S. Department of Agriculture's Foreign Agricultural Service. The program is active in Argentina, Cameroon, Chile, Laos, Madagascar, Mexico, Nigeria, Panama, Suriname, and Vietnam.

Understanding, Assessing, and Predicting Natural Systems

How interactive physical, chemical, biological, and socioeconomic processes regulate the earth's systems and how this system responds to anthropogenic influences is not yet clearly understood. With the support of the U.S. Government, the scientific community is rising to the challenge, developing international research programs and tools to reduce such scientific uncertainties.

The Climate and Societal Interactions Division of the NOAA looks at the interface between scientific information and environmental and societal decisionmaking, particularly in relation to climate. The division promotes the study and use of new information tools to help society prepare for changing environmental conditions, cope with the challenges of multiple environmental and social stresses, and move toward a more sustainable future. One component is to foster dialogue between scientists and decisionmakers on new ways of using science to enhance human welfare. A key program element is the Applications Research Program, dedicated to bringing climate science and technology to bear on increasingly complex development challenges. The program is implemented regionally in Africa, Asia, Latin America and the Caribbean, and the Pacific Islands.

The Famine Early Warning System Network aims to strengthen the capabilities of countries and regional organizations to manage threats of food insecurity by providing timely, analytical information. The network is a collaboration among USAID, NASA, NOAA, the U.S. Geological Survey, and regional partners, including the Southern Africa Development Community. A private firm, Chemonics International, provides technical support. USAID supported a core program for 17 countries in sub-Saharan Africa with \$6 million in FY 2002. Professionals in the United States and Africa monitor data and information—including remote sensing data and ground-based meteorological, crop, and rangeland conditions—that offer early indications of food security threats. The program is also strengthening African early warning and response networks by forging networks of hydrological, meteorological, and disaster professionals to prepare for and respond to food security problems. While there is serious concern about the food situation in southern Africa, in recent years droughts have not become widespread famines in the Sahel, southern Africa, and Ethiopia, primarily because of a combination of early warning and early public action. Designed in the late 1980s for sub-Saharan Africa, the program is now expanding to other regions. For example, USAID provided \$1 million to monitor meteorological and crop conditions in Afghanistan in FY 2002.

The research capabilities of the Department of Agriculture are central to the sustainability strategy of the United States. USDA's Forest Service conducts some of the most extensive natural resource planning and assessment in the world. It uses

resource and economic modeling, environmental impact assessments, linear programming, geographic information system applications, multiple-use planning, and public involvement in natural resource decisionmaking. In the technical area of fire ecology and management, the Forest Service assesses the influence of fire on forest ecosystems, incorporating fire mitigation strategies into forest management systems. Other cooperators include national forest agencies, NGOs, private industry, and research institutions.

Numerous other projects increase understanding of the earth's processes. For example, an international team of researchers, the Nyanza Project Team, is conducting research on environmental change and climate variability through all of human history. The scientists—from four African countries, Europe, and the United States—recovered a 2,000-year-old record of atmospheric circulation and dynamics from sediments in Lake Tanganyika that revealed El Niño-Southern Oscillation and solar cycles.

Monitoring and Managing Resources More Effectively

U.S. scientists and partners around the world are applying new technologies and information to a wide range of pressing natural resource management problems. Five examples follow.

- A priority for NOAA's National Ocean Service is supporting coastal- and marine-protected area management and fostering integrated management. The service is working with Antigua and Barbuda to develop and implement a Special Area Management Plan for Antigua's northwest coast.
- USAID, the HHS Centers for

Disease Control and Prevention, WHO, UNICEF, and other public and private partners have made great strides in ending death and disability from preventable childhood diseases. The focus now is on the 10 remaining countries with endemic polio: Afghanistan, Angola, Egypt, Ethiopia, India, Niger, Nigeria, Pakistan, Somalia, and Sudan.

- USDA's Agricultural Research Service is handling a large international portfolio. It embraces numerous cooperative research projects with Mexican counterparts on topics such as safeguarding grain crop germplasm, sequestering carbon dioxide, developing new molecular tools to assess germplasm diversity, and increasing food safety. Research funding was \$400,000 for FY 2002.
- USAID pursues science and technology-based solutions to increase agricultural productivity. Through alliances with universities, international research centers, and NGOs, USAID helps bring science to smallholder farmers and small rural businesses to improve production and management.
- USAID supports vulnerability assessments and mapping relating to climate, seismic, and volcanic activities. Such vulnerability maps help reduce loss of lives and property; they are used to develop national land use policies and building codes for homes, roads, and bridges.

Improving Environmental Quality

Clean water, fresh air, and healthy food are critical for sustainable human development. Degraded environments undermine important ecological systems for

human and economic growth. U.S. Government support for environmental activities covers a wide spectrum—from an initiative in one location to large bilateral agreements that involve many institutions worldwide.

USDA's Forest Service helps national governments assess their national forest inventory and develop monitoring systems. The service has integrated remote sensing and field technologies to monitor the health and status of forests for application to specific management issues to improve forest quality. Among current activities is work in Indonesia, Brazil, Mexico, and Russia.

Applying appropriate technologies to improve environmental quality, USAID supports borehole and well rehabilitation and maintenance to increase availability of potable water in drought-prone countries such as Eritrea, Ethiopia, India, Kenya, Pakistan, and Somalia. USAID also supports rainwater harvesting by building cisterns and ponds.

Working with Ducks Unlimited and other partners, including the governments of Brazil, Bolivia, and Paraguay, the Forest Service works to protect migratory birds and waterfowl. The project uses satellite technology and site-gathered information to develop a geographic information system database and models to detect land use changes in the Pantanal. Options for watershed protection and conservation of biodiversity are being developed.

The Asia Pacific Economic Cooperation strategy against disease, led and supported by the United States, includes a Network-of-Networks initiative to improve disease surveillance and monitoring in the region, boost nation-

al capacity to respond to outbreaks, and train the region's health authorities.

The Department of Health and Human Services' Safe Water System is a water-quality intervention that uses simple, inexpensive, and appropriate technologies. The objective is to make water safe through disinfection and safe storage using local products, and education on hygiene and sanitation. Public-private partnerships with strong NGO involvement, community mobilization, and social marketing are typically involved. Projects are under way in four countries in Latin America, seven in Africa, and three in Asia.

At the request of the African Wildlife Foundation, the USDA's Forest Service is helping the Foundation analyze watershed erosion and degradation and develop priorities for improving deteriorating watersheds in project areas of Kenya and Tanzania. ■



Applying Partnerships to Environmental Stewardship

“At its core, Johannesburg is about the relationship between human society and the natural environment.”

UN Secretary General
Kofi Annan
May 14, 2002

Environmental stewardship conserves the natural environment so it can support life and provide current and future generations with clean air and water, plentiful and nourishing food, and reliable energy sources. Environmental stewardship addresses basic human needs and conservation of the environment, recognizing that the environment supports all life and livelihood on the planet and must be appropriately managed.

U.S. Support for Environmental Stewardship

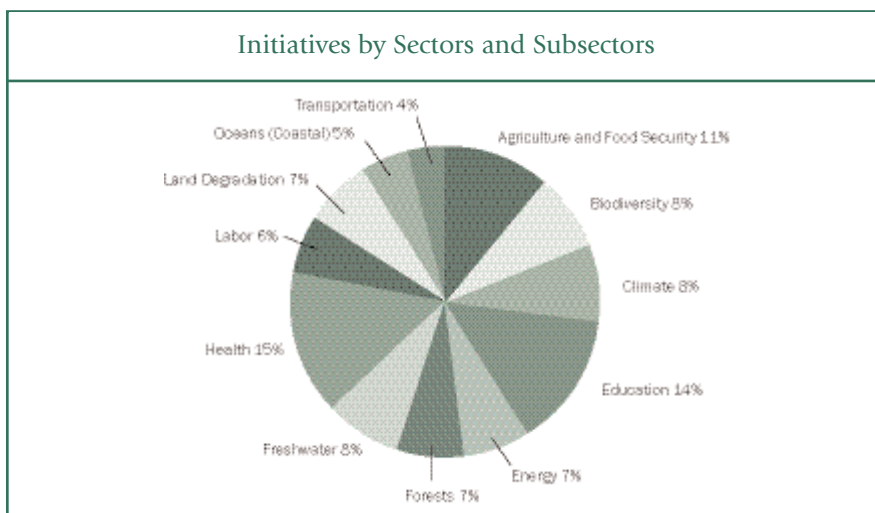
The U.S. Government supports environmental stewardship through initiatives in 132 countries in all regions of the world. Nearly half of all initiatives surveyed support sustainable development through environmental steward-

ship, either in whole (97 initiatives) or in part (91 initiatives). USAID alone spends about \$600 million annually on environmental programs. U.S. environmental stewardship initiatives address agriculture and food security, biodiversity conservation, climate and global change, education, energy, forests, freshwater, health, land degradation, and oceans/coastal areas, as shown in the figure below.

Many U.S. initiatives support multiple objectives, recognizing the inherently integrated nature of the global environment and its systems and products. For instance, reducing biodiversity loss in Brazil also decreases the threat of climate change by limiting greenhouse gas emissions in the forestry and energy sectors. Initiatives that conserve freshwater, ocean, and forest resources also help protect biodiversity. A case study in Honduras illustrates a multisectoral approach.

U.S. Government resource stewardship-focused initiatives promote good governance, PVO and NGO institution building, public-private partnerships, private sector financing, and science and technology.

Twelve U.S. Government agencies implement and support international resource stewardship initiatives through partnerships with various donors and development partners, including



indigenous and local-level NGOs and community groups, and with numerous government partners and enterprises. Partnerships are a cornerstone to the efforts supporting resource stewardship.

Strategies used by the United States to promote natural resource stewardship include the following:

- Fostering equitable economic growth along with resource conservation provides economic incentives to safeguard resources and reduces losses resulting from the over-exploitation of resources. Well-managed private sector initiatives can foster development while creating economic incentives for forest conservation, as shown by forestry programs in Bolivia. The Department of Interior's Sustainable, Bird-Friendly Coffee initiative enhances coffee quality, improves environmental management practices, and promotes sales of higher value sustainable coffees by farmers in Central and South America, the Caribbean, East Africa, and Southeast Asia. Ecotourism, which the U.S. Government supports around the world, also supports business and conservation interests simultaneously.
- Promoting social development and resource stewardship simultaneously can promote good health, which helps conserve the environment. In India, a partnership between a U.S. electric motor firm and the country's largest automobile manufacturer helped reduce lead and other air pollutants emitted in urban areas. Protecting the supply and quality of freshwater protects human health as well. U.S. Government initiatives, the largest

in the world, support family planning and help stabilize world population and thus decreasing pressure on the environment.

- Linking capacity building and local empowerment enables communities to sustainably manage their own resources and provide for themselves. The U.S. Government builds individual and institutional natural resource management capacity overseas. For instance,

Improving Management of Watersheds, Forests, and Protected Areas in Honduras

In Honduras, USAID's natural resource management initiatives, which historically targeted the individual family or farmer, have brought 32,000 hectares of forestland under sustainable management, 6,500 hectares of farmland into cultivation using land and soil conserving technologies, and 118,000 hectares of protected areas under effective management. The current program is shifting the focus from the family and farm to community, municipal, and regional management organizations. USAID assistance has enabled 17 NGOs to become capable of managing protected areas effectively.



USAID is providing training, technical assistance, and supplies to local governments and NGOs to improve their ability to develop and manage critical water supplies and services. The initiatives

improve health in participating communities, increase income by using water for energy and irrigation, provide more equitable access to water for domestic and productive use, and reduce damage and loss of property and life from flooding and drought. Water-related efforts are complemented by activities that support sustainable forestry and watershed management, implemented through the National Forestry School and grants to local environmental organizations to manage environmentally sensitive protected areas. The

activities concentrate on watersheds that are critical to drinking water supplies. Training includes collection and management of basic hydrological and land use data, analysis of water resource constraints and opportunities, water use planning, and organization and administration of inter-municipal water districts.

the Peace Corps agriculture and environment programs build capacity as volunteers work with community members, farmers, and school children; provide training for service providers such as teachers; and offer assistance to local institutions, NGOs, and communities. Community-based approaches that include historically disadvantaged groups (such as women) are becoming the norm in environmental stewardship, because local communities are often the best stewards of their environment. U.S.-supported work in Namibia, for instance, involves numerous communities and NGOs in wildlife conservation and local economic development. U.S.-supported initiatives strive to be inclusive, addressing everyone affected by resource use and allocation.

- Undertaking information, education, and communications campaigns increasingly provide knowledge that enables individuals and communities to better conserve their natural resources. Since 1993, USAID's Environmental Education and Communication program has worked in more than 40 countries to promote sustainable activities by helping to change human behavior related to the environment. Technical assistance implemented through the USAID's GreenCOM program aims to improve the capacity of host-country agencies, institutions, and NGOs; build public support for environmental policies; expose target audiences to environmental issues; and disseminate relevant materials and information. GreenCOM provides expertise in such areas as environmental policy,

biodiversity conservation, water resource management, energy, and solid waste management, using research-based methods and communication, education, participatory, and behavioral approaches to encourage people to live more sustainably with their environment. The Peace Corps currently has about 1,800 volunteers working in 62 agriculture and environment projects worldwide. The goal of these projects is to strengthen communities' ability to understand, conserve, and use natural resources in a sustainable manner. Strategies include environmental education and training for extension agents, teachers, farm leaders, and other service providers.

- Creative financing helps garner additional resources for resource stewardship. For instance, the United States has provided \$25 million in debt reduction to Bangladesh, El Salvador, Peru, and Belize under the 1998 U.S. Tropical Forest Conservation Act, which provides for relief of official U.S. debt in return for forest conservation measures. Several other bilateral agreements are under discussion. As well, the United States has canceled \$875 million in official debt owed by Argentina, Bolivia, Chile, Colombia, El Salvador, Jamaica, and Uruguay. Peru bought back debt to the United States valued at \$177 million. Local currency generated over the life of the agreements is being directed to support environmental and conservation programs and, in some cases, child development initiatives. Since 1986, USAID has provided \$16 million for 17 debt-for-nature swaps in Bolivia,

Cameroon, Chile, Côte d'Ivoire, Ghana, Madagascar, and the Philippines, retiring nearly \$100 million in commercial bank debt and generating significant local currency for in-country forest conservation programs, often involving NGOs.

Many of the sustainable development initiatives that the United States supports are closely interconnected and mutually supportive. For example, support for more affordable and efficient energy in many countries means less pressure on forests as alternative sources of fuel as well as lower energy costs in production that contribute to greater competitiveness, employment, and consumer welfare. Combined, sustainable development efforts offer benefits that extend beyond each individual effort. When the range of talents and resources that public and private partnerships bring to responsible resource stewardship is added to the inherent interrelatedness of the sustainable development process, the potential to make a difference, despite the enormity of the need and the finite nature of available funding, offers real promise for progress in the decades ahead. All of the UN sustainable development goals are attainable once this interconnectedness is recognized and cultivated.

Recognizing the Critical Nature of Global Climate Change

The United States supports many programs addressing the challenges of global climate change.

Climate Variability and Change Research

Ensuring that its policies are informed by the best information, the United

States is working aggressively to advance the science of climate and global change. The U.S. Global Change Research Program coordinates most U.S. research programs. Participants include the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; the National Science Foundation; and the Smithsonian Institution. The Office of Science and Technology Policy and the Office of Management and Budget provide oversight on behalf of the Executive Office of the President. U.S. programs build on research undertaken over previous decades by independent programs and researchers; many are coordinated internationally.

The Program concentrates its activities in six major areas:

- *climate variability and change programs* (FY 2001 funding of \$533 million) look at climate change related to viability of agriculture, distribution and productivity of forests and rangelands, diversity of flora and fauna, availability of water, spread of insects and rodents that carry human disease organisms, and the intensity and frequency of floods and severe weather events
- *atmospheric composition research and observations* (FY 2001 funding of \$345.6 million) improve understanding of ongoing changes in the atmosphere
- *global carbon cycle activities* (FY 2001 funding of \$214 million) recognize that carbon is the basis for the food and fiber that sustains human populations, the primary

The U.S. leads the world in research on climate and other global environmental changes, spending approximately \$1.7 billion annually since FY 2000 on its focused climate change research programs—roughly half the world's focused climate change research expenditures and three times more than the next largest spender.

energy source, and a major contributor to the planetary greenhouse effect with potential for climate change

- *global water cycle research activities* (FY 2001 funding of \$312.6 million) are directed toward enhancing capabilities to quantify and predict trends in the global water cycle and the regional availability of freshwater sources studies

- *changes in ecosystems research and assessment efforts* (FY 2001 funding of \$204.9 million) contribute to knowledge of effects of global change on ecosystems and effective ecosystem management and conservation
- *human dimensions of global change programs* (FY 2001 funding of \$99.5 million) study the impact of human activities on the natural environment on local, regional, and global scales

The Arctic Climate Impact Assessment

Climate variability and change, and more recently, notable increases in ultraviolet radiation, have become important issues in the Arctic over the past few decades. It is now imperative to examine possible future impacts on the environment and its living resources, human health, and relevant economic sectors.



Evaluating and synthesizing knowledge on climate variability, climate change, and consequences of increased ultraviolet radiation is the task of the Arctic Climate Impact Assessment, a project of the Arctic Council. During 2000 to 2004, it is gathering traditional knowledge, along with scientific and socioeconomic information. Its assessment is expected to lead to the development of useful, reliable information for the nations of the Arctic region, helping them identify policy options that address these environmental changes.

The assessment process is open and transparent, with broad participation of experts from many disciplines and countries as well as representation from Arctic indigenous peoples. The traditional knowledge being collected includes the changes observed by different Arctic indigenous communities due to climate change and variability, their observations of climate impacts, and the effects of such changes on their way of life, land and water use, diet, and social and cultural activities.

Three major volumes will be completed by 2004: a peer-reviewed scientific volume, a synthesis document summarizing results, and a policy document providing recommendations for coping and adaptation measures.

All eight Arctic-rim member states of the Arctic Council are contributing to the assessment, as are additional European governments with long-standing interest in Arctic research.

The United States is providing \$600,000 in financial as well as in-kind support—through the National Science Foundation, National Oceanic and Atmospheric Administration, and the University of Alaska—to establish a Secretariat at the University of Alaska in Fairbanks.

Each country is also supporting the involvement of its citizens in the assessments and through in-kind contributions such as the hosting of meetings and workshops.

In June 2001, President Bush announced the U.S. Climate Change Research Initiative aimed at reducing key areas of uncertainty in climate change science, identifying priority areas for additional investment in climate change science, and improving the integration of scientific knowledge into effective decision support systems. The President's FY 2003 budget includes \$40 million for the initiative.

Place-based research on climate change and its effects provides a focus for increased understanding of the climate and generating information for effective decision making. The importance of place-based research is illustrated by studies in the Arctic, where the most severe environmental stresses are climate related.

To reduce the challenges posed by climate change in developing and transition countries, USAID launched a five-year, \$1 billion Climate Change Initiative in 1998. The initiative provides assistance to developing and transition countries to help strengthen their participation in the UN Framework Convention on Climate Change. The initiative promotes sustainable development that limits the growth of green-

house gas emissions. Programs improve energy efficiency and increase the use of renewable energy sources, promote sustainable agriculture, improve urban services and transportation planning, protect forest resources, and implement forestry and farming techniques that preserve carbon stocks. The initiative supports technology transfer and public-private partnerships. USAID provides technical leadership and assistance to more than 40 countries and regions around the world.

As a part of USAID's five-year, \$1 billion effort, the Ukraine Climate Change Initiative promotes integration of environmental and economic development policies. The Ukraine Initiative's climate change information center and project management office in Kiev provides links to international climate change programs and organizations and maintains a database of all climate change activities in Ukraine. The center's staff provides technical assistance to government, industry, and NGOs to identify viable investment projects and develop ecologically responsible business plans, and helped Ukraine conduct a national greenhouse gas emissions inventory.

The centerpiece of USAID's global strategy to address the nexus between climate change and sustainable urban development is Cities for Climate Protection. The program assists municipalities to meet prevailing social and economic development challenges through approaches that reduce the urban contribution to climate change. In partnership with the International Council on Local Environmental Initiatives, USAID has worked with cities in Mexico, the Philippines, Indonesia, India, and South Africa,

supporting policy reform, training, demonstration projects, emissions inventorying, setting local emissions reduction goals, and public-private partnerships.

The United States also engages the private sector to promote sustainable development and address climate change in developing and transition countries. USAID promotes programs that facilitate dialogue, build partnerships, and support direct investment in energy-efficient and other sustainable

El Niño and the Southern Oscillation (ENSO) Prediction Capability



The ability to forecast, predict, and disseminate information about El Niño and the Southern Oscillation (ENSO) events—which frequently cause economic and social damage in parts of the Americas, Africa, Asia, and the South Pacific—is improving dramatically thanks to U.S.-funded group research efforts.

NOAA operates oceanic buoys, develops models, and makes forecasts. The Inter-American Institute for Global Change Research coordinates efforts to document climate variability in the Americas and its links to changes in natural systems and societal impacts. ENSO forecasts can play a key role in mitigating the impacts of the floods or drought that can lead to famine. Famine, like drought, is a slow-onset disaster, so forewarning—through an Institute effort or a system like the Famine Early Warning System—may enable countries to reduce or eliminate its worst impacts.

Record losses were associated with a particularly strong El Niño and the Southern Oscillation (ENSO) pattern during 1998 and 1999. These included, in 1998, losses estimated at \$90 billion from storms, floods, droughts, and fires, and, in 1999, another \$67 billion in similar losses. U.S.-funded efforts are playing an important role in linking predictions of climate variability with applications of that information in ways that are helpful to users of climate forecasts.

Short-term El Niño forecasts have proved their value in Peru. There, warm (El Niño) years tend to be unfavorable for fishing; some have been marked by floods. Cold (La Niña) years are welcomed by fishermen but not by farmers, as they are frequently marked by drought and crop failures.

Once an ENSO forecast is issued, farmers' representatives and government officials meet to decide on the appropriate combination of crops to maximize overall yield. A forecast of El Niño weather might induce farmers to sow more rice (to take advantage of greater precipitation) and less cotton (which can handle drier conditions). ENSO forecasts have also helped farmers in Australia, Brazil, India, and various African nations.

development projects. The Eurasian-American Partnership for Environmentally Sustainable Economics (EcoLinks) is an example of a project where a large percentage of its technology transfer is climate-related. USAID launched the EcoLinks initiative in 1998 to help solve urban and industrial environmental problems by improving access to financial resources, trade and investment, and information technologies.

Building Capacity to Address Climate Change

Building capacity to address regional implications of climate changes and to undertake regional research projects is a key U.S. Government effort. The U.S. National Science Foundation and international partners support the System for Analysis, Research, and Training program to develop regional networks of collaborating scientists and institutions to enhance global change science capacity in developing countries, train global climate change scientists, and provide access to data, communication technology, and global climate change research results.

Building human and institutional capacities was also the task of the U.S. Country Studies Program, which provided technical and financial support to 56 developing countries to help them develop a country inventory of greenhouse gas emissions, assess vulnerability to climate change, and evaluate strategies necessary for mitigating and adapting to climate change. Drawing on technical experts from nine U.S. Government departments and agencies and led by the Department of State, the program helped countries and international institutions produce more than 160 major country reports, 10 guidance documents, 60 workshop and conference proceedings, and 16 special

journal editions. Funding for the Country Studies Program was \$9.4 million from 1997 to 2000.

Improving climate change technology research and development is a major U.S. commitment. Programs enhancing basic research, strengthening applied research through public-private partnerships, developing improved technologies for measuring and monitoring gross and net greenhouse gas emissions, and supporting projects for new technologies include the National Climate Change Technology Initiative and the Nature Conservancy project.

The Nature Conservancy project uses newly developed aerial and satellite-based technology to study forests in Brazil and Belize to determine their carbon sequestration potential. The research partnership, composed of the Department of Energy, the Nature Conservancy (an NGO), and companies such as General Motors and American Electric Power, is studying how carbon dioxide can be stored more effectively by changing land-use practices and investing in forestry projects. The United States will provide \$1.7 million of the \$2 million cost of the three-year project.

Meeting Energy Challenges

Energy is central to many aspects of life—food production, health, heating and cooling, lighting, communications, education, industrial production, and transportation. In development terms, energy is a tool to achieve broader development goals in health, education, environmental protection, and economic growth. Unfortunately, more than 2 billion people around the world do not have access to modern energy services and technologies. In Africa, for

example, many women spend up to six hours a day manually milling grain that could be milled electrically in a fraction of the time.

Clean, efficient production and use of energy reduces consumption of natural resources. Developing countries are well positioned to make use of sustainable technologies to expand their energy infrastructure and increase energy supplies without degrading the environment. To achieve and maintain social and economic progress, developing countries and economies in transition need to expand their access to clean, affordable energy supplies, while minimizing pollution and waste.

U.S. Initiatives Help Address Energy Challenges

The United States helps countries address their energy challenges, including supporting use of more efficient, less polluting power sources like natural gas and renewable energy. Renewable energy, energy efficiency, and clean-energy technologies are decreasing in cost, making them viable options for the developing world's growing energy needs. The U.S. Government also works to improve the quality of energy services by promoting private sector involvement in energy generation and distribution, working with local, provincial, and national energy agencies to increase their capacity to provide safe and affordable energy equitably.

USAID and the Department of Energy lead U.S. Government efforts to support sustainable development through energy-related initiatives. The Trade and Development Agency, the Export-Import Bank, the Overseas Private Investment Corporation, and the Environmental Protection Agency also play a role. The U.S. Government's

portfolio includes promoting energy sector reform that supports free-market policies and sound energy pricing; encouraging energy conservation; increasing use of renewable energy sources and clean-energy technologies; increasing equitable and efficient access to energy, particularly by poor and remote populations; building capacity in public and private energy institutions; and instituting improved energy standards.

Most U.S. Government energy initiatives address two or more sustainable development areas, such as climate change, health, economic growth, trade, and transportation. An initiative

Europe and Eurasia Power Sector Reform

In 17 countries in Central and Eastern Europe and Eurasia, USAID has supported systemic power sector reform—developing legal and regulatory frameworks, unbundling monopoly systems, creating modern electricity markets, and opening up to private sector investors. Its program has supported creation of autonomous energy regulatory bodies with authority for pricing and reforms. USAID supported the national regulatory bodies' creation of a professional regional energy regulatory network—the Energy Regulators Regional Association, based in Budapest. USAID has also supported reform by implementing 45 public-private partnerships between energy companies in the region and U.S. utilities and energy companies.

USAID helped countries in the region engage their national systems in regional networks and markets to improve access to electricity supplies, and their reliability and cost effectiveness. USAID promoted institutional development of private energy efficiency engineering firms in Armenia, Bulgaria, Hungary, Poland, Romania, and Ukraine. With the U.S. Department of Energy, USAID helped form nongovernmental energy efficiency centers in several



countries. After initial success in that area, USAID is helping set up the Municipal Network for Energy Efficiency to improve energy efficiency policies and disseminate best practices. This has provided the basis for innovative credit arrangements, such as Bulgaria's Development Credit Authority that guarantees bank loans for energy efficiency projects to small private and municipal borrowers. In 2001, Bulgaria's municipal energy efficiency component grew significantly, as lending reached nearly \$1 million to private and municipal borrowers with a pipeline of almost \$5 million. Similar programs are now being implemented in other southeastern European countries.

might, for example, reinforce how local access to a reliable energy source can contribute to community empowerment and good governance. As in other sectors, the U.S. Government uses a variety of means in its energy initiatives to reach the common goal of clean, efficient energy systems throughout the developing world.

Assisting National Energy Agencies

USAID's work assists national energy agencies and encourages private investment in clean, efficient energy systems. These efforts have produced significant, sustainable results in more than 65 countries. In Europe and Eurasia, USAID is helping in substantial ways to reform national systems and encourage industries to develop more efficient systems.

The USAID Energy Efficiency program collaborated with the Environmental Protection Agency and countries in

southern Africa and Asia to phase out use of leaded gasoline. In Panama, USAID was successful in helping the newly established Environmental Authority develop a policy that promotes investments in cleaner production technologies for industry.

Under the Collaborative Labeling and Appliance Standards activity, 10 countries are creating national labeling standards for energy efficiency. For example, Ghana established standards for air conditioners and is now pursuing standards for refrigeration. The Department of Energy works in the Baltic countries, China, Central Europe, Mexico, and Ukraine, and with a variety of multilateral donors, government, and private sector partners to develop energy-efficient labels and standards for building appliances and equipment. In Ecuador, USAID worked with selected industries to save over \$5 million annually through implementation of pollution-prevention and energy-efficiency practices and investments in cleaner production technologies.

USAID is working with various countries in Africa to promote cross-border energy training to reduce the cost of electricity. For example, USAID, in partnership with other bilateral and multilateral donors, supports the Southern Africa Power Pool, an international power pool that coordinates transborder energy trading and harmonizes regional energy policies to recover costs fully and share benefits equitably. The Pool covers 12 countries, 9 million square kilometers, and 200 million people. It is the first international pool in the developing world. USAID's program with the Pool was instrumental in accelerating a recent \$150 million World Bank-funded transmission interconnection project.

Working Toward Clean, Efficient, Safe Transport Services

The U.S. Federal Highway Administration implements programs to achieve safer, more efficient, and cleaner transportation services in a number of countries. The program builds on national and international programs that promote appropriate technology transfer to increase opportunities to leverage funding. It is improving access to transportation technology and information through a network of centers that facilitate foreign investment and international trade in Botswana, Czech Republic, Hungary, Malawi, Namibia, Russia, Slovakia, South Africa, Tanzania, Zambia, and Zimbabwe. The activities of the program include the following:

- helping establish technology exchange centers
- facilitating twinning relationships between state departments of transportation and their counterparts
- promoting public-private sector business linkages between the United States and partner countries
- fostering technology and knowledge sharing between the United States and partner countries to stimulate economic growth and trade



Transportation services in much of the developing world offer ample scope for the clean and efficient use of energy. The U.S. Federal Highway Administration is instrumental in implementing programs aimed at achieving safer, more efficient, and cleaner transportation services in countries around the world.

Helping Provide Access to Electricity

Providing access to electricity is an important program focus. A USAID and U.S. Department of Energy Village Power project provides electricity for the first time to rural communities in more than 30 countries. Relying on renewable forms of energy, the project reduces greenhouse gas emissions and helps reduce pressure on finite fossil fuels. It helps improve quality of life, alleviate poverty, and slow migration urban areas. A USAID initiative in South Africa promotes energy equity, energy-efficient housing, and, recently, energy efficiency in municipal services. By leveraging private sector finance and investment, more than 70,000 historically disadvantaged households have electricity. The initiative has also helped build alliances that improve equitable access to electricity and increase energy efficiency in South Africa.

A loan from the U.S. Overseas Private Investment Corporation also made a difference to a Sri Lankan electricity project. This financing enabled a U.S. business to supply small solar power systems to homes and businesses that had never been electrified.

In Mexico, more than 5 million people lack access to grid electricity. More than 100,000 rural communities need potable water. More than 600,000 farmers and ranchers need water for livestock and crops. Seizing the oppor-

tunity to tap Mexico's abundant solar and wind resources, USAID started the Mexico Renewable Energy Program, a partnership of USAID, Sandia National Laboratories, and FIRCO, a federal

Transferring Power Technology Aids India

Most power in India is produced by burning high-ash coal, which contributes to making the country the second fastest-growing generator of greenhouse gases (after China), and the sixth largest generator in the world. With the majority of 1 billion Indians still dependent on agriculture for their livelihoods and hundreds of millions vulnerable to drought and flood, India is taking a hard look at global climate change. Important in this equation is the National Thermal Power Corporation, India's largest single generator of electricity.

The Center for Power Efficiency and Environmental Protection is a model for technology transfer and cooperation between USAID and India. The demand for the center's services and the impressive results of their generation-side efficiency improvements have prompted its expansion beyond the original center on the outskirts of New Delhi to the regional capitals of Lucknow and Patna. USAID has been working in close collaboration with the U.S. National Energy Technology Laboratory and the Tennessee Valley Authority to provide support to the new regional offices by procuring cutting-edge testing and diagnostic equipment and training staff in its use. The \$700,000 in USAID assistance for equipment purchase has prompted the National Thermal Power Corporation to invest \$1.25 million of its own funds to procure additional testing equipment.

India currently produces 100,000 megawatts, and the government plans to double generation capacity in the near future. USAID has collaborated for a number of years with a range of partners from India and the United States on greenhouse gas mitigation activities.



Collaboration with the center represents one of the most effective partnerships in mitigating greenhouse gases and has resulted in avoidance of over 7.4 million tons of carbon dioxide equivalents cumulatively since 1997. This work, coupled with other important USAID contributions in demand-side management, energy efficiency, and renewable energy, has helped avoid another 2.1 million tons of carbon dioxide.

USAID and National Thermal Power Corporation have also partnered to promote water conservation and recycling in coal washing and utilization of fly ash as a construction material; the goal is to reduce the environmental hazards, particularly contamination of scarce ground water, posed by current practices. USAID is also funding a feasibility study for an Integrated Gasification Combined Cycle power plant—the cleanest technology available to produce power from coal. The center's efforts, along with demand-side contributions in management, energy efficiency, and renewable energy, have averted more than 9.5 million tons of carbon dioxide and equivalents since 1997. The passage of India's Energy Conservation Act and formation of the government's new Bureau for Energy Efficiency have given concrete expression to policy achievements in energy production and use.

agency under the Mexican Secretary of Agriculture. Under this program, Mexican farmers and ranchers have installed more than 200 water pumps powered by solar, wind, and diesel for livestock, crop irrigation, community wells, and other uses that support economic growth. In 2000 this project culminated in a \$31 million World Bank loan that will support installation of 1,255 solar- or wind-powered agricultural pumping systems by 2005.

Fostering Pollution Abatement

Pollution abatement is an important dimension of U.S. Government-supported energy programs. An initiative led by the U.S. Environmental Protection Agency seeks to improve air quality in developing countries by working to build and strengthen air quality management capacity at regional, national, and local levels. The key emphases for this initiative are:

- air quality management training through development of the Clean Air Training Network for Asia, a new training center
- liaison with the World Bank's Clean Air Initiatives for Latin America, Asia, Africa, and Eastern Europe
- the development of tools, information, and approaches to combat air pollution, particularly air emissions from vehicles that are the leading cause of air pollution in most developing cities, with a focus on phasing out use of leaded gasoline and reducing sulfur in diesel and gasoline fuels
- technical assistance and capacity-building activities in priority countries and areas, including India, Russia, Central America, China, Mexico, southeast Asia, and Africa

In Egypt, USAID has two energy programs. The Cairo Air Improvement

Project seeks to reduce greenhouse gas emissions and lead, particulates, and smog-forming emissions from motor vehicles in the region. Under the project, USAID promoted clean-burning compressed natural gas use in the transportation sector; in FY 2000, sales exceeded expectations, rising from 20.2 million to 28.8 million gasoline gallon equivalents. Under the Egyptian Environmental Policy Program, USAID provides assistance to the Energy Efficiency Council, a consortium of leading public and private sector organizations that recently completed a National Energy Efficiency Strategy Framework for Egypt. The effort involves numerous stakeholders and calls for the adoption and implementation of policy reforms and market initiatives to help achieve the national objectives of economic development, a sustainable national energy supply, and environmental protection. Energy efficiency service companies increased from 9 to 13 in 2000 and should total 21 in 2003.

The U.S. Department of Energy has a long history of working with U.S. cities to promote use of clean transportation fuels. The Department shares its Clean Cities model with cities in Mexico, Chile, India, Peru, Philippines, Brazil, Costa Rica, Guatemala, Trinidad and Tobago, Bangladesh, and Nepal to facilitate deployment of alternative fuel vehicles and quantify their local and global emission benefits. This program works with multilateral donors, national and local government counterparts, and the private sector.

Sharing Energy Technologies

The U.S. Government supports sharing scientific technologies in the energy area. For instance, USAID has a long history of providing technical assistance

and training to Indian energy agencies and municipal governments. The Center for Power Efficiency and Environmental Protection is a model for technology transfer and cooperation between USAID and India. Center engineers received much of their training to improve supply-side energy efficiency from U.S. private and public sector institutions, such as the Southern Research Institute, Electric Power Research Institution, Tennessee Valley Authority, and the U.S. Department of Energy's National Energy Technology Laboratory.

Maintaining Biodiversity and Conserving Critical Ecosystems

Biodiversity is being lost more quickly today than at any time since the extinction of the dinosaurs. Extinction rates are currently 100 to 1000 times faster than historical rates, with 10,000–25,000 species lost each year. Twenty percent of the world's species will be extinct within the next 30 years. Extinction is not only occurring in temperate and tropical terrestrial ecosystems, but also throughout marine and coastal ecosystems. Human activities are driving species to extinction through conversion of natural habitats around the world, over-exploitation of living resources, and pollution.

When we lose biodiversity, we lose the very foundation of Earth's essential goods and services. For example:

- A third of all food is prepared from plants pollinated by insects and wild animals. The FAO estimated the 1995 contribution from pollination to the worldwide production of just 30 of the major fruit, vegetable, and tree crops to be about \$54 billion per year.

- Fundamental ecosystem services such as pollination, water purification and supply, soil formation, flood and storm protection have been valued at \$33 billion a year.
- Fifty-seven percent of the 150 most prescribed drugs have their origins in nature. Despite such widespread use, only 2 percent of the 250,000 described species of vascular plants have been screened for their chemical compounds.
- Traditional medicine, which relies on species of wild and cultivated plants, forms the basis of primary health care for about 80 percent of all people living in developing countries.
- Farmers around the world spend about \$25 billion annually on pesticides; natural parasites and predators in the world's ecosystems provide an estimated 5 to 10 times this amount of free pest control.
- Wild species are the gene bank used to maintain the vigor of our crops and livestock.

Conservation of biodiversity is thus essential to environmental and economic sustainability. Biodiversity underpins ecosystem integrity and functions while influencing resilience and resistance to environmental change. The diversity of life constitutes a unique resource for this and future generations. It is clear, however, that the battle to keep the earth's biological diversity, as currently fought, is being lost.

Many developing countries have ecosystems with a trove of biological resources and still-undiscovered plant and animal species. Through U.S. Government funding, often with USAID and U.S.-based NGOs, the United States is helping countries link

"Biodiversity is declining at an unprecedented rate—as much as a thousand times what it would be without the impact of human activity. Half of the tropical rainforests have already been lost. About 75 percent of marine fisheries have been fished to capacity. Seventy percent of coral reefs are endangered."

UN Secretary General
Kofi Annan
May 14, 2002

their economic and social development with the conservation and sustainable use of natural resources. An interesting example is the case of the Meso-American Biological Corridor.

Improving Environmental Management in the Meso-American Biological Corridor

The Meso-American Biological Corridor, a network of rainforests and other pristine ecosystems rich in diverse plant and animal life, is home to one of the largest and most unique conservation efforts currently underway in the world. The corridor includes not only pristine ecosystems but also a myriad of land uses. Spanning from Mexico to Panama, the corridor is home to a wealth of rare fauna and flora as well as many indigenous communities.



Although Central America accounts for less than 1 percent of the world's total land surface, it contains an estimated 7 percent of the planet's known biodiversity.

Over the course of a six-year, \$37.5 million activity, USAID is working alongside a host of partners, including EPA, the Central American Commission on Environment and Development, the Global Environment Facility, UNDP, the Inter-American Development Bank, the German aid agency, several national governments, and U.S. and local NGOs. The focus is on providing technical assistance and financial support for improved protected areas management, promotion of environmentally-friendly products and services, harmonization of environmental regulations, and increased adoption of less-polluting technologies and practices.

Sustainable tourism practices are being promoted through alliances, capacity building, accreditation, and mapping of tourism operations in targeted sites. Tourism certification in Mexico, Belize, Guatemala, and Honduras has already

facilitated the establishment of the Meso-American Alliance for Ecotourism Development. There are also efforts underway to widen market access for environmentally sound products and services, and to develop marketing strategies for "green" products, such as biodiversity-friendly agriculture, organic goods, and ecotourism. In conjunction with the commission, USAID is supporting the balancing of regional environmental standards and the implementation of international environmental agreements and conventions. USAID is also supporting an assessment of opportunities for addressing pollution problems and potential financing options for pollution reduction projects.

This program encourages productive and sustainable use of natural resources by developing viable economic activities by which people can earn their livelihoods. In this way, the initiative uses environmental conservation as a catalyst to alleviate poverty and improve quality of life, foster regional cooperation, and preserve the region's rich cultural heritage.

USAID pioneered and now supports one of the most comprehensive biodiversity conservation programs of any bilateral donor. It has supported sustainable natural resources management and biodiversity conservation in more than 60 countries over the last nine years. Activities include establishing and managing protected areas; assisting in formulating policy, legislation, and regulations supporting biodiversity conservation; and supporting international multilateral environmental agreements.

Several initiatives illustrate the range of U.S.-supported activities to preserve biodiversity.

- The Smithsonian Institution's Monitoring and Assessment of Biodiversity Program is an international leadership program to provide support and training to biodiversity monitoring and assessment projects in developing countries. Begun in 1986 as a joint agreement between the Smithsonian and UNESCO, the program's mission is to better understand the world's forest biological diversity and its trends, and to make the resulting information available for a wide range of users. This research is accomplished through a network of sites under different degrees of management and utilization. In cooperation with agencies, researchers, and program counterparts, a protocol for establishing and monitoring biodiversity plots has been developed and implemented in nearly 62 sites.
- NOAA and the National Marine Fisheries Service are supporting the Turtle Excluder Devices program. Started in Mexico, the program has been extended to 40 countries, providing training to officials responsible for the protection of

sea turtles and commercial fishing operations. The turtle excluder device, which is used with commercial shrimping operations, excludes 97 percent of the turtles encountered with minimal loss of shrimp. This is an example of balancing commercial needs with the need to protect biological resources.

- The U.S. Department of the Interior, with USAID funding, is providing technical assistance on environmental education, biodiversity monitoring, protected area management, and income generation in four of Ecuador's high Andean protected areas. The technical assistance involves a wide range of training in law enforcement and biological monitoring, as well as promoting sustainable development projects in buffer zones around selected protected areas. Additional components also include forestry management, agriculture, ecotourism, and small business development.
- In Nepal, USAID is supporting EnterpriseWorks Worldwide and the Asia Network for Sustainable Agriculture and Bioresources to implement a program to conserve the globally significant mountain biodiversity of western Nepal through community forest management linked to enterprise development. The program promotes local capacity building, long-term sustainability, local level coordination, and smooth implementation of project activities. This enterprise-based biodiversity conservation project focuses on creating sustainable economic activities for communities dependent on natural resources. Through the community forestry legislation, the network is

assisting groups to gain control over land and devise sustainable resource management strategies.

Forest user communities have an incentive to mitigate threats to biodiversity, because the health of the resource base is critical to the success of the enterprise. The project also provides business development services to the groups for enterprises in essential oils, papermaking, and other natural products.

- USAID is supporting the Wildlife Conservation Society in the Republic of Congo to conserve the region's unique and extraordinary wildlife, which is threatened by logging and the export of bushmeat that follows in its wake. The Society works closely with the Congo Ministry of Forest Economy and the managers of logging companies that work around the reserves in northern Congo to design and establish systems of wildlife conservation and management on forestry concession lands. This includes methods to reduce the ecological impact of logging operations and prohibit the hunting of endangered species and the export of any bushmeat from the concession. Several logging companies in Congo are now focusing on the impact of logging-based demographic growth, establishing wildlife management systems for sustainable subsistence use by communities, and developing alternative sources of protein for community consumption.
- USAID, by improving field-level impacts and community forest management techniques, is helping Madagascar reduce forest cover change, a significant biodiversity conservation indicator. Forest cover monitoring for the

1993–2001 period puts forest loss rates at 2.6 percent and 3.5 percent in USAID intervention zones. Forest loss in comparable non-intervention zones was 6.7 percent.

- A USAID-supported indigenous governing organization in Bolivia successfully protected 4.6 million hectares of tropical forest in the Kaa Iya protected area from petrochemical development.
- USAID’s partnership with the Nature Conservancy in Paraguay has supported priority conservation initiatives, developing a broad conservation vision for the Chaco and Pantanal ecoregions. The goal of the cross-border project is to strengthen the capacity of Paraguayan public and private organizations to conserve biodiversity within these globally important ecoregions by developing public and private sector conservation initiatives in coordination with neighboring countries that share the same habitat types and riverine systems. The results will lay the foundation for complementary initiatives, further upgrading Paraguay’s biodiversity conservation portfolio.
- USAID is working with the World Wildlife Fund to conserve the globally significant biodiversity of the Bering Sea by protecting key sites and wildlife populations, as well as shaping development policies for improved stewardship in collaboration with local communities, the private sector, and the U.S. and Russian governments. USAID funding has allowed the World Wild Life Fund to obtain new support, thereby expanding conservation efforts in the region. Through extensive education programs, ecosystem monitoring, and

regular contact and cooperation with local and national-level government personnel, a new marine zone for Nalychevo Nature Park on the east coast of Kamchatka has been created. The area will cover 76 square miles of marine and coastal habitat, protecting seal and seabird rookeries in the western Bering Sea.

Water—Taking an Integrated and Sustainable Approach

Successful management of water resources is one of the most critical issues facing humanity. Clean, safe fresh water is vital for the life and health of people and ecosystems; it is also a central resource for economic and social development. Water security is indispensable to sustainable development.

The U.S. Government shares in the global consensus that achieving a water-secure future for all the earth’s human residents and natural systems will require a much different way of managing our shared water resources. Historically, water management has tended to compartmentalize the human relationship to water resources by considering each activity and use separately. Water for drinking, to manage waste, for irrigation, for industrial activity, for navigation, to produce energy, to support productive estuaries and fisheries, and for environmental health have each been treated as distinct political, economic, or management issues, without a deep appreciation of the fundamental linkages among them or the enormous ripple effects that can occur upstream and downstream.

Water security is essential for sustainable development. Underpinning water security are important concepts:

1) water should be appropriately valued; 2) sustainable water resources ensure the integrity of ecosystems; 3) all people should have access to safe and sufficient water and sanitation systems, 4) equitable allocation of water means having water sufficient to produce food for the world's population, 5) peaceful cooperation should characterize use of shared water resources; and 6) people should be safe from water-related hazards such as floods, droughts, and pollution.

The growing consensus on how to achieve water security is through an Integrated Water Resources Management approach. This approach sets out a participatory planning and implementation process, based on sound science, which brings together stakeholders to determine how to meet society's long-term needs for water and coastal resources while maintaining essential ecological services and economic benefits.

The integrated approach provides for planning and management of freshwater, land (especially watershed), and marine resources, taking into account social, economic, and environmental factors. Consideration is given to integrating surface water, groundwater, and related ecosystems; water quality; and equity for individuals and regions. Integrated water resources management relies on collaboration and partnerships at all levels, from individuals to international organizations. The United States promotes integrated water resource management by implementing innovative projects in countries throughout the world, leading international discussions and strategic planning exercises, coordinating policies among donors and lenders, and participating in international forums and UN committee sessions.

U.S. Government agencies and their partners support programs that help countries protect and deliver clean water to their people. The programs address many water security issues, including water supply, sanitation, and wastewater management; natural resource management; economic development and food security; and disaster preparedness and avoidance. Many foster participatory planning and implementation, based on sound science that brings stakeholders together to determine how to meet long-term needs for water while supporting essential ecological services and economic benefits. As the lead U.S. Government agency working in international water issues, USAID has directed substantial resources to various aspects of water resources management, water

Increased Conservation and Sustainable Use of Water Resources

USAID has a five-year (1999–2004), \$100 million commitment to promote integrated water resource management, improve ecosystem and water resources management, and contribute to improved environmental management and economic growth in numerous countries. For example, the program promoted decentralized freshwater resources management in Morocco and El Salvador, helped the Central Asian Republics improve policy for sustainable freshwater resources management, and supported Jordan's implementation of improved freshwater policies to manage its chronic water deficit.

Integrated water and coastal resources management focuses on entire river

basins, aquifers, or water basins, and involves stakeholders in participatory, transparent planning and implementation. Stakeholders determine how to meet society's long-term needs for water and coastal resources and short-term needs for ecological services and economic benefits. Under this approach, local communities are becoming more effective natural resources managers. With institutional strengthening, NGOs are effectively implementing integrated programs.

Host-country governments are promoting effective natural resource policies and programs, and developing countries are benefiting economically as freshwater and coastal resources are used sustainably and conserved.



availability, sustainable use, and governance, totalling at least \$11 billion over the last 30 years, and well over \$400 million annually in recent years.

Water Supply, Sanitation, and Wastewater Management

It is increasingly important for developing countries to use existing resources more efficiently and improve municipal governance and infrastructure services. USAID is on the cutting edge of efforts in water, sanitation, and solid waste management projects, supporting programs worldwide.

- In late 2001, USAID and the Conrad N. Hilton Foundation initiated the Water for the Poor: The West Africa Water Initiative, a partnership to maximize the impact of development investments by both the U.S. government and the private sector. The initiative seeks to invest in potable water supply activities based on an integrated approach to water resources management. Collaboration with other organizations will create programmatic synergy and draw on the complementary strengths of affiliated partners. The budget is provisionally estimated at \$5–\$10 million per year.
- In the Middle East, more than half of U.S. support for water security goes to its very arid regions. For example, since the start of American aid to Egypt, the U.S. has spent more than \$2.8 billion to improve Egypt's urban water and wastewater infrastructure and increase service to more than 22 million people. In the 1980s and early 1990s, programs concentrated on Cairo and Alexandria. Since then, the program has shifted to smaller, underserved locations. The United States has also emphasized the institutional development (including improved regulations and cost recovery) of local utilities to develop sustainable services. The year 2002 will see construction initiated on three large-scale water/wastewater facilities. As the infrastructure construction program winds down, U.S. emphasis will shift to reform of regulatory structures and policy issues in the water sector. This includes improving operating efficiency, strengthening commercial practices, and promoting private sector investment.
- In Jordan, USAID-funded activities focus on three issues affecting water scarcity, which remains the single most critical factor affecting Jordan's chances for sustainable economic growth. First, USAID promotes more effective water management by improving data collection, institutions, and the policy framework. Second, the agency supports more efficient water use by rehabilitating water systems and introducing modern water-use technologies. USAID rehabilitated 10 springs and wells and modified the Zai Water Treatment Plant. Third, USAID supports improving and expanding wastewater treatment capacity. USAID funded construction of the new wastewater treatment facility at Wadi Mousa, near Petra; expansion of the wastewater treatment plant in Aqaba; and the new build-operate-transfer wastewater treatment plant at As-Samra outside Amman. Improvements in wastewater treatment and reuse are focusing on increasing the amount of water available for agricultural use in Jordan.

- In Africa, EPA's ongoing efforts to improve drinking water focus on building the capacity of local water professionals and communities to provide safe drinking water. These efforts were a result of EPA's International Safe Drinking Water Initiative launched in 1999. EPA's Africa program involves a partnership with Water For People, a U.S.-based NGO, to address the water and sanitation needs of the urban poor. Working in Kenya, Malawi, Tanzania, Uganda, and Zambia, the partnership is supporting innovative approaches, fostering water sector reform, strengthening local water associations as agents of change, and sharing lessons. The key to the sustainability of EPA's Africa program—and its similar program in Central America—is in the partnerships developed and nurtured with stakeholders in each country, particularly the national municipal institutions, NGOs, community leaders, and decisionmakers. EPA has worked closely with these groups to assess the needs, identify the local experts, develop action plans, and bring the appropriate stakeholders to the table. EPA continues to strengthen these programs to provide the tools and knowledge needed to improve local and regional drinking water quality and meet sanitation needs.
- In Central America, in response to the devastation of Hurricane Mitch, USAID joined forces with other U.S. Government agencies to help rebuild the region. Several programs sought to improve drinking water quality by strengthening laboratories, optimizing treatment plant operations, protecting water sources, and developing safe drinking water programs. Through train-the-trainer workshops, technical assistance, and hands-on practical experience, water professionals, decisionmakers, laboratory personnel, NGOs, and community members learned how to analyze water quality data and use them to make decisions.
- In El Salvador, USAID is helping increase access by rural households to clean water through local governance programs, resulting in 24 decentralized water systems now serving more than 11,000 rural families. The project helps ensure that water resources management and regulation and water services provision are strengthened and supported at the local level. The focus is on entrepreneurial approaches to operations and management that involve active participation by local NGOs and utility companies. Key components that have helped attract private financing include strengthened local management that facilitates public participation in the local control of water systems, management of water resources at the watershed level, cooperation between and within watersheds, more equitable access to water, land-use control through zoning, and regulating the use and abuse of water resources.
- In the southern Caucasus, with USAID assistance, a three-year integrated water management project in the Araks/Kura Basin is building capacity for sustainable water resource management in Armenia, Azerbaijan, and Georgia. The project focuses on national level systems and local level approaches to monitoring water quantity and quality to address environmental degradation.

Resource Stewardship in the Panama Canal Watershed

Since 1998, USAID's GreenCOM program has been working in Panama to enable students, the media, and communities to take greater care of their resources through public information and communications campaigns. The GreenCOM project offers technical assistance in environmental education and in strategic communication to institutions responsible for sustainable management of the Panama Canal watershed, which is vital to safeguarding freshwater resources. The program is to continue through early 2006 and cost \$6.1 million. It aims to increase public awareness, reinforce municipalities' capacity to deal with local environmental issues, protect the national parks and protected areas, and reinforce the capabilities of NGOs and national institutions to implement environmental laws and regulations.

A highly successful television, radio, and print media campaign heightened awareness of the benefits of the watershed. For students in 26 selected primary schools of the watershed, GreenCOM created, and for the first year managed, the youth program Guardians of the Watershed. The program combines adventure and fun with environmental education and commitment to protect the watershed. The Panama Canal Authority considered it so successful that it adopted the program. With support of the Ministry of Education, the National Administration for the Environment, and USAID, the program is to be extended to all 300 primary schools in the watershed. Another program developed with USAID support involves students in monitoring water quality.

GreenCOM helped three targeted municipalities in the watershed develop strategic, environmental, and financial plans to improve land management in the watershed. Because NGOs are central to civil society participation in watershed protection, GreenCOM supported a federation of 21 NGOs and is providing training and technical assistance to 10 of them.



With technical assistance from GreenCOM, Panama adopted an Inter-Institutional Commission for the Canal Watershed that developed its first action plan, initiated interagency agreements, began developing its financial planning capacity, and took steps to establish a data center. The Canal Watershed Monitoring Program, spearheaded by USAID with technical support from the Smithsonian Tropical Research Institute, has been incorporated into Panamanian institutions.

Businesses are preparing to comply with the new laws and regulations on water pollution and watershed protection. The private sector is also working to protect the watershed by increasing ecotourism. This growing sector is a sustainable economic alternative to traditional resource uses. In the last three years, local NGOs and agencies have dramatically increased ecotourism offerings into the national parks and the watershed. One successful program offers day-long excursions into the indigenous Embera community in Chagres National Park. Tourists receive polished educational materials in English and Spanish to sensitize them to environmental protection issues in these areas.

USAID expects to support the establishment and strengthening of water-sector institutions, improve water quantity and quality indicators, promote legal and policy reform.

- In Africa and Asia, the Trade and Development Agency allocated \$4 million in FY 2002 for water activities. Ekiti State, Nigeria, recently received a \$360,000 agency grant to study the technical, financial, economic, and environmental aspects of expanding the state's potable water infrastructure. Improving Nigeria's water safety should decrease the number of waterborne illnesses. The Agency also sponsored a regional Asian meeting, Partnering for Clean Water, and plans to offer grants to selected municipalities and special purpose corporations with priority water projects.
- In the Souss-Massa region of southern Morocco, USAID's program to improve water resources management includes technical assistance to develop policies that encourage efficient water use; technical assistance and training to improve planning and decision-making; pilot projects to demonstrate water management technologies for agriculture that reduce erosion within the watershed, and for industry and homes; and technical assistance and training to increase decentralization and private-sector involvement in water management.
- In India, USAID has promoted development of domestic capital markets through the Indo-USAID Financial Institutions Reform Expansion project. Using several different approaches, the project helped by: 1) supporting the Housing and Urban Development

Corporation of India's borrowing of \$10 million in the U.S. capital market. It did so under the USAID-backed Urban and Environmental credit program to fund water and sanitation projects in the cities of Surat and Nagpur, benefiting nearly 1 million urban poor; 2) assisting the city of Ahmedabad's direct issuance of 25 million rupees in municipal bonds without any Indian government guarantee to secure financing from local investors for water and sanitation improvements benefiting more than 3.2 million people; and 3) working with the city of Tiruppur in developing the first public-private partnership to build, operate, and turn over water supply, distribution, and sanitary treatment facilities.

Natural Resource Management

Natural resource management, centering on freshwater, is often carried out with an integrated approach utilizing partnerships. An interesting case is the GreenCOM program in Panama, where the use of public information and communications campaigns are enabling students, the media, and communities to take greater care of their unique resource endowment.

USAID and numerous public and private partners are providing funds and expertise to improve watershed and hillside management in Jamaica. Technical assistance helps local NGOs with community-based projects in water and sanitation, soil conservation, and waste management in the Great River Watershed. Private-sector entities, NGOs, and community-based organizations are being trained to sample and monitor water quality. The project also includes environmental audits, commu-

nity education, and environmental management policy change work.

The U.S. Department of State has funded UNDP's Transboundary River Basin Initiative to support regional efforts to manage shared waters. Work is underway in several basins, including the Mekong, Nile, Okavango, Rio Frio, and Senegal. Activities are carried out in concert with other local, national, and global institutions, including the World Bank, the African Development Bank, the UN, and the large bilateral aid donors.

In Guatemala, USAID support of \$3.7 million in FY 2002 helped create the 1.6 million hectare Maya Biosphere Reserve. The reserve protects Central America's largest freshwater wetland and contains most of the Maya Forest, which extends into Belize and Mexico. This USAID-Bank of Guatemala debt-for-nature exchange balances conservation with the economic needs of local communities. It promotes alternative income generation—such as ecotourism and harvesting non-timber forest products—and involves communities in developing laws and policies that increase incentives for sustainable land use and biological diversity conservation. The program has increased the number of people using sustainable agricultural practices in the reserve's multiple-use zone. Local and national stakeholders, decisionmakers, and government entities are safeguarding biological resources in the reserve, according to environmental policy assessments that show increased environmental awareness.

Economic Development and Food Security

The ability to feed the world's growing population will be severely challenged

in coming decades by competition over increasingly limited water resources. To achieve global food security, water shortages must not turn into food shortages for the world's poor. This will require effective water resources management, food policy reform, and development of cultivars and management techniques that provide the most "crop per drop."

Collaborative Research Support Programs, operated by U.S. land grant universities with USAID support, complement international research by engaging U.S. and developing-country scientists in research that benefits countries facing environmental challenges, including food security and water resources. These programs promote erosion and nutrient control and water quality monitoring to safeguard aquatic environments and groundwater from nutrients and pesticides. The programs include research on high-value food products (such as livestock, fish, and crops) in developing countries, and implementation of best management practices to ensure sustainable production with minimal damage to the environment. Of the nearly \$26 million obligated to collaborative research projects in FY 2000, \$2.6 million went to fisheries and aquacultures. Some \$3 million went to watershed management and integrated water resource management, of which \$2.25 million funded sustainable agriculture and natural resource management. The Collaborative Research Support Programs obligation for FY 2002 is \$55 million.

Disaster Preparedness

USAID funds emergency relief and transition efforts in response to man-made and natural disasters. Human exploitation of natural resources weak-

ens the ability of natural systems to mitigate weather-related events. That puts more people at increased risk and makes ecosystems and water resources more vulnerable. The dual forces of climate variability and poor management choices about land and water resources cause natural disasters. Poor planning and preparation exacerbate damage. Because prevention of complex emergencies is far better than helping victims afterwards, the U.S. Government funds programs to teach prevention, increase local skills to respond when disaster strikes, and improve partner nations' capacity to prepare and plan to mitigate the effect of water-related and other disasters.

USAID's 2000–2004 assistance strategy to the Caribbean is reflected both in its five-year \$30 million Caribbean Regional Program and in its \$8.6 million assistance program for infrastructure damage following Hurricanes George and Lenny. The Caribbean initiative was developed with regional institutions, NGOs, and the private sector to support broad-based sustainable growth. USAID provides technical and financial assistance to improve disaster preparedness in this hurricane-prone region. The program centers on objectives meeting the critical needs of vulnerable groups in emergencies and help at-risk countries adopt mitigation measures.

USAID and NOAA are providing snow-monitoring and river-forecasting assistance to Central Asian Hydro-meteorological Services, known as Glavgidromets. A high-resolution picture terminal will track NOAA polar-orbiting satellites and download imagery collected over Central Asia.

The Glavgidromets will use this imagery to monitor the snow pack in

the Himalayan Mountains, the source of most of the water that flows through the Amu Darya and Syr Darya Rivers. NOAA is also working with Glavgidromets to determine whether there are sufficient historical and real-time hydrometeorological data to undertake river forecasting in the high-altitude sub-basins for which the snow pack is the principal source of river discharge.

Training in integrated water resources management and developing the technical capacity of the Glavgidromets are important parts of this program. Planning for this project began in FY 2000; money was first obligated in FY 2001 to the republics of Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, and Uzbekistan.

Protecting Oceans and Coastal Resources

Marine and coastal ecosystems and the diversity of species they support provide essential benefits in the form of food, livelihood, medicine, clean air, aesthetic enjoyment, and other economic, environmental, and cultural values.

An estimated 60 percent—about 3.4 billion people—of the global population lives within 100 kilometers of a shore and relies heavily on marine habitats and resources for food, building materials, and agricultural and recreational areas. They also use coastal areas as a dumping ground for sewage, garbage, and toxic wastes, undermining future development options.

Much of the remaining non-coastal population lives along rivers and other waterways. Pollution and poor land use in these watersheds can affect downstream marine habitats when sediments and pollutants are washed into

coastal waters and estuarine habitats. Estuaries, coastal wetlands (marshes and mangroves), and near-shore environments are very productive ecosystems strongly linked to productive fisheries. They are important nurseries and habitats to many commercially important fish and shellfish. The land and coastal environments are connected with the open oceans, which are linked to the world's climate. Science and technology have opened new windows into the functioning of earth's systems, through understanding of the deep oceans.

The U.S. Government supports efforts to integrate coastal and freshwater resources management, preserve aquatic biodiversity, and reduce pollution from land activities. U.S. programs support sustainable management of coral reefs, mangrove forests, seagrass meadows and fisheries, and develop and disseminate information on the protection of oceans and coastal regions. Among the many activities are development of socioeconomic and environmental indicators, systematic observation systems, watch programs, and clearinghouses, as well as capacity building and training. U.S. Government agencies, especially NOAA, maintain several comprehensive databases available to researchers and governments around the globe.

Protecting the Near Coastal Environment Through Integrated Management

During the past three decades, integrated coastal management has gained considerable global momentum as the preferred approach for sound governance to deal with issues of sustainable development in coastal areas. As the field has matured, integrated coastal management has provided leadership and developed successful approaches

addressing key development and resource management challenges across sectors and levels of government. Diligent attention to the appropriate policy framework, laws, institutions, and decisionmaking processes is necessary for successful programs.

USAID, in partnership with the University of Rhode Island's Coastal Resources Center, has been working to

promote integrated coastal management since 1986. Since the launch of the Coastal Resources Management Project, USAID has worked with the governments of Indonesia, Kenya, Mexico, the Philippines, Sri Lanka, Tanzania, and Thailand to address coastal governance and environmental problems threatening future economic development. Coastal management is essentially an effort in governance, developing processes in participatory planning and environmental stewardship at national and community levels. U.S. programs work at the national and local levels with strong linkages between them. These integrated coastal management programs are also playing critical roles in the decentralization process—as in the Philippines, Indonesia, and Tanzania—by helping to establish a sound governance process for management and empowering rural communities. Local stakeholders, such as women and other marginalized groups, are also mobilized to participate in conservation efforts.

In the Pacific, the Peace Corps is active in regional, national, and community-based efforts that help protect fragile and biologically sensitive areas, promote environmental education and awareness, generate alternative sources of income through integrated conservation and development activities, and build capacity to monitor the health of native species and ecosystems. Because of the extraordinary cultural diversity, remote population centers, and unique land-tenure system throughout the Pacific, a grassroots and culturally appropriate approach to environmental conservation is essential. Peace Corps volunteers work and live in communities on some of the most remote outer islands and in urban and regional centers. They work with local and national

Indonesia: A Model of Success in a Coastal Zone Management Program

When USAID and the Government of Indonesia first agreed to include East Kalimantan's Balikpapan Bay and its watershed within a coastal resources management project, it was the first initiative in Indonesia to link coastal land and water management using a bay-centered approach. Through its focus on multisectoral interests and interconnections with the natural environment, as well as implications for future development in the area, the project now serves as a model for achieving sustainable coastal zone management in other USAID projects within Indonesia and globally.



The coastal city of Balikpapan hosts a population of about 450,000 and is growing rapidly at an above-average annual rate of 3 percent. Land use near the city and within the Bay watershed is also changing dramatically. Sixty percent of the original primary forests have been cleared (and the remainder is regularly burned), large-scale oil palm and rubber plantations established, shrimp and fish ponds developed, and new settlements built to accommodate rural development. Most of this development has occurred without regard to the ecological or aes-

thetic values of the Bay, home to some 56 rivers and creeks and 17,000 hectares of mangroves that provide a vital habitat to fish and birds.

Building on the residents' interest in protecting the coastal environment in Balikpapan, USAID is helping guide them through a process of governance reform whereby communities can engage in equitable and inclusive approaches to development planning. Local governments are also seizing the opportunity to devise more responsive development programs funded with an increased share of revenues retained locally under new decentralization laws. This is the beginning of a governance reform that presumes increasingly localized management of resources will result in improved social, economic, and ecological outcomes for local communities.

government ministries and NGOs to improve management and planning skills. Volunteers thus play important roles in strengthening and sustaining national and local institutions. Peace Corps programs in the Pacific draw on the expertise of its regional institutional partners. The Peace Corps is uniquely positioned to effect broad and lasting change at levels where it will make the most difference. Currently, there are nearly 500 volunteers serving throughout the Pacific, including the Philippines, with many living in and working with coastal communities.

Coastal resources management programs promote a system of checks and balances and collaborative action within central government—key elements of successful participatory democracy. These programs have typically created interministerial commissions, usually at the presidential or prime minister-level, that come together to analyze significant coastal management issues or negotiate a common agenda, thereby setting national policy. At the local level, coastal resources management programs promote participatory democracy in a tangible way by holding public meetings, openly negotiating development priorities, and teaching conflict mediation techniques. Consensual user agreements that hold stakeholders responsible for management of coastal resources are the foundation for effective, participatory governance that creates stewardship and local accountability for maintaining ecosystem qualities.

The timing, volume, and quality of freshwater inflow into coastal environments are additional factors in coastal productivity that are often undervalued or overlooked. Successful management of water resources is clearly central to

the long-term, sustainable use of coastal resources. U.S. programs seek to stimulate a more integrated approach to coastal and water resource management, especially with increasing population pressures on coastal lands and watersheds.

The link between activities in upland watersheds and the quality of coastal waters is the basis of USAID's Ridge to Reef environmental management program to protect Jamaica's prized coastal environment. The goal is to reverse environmental degradation by improving local governance and promoting environmentally sound practices and policies that will establish sustainable management of the natural resource base. Key beneficiaries are 300,000 Jamaicans—including 28,000 whose livelihoods depend on tourism—who live in the towns and watersheds near targeted tourism areas where USAID and local partners are providing assistance.

The Ridge to Reef program has contributed to improving coastal water quality around Negril and strengthening more successful NGO environmental programs. U.S. and Jamaican NGOs and smaller CBOs across Jamaica, especially in the areas of Negril, Montego Bay, Ocho Rios, and Portland, are working in solid waste management, environmental education, public awareness, water quality monitoring, community sanitation, inter-agency collaboration, environmentally sound agricultural production, and recycling. The Jamaican Government is developing new policies on ocean and coastal zone management, watershed management, environmental management systems, and wastewater connection and management. USAID contributed \$3 million to this project for

FY 2002. A “ridge to reef” approach has been incorporated in many USAID programs throughout the Caribbean.

The EPA is helping implement a Caribbean response to land-based runoff affecting the coastal environment—the Protocol Concerning Pollution from Land-Based Sources and Activities (Aruba, 1999) to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena, 1983). The Land-Based Sources Protocol includes obligations to work to prevent, reduce, and control pollution of the wider Caribbean area. There are specific and general obligations for sewage and agricultural runoff.

Other U.S. Government efforts support coastal and marine protected area management programs. NOAA’s National Ocean Service and South Africa’s Marine and Coastal Management Directorate of the Department of Environmental Affairs and Tourism are developing a framework for technical assistance and collaboration, seeking to exchange and develop ideas, information, skills, research, and techniques in marine protected area management, and to develop guidelines for such areas in South Africa. The first phase of this exchange program introduced South African area managers and administrators to the well-developed and coordinated National Marine Sanctuary Program in the United States. On-site training visits focused on developing and implementing management, monitoring, enforcement, and education and outreach programs. The program also includes advice on forming advisory councils and promoting citizen participation, fundraising strategies, and conducting workshops on site. USAID contributed \$145,000 toward this proj-

ect and is also supporting over 10 marine protected areas of international or national significance.

The long-term success of marine protected areas depends on establishing evidence that they are a useful conservation tool. NOAA’s National Ocean Service, World Commission on Protected Areas, and World Wildlife Fund International have launched an initiative to design an internationally-recognized methodology for assessing the effectiveness of marine protected areas. The initiative seeks to improve area management by giving managers, planners, and other decisionmakers methods to assess the effectiveness of sites and of national marine protected area systems.

NOAA is also involved in developing and executing eight cooperative Global Environment Facility-financed large marine ecosystem projects. There are large marine ecosystem projects under way in 60 developing countries and eight more projects are under development. NOAA has developed a five-pronged approach to these projects including productivity, fisheries, pollution and ecosystem health, socioeconomics, and governance.

Protecting Coral Reefs

Coral reefs play a major role in the environment and economies of many countries and island states. Coral reefs are valuable for fisheries, recreation, tourism, and coastal protection. Over one billion people in Asia depend upon coral reef habitat for their primary source of protein. In addition, reefs are one of the largest global storehouses of marine biodiversity with significant untapped genetic resources. Some estimates of the global cost of losing coral reefs run in the hundreds of billions of dollars each year. The last few years

have seen unprecedented decline in the health of coral reefs and tropical coasts. Half of the world's coastal wetlands and 25 percent of coral reefs have now perished. Unsustainable management of coral reefs is undermining economic options and decreasing food security.

A partnership among the United States, other national governments, and NGOs established the International Coral Reef Initiative in 1995. The initiative mobilizes governments and stakeholders to improve management practices and share information on the threats to and health of coral reef ecosystems. USAID is working on coral reef and mangrove forest projects in 30 countries.

The U.S. Department of State also has coral reef protection programs. For example, it provides funding for technical support for the Palau International Coral Reef Center, and assists efforts to strengthen marine reserves and promote and protect sustainable fisheries and marine biodiversity.

NOAA supports the Center for Coastal Monitoring and Assessment, which conducts research monitoring, surveys, and assessments of coastal environmental quality. Using satellite data, the assessment's coral reef team is developing techniques to assess environmental change and determine water quality patterns and broad trends in the condition of coral reef habitats. The teams are improving methods for merging satellite and aircraft data. They are working with NASA to develop a global map of shallow water environments in the tropical ocean.

NOAA's National Marine Fisheries Service is promoting long-term sustainable use and conservation of marine resources, including coral reefs

in the eastern Caribbean. This is being accomplished by identifying data sets for coral reefs in the region to develop an information database; training regional personnel in data collection, data management, and global information system techniques; assessing communities dependent on reef habitats at existing and candidate fishery reserve sites; and developing pilot projects to demonstrate the effectiveness of this scientifically quantitative approach for establishing marine fisheries reserves to best benefit the eastern Caribbean region.

Supporting Sustainable Fisheries

The United States cooperates in implementing fisheries agreements, including the four International Plans of Action adopted under FAO auspices in 1999 and 2001 to address fishing capacity, sharks, seabird by-catch and illegal, unregulated, and unreported fishing. The U.S. Government also supports efforts to protect and conserve endangered species of sea turtles, as a party to the Inter-American Sea Turtle Convention and as a signatory to the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and Southeast Asia.

The State Department is also supporting sustainable fisheries (nearly \$1 million for FY 2002) through demonstration projects of national programs to protect the marine environment from land-based activities and implementation of the international plan to prevent, deter, and eliminate illegal, unreported, and unregulated fishing. It also supports the Asia Pacific Economic Cooperation's Fisheries Leadership Initiative, and an East Africa fisheries enforcement workshop.

The Peace Corps has been actively assisting Zambia's Department of Fisheries to achieve its goal of improving the quality and quantity of fish-culture activities, increase the capacity of farmers and Department of Fisheries to manage integrated pond systems and provide quality extension services so that there will be continued increases in the production, yield, and profitability of fish culture.

Through the Sustainable Fisheries Initiative, NOAA's National Ocean Service, with Department of State funding, is linking marine protected areas and fisheries programs in regional networks focused on "no-take" marine reserves. In FY 2002, regional workshops are being held in the Caribbean and Southeast Asia to develop regional marine protected area networks based on partnerships with regional and national experts, and to develop regional action plans.

Observing the Open Ocean

Open ocean marine environments not only offer resources and benefits, they are intrinsically linked to the entire earth system in heat distribution, carbon storage, atmospheric gas regulation, and nutrient cycling. Learning about those connections and interactions through science and technology, data gathering, management, and information sharing provides insights into understanding and predicting natural and human-induced variabilities. Because ocean processes know no national boundaries and many of the problems are ubiquitous, it is often prudent to coordinate local and regional operational or research programs and run them cooperatively. Many of the ocean programs the U.S. supports are coordinated with and support international initiatives.

Making oceanographic data available internationally is an important role of NOAA data centers, such as the National Oceanographic Data Center, a national repository and dissemination facility for global environmental data. The data archives are a record of the earth's changing environment and support numerous research and operational applications. The centers provide data products and services to scientists, engineers, resource managers, policymakers, and others around the world. A large percentage of the center's oceanographic data is of foreign origin, acquired through direct bilateral exchanges with other countries and through the World Data Center for Oceanography, operated by the center under the auspices of the U.S. National Academy of Sciences.

The center also provides data management support for major ocean science projects such as World Ocean Circulation Experiment and the Tropical Ocean-Global Atmosphere project.

International oceanographic research and observation systems are furthered by U.S. Government programs. For instance, even with the field component complete, NSF, NASA, NOAA, the Office of Naval Research, and the Department of Energy are supporting U.S. participation in the World Ocean Circulation Experiment. The experiment is a key element of the U.S. effort in global climate change research and of the World Climate Research Programme (with more than 175 participating countries). The experiment's goals are to understand the general circulation of the ocean well enough to be able to model its present state and predict its evolution in relation to long-term changes in the atmosphere. Global climate system models will require such an oceanographic component.

Although the Tropical Ocean and Global Atmosphere Program is completed, data from the program's buoys continue to provide data daily to scientists, decisionmakers, and the public. The data comes from some 70 buoys moored in the tropical Pacific Ocean, telemetering oceanographic and meteorological data to shore in real-time via the Argos satellite system. The program established the basis for prediction of the onset of El Niño and the associated El Niño-Southern Oscillation (ENSO). The ENSO phenomenon originates in the tropical Pacific but has global ramifications into the mid-latitudes. The buoys are a major component of the El Niño-Southern Oscillation (ENSO) Observing System. Support is provided primarily by the United States, Japan, and France.

The United States plays a significant role in many marine-related international organizations, including the Intergovernmental Oceanographic Commission, World Weather Watch, Earth Watch, International Mussel Watch, International Council for the Exploration of the Sea, and the North Pacific Marine Science Organization.

The United States has helped launch multinational initiatives, including the International Research Institute for Climate Prediction. The institute is an innovative entity working to help societies adapt to climate fluctuations through the use of scientific information and tools, including global forecasts for precipitation and temperature. Forecasts are prepared monthly for Asia, Africa, Europe, and now for Afghanistan and surrounding countries. The institute facilitates a global network of collaborative projects and activities that include 1) research on climate prediction and model develop-

ment; 2) generation and dissemination of climate forecasts, monitoring, and interpretive products as well as a net assessment in collaboration with forecasters at several institutions; 3) applications research and development; and 4) training and capacity building. The institute is located at Columbia University's Lamont Doherty Earth Observatory in New York, but has an international mandate realized through partnerships with international, regional, national, state, and local organizations throughout the world.

Stemming Agricultural and Land Degradation

Land degradation takes a number of forms—depletion of soil nutrients, salinization, agrochemical pollution, soil erosion, vegetative degradation from overgrazing, and forest cutting for farmland. All these reduce the productive capacity of land. According to scientists at the International Food Policy Research Institute, nearly 40 percent of the world's agricultural land is seriously degraded: almost 75 percent of cropland in Central America, 20 percent in Africa (mostly pasture), and 11 percent in Asia. The economic and social effects of this degradation are much more significant in developing countries than in industrialized countries.

Promoting Sustainable Land Use

The United States is committed to promoting sustainable land use by addressing land degradation through its international sustainable development initiatives. It provides assistance to developing countries to help them implement activities in support of the National Action Plans for the UN Convention to Combat Desertification, which entered into force in early 2001 and was signed

by the United States in 1994. While just 3 percent of the initiatives surveyed focus primarily on land degradation, nearly a quarter of them have components that address the problem.

NASA contracted with the Earth Satellite Corporation to produce the first high-resolution global data sets of the Earth. Higher resolution data allow users in disciplines ranging from biodiversity studies to urban planning to see and understand land cover and changes in land cover at scales far more relevant to land managers. Combined with NASA-contracted global data sets of images from the last 30 years, the U.S. Geological Survey Landsat imagery will provide critical baseline information about land cover around the world and allow for detection of land cover changes.

The United States participates in the international exchange of scientific personnel for education, training, and cooperative efforts in sustainable agricultural and forestry in developing countries. It also provides international scientific, technical, and educational assistance on a wide array of issues. USAID has supported sustainable practices through the International Agriculture Research Centers, which receive funding through the Consultative Group on International Agriculture Research. The United States also has worked with the FAO on programs that promote sustainable agricultural and forestry. USAID is committed to increase its assistance in agriculture in FY 2003 by 25 percent over FY 2002.

U.S. Government initiatives promoting sustainable land use practice include the following:

- The African Sustainable Tree Crops Project is supported by the

U.S. Geological Survey with input from international and local African agribusiness firms, international industry and trade groups, associations, and other U.S. agencies and donors. It builds capacity to increase tree productivity and quality, enhance environmental quality, and improve socioeconomic return for small landholders. Tools provided help producers improve degraded land, product quality, and market efficiency; enhance and protect biodiversity; and conserve resources. This project focuses on cocoa and cashew crops in West Africa (Cameroon, Côte d'Ivoire, Ghana, Guinea, and Nigeria), and on coffee in East Africa (Burundi, Ethiopia, Kenya, Rwanda, Tanzania, and Uganda).

- The U.S.–South African Binational Commission has included cooperation on land degradation issues since 1994. The United States participates through its Natural Resources Conservation Service. Since 1995, the service has hosted government leaders and technical experts from South Africa, giving them exposure to the service's planning process, policy development, organizational structure, partnerships, technology and technology support infrastructure, and technical assistance to land users and owners. The Conservation Service is also sending scientists to South Africa to assess conservation information needs for underserved populations. They will help South Africa develop a Sustainable Use of Resources Technical Guide, study land support needs, and make recommendations for action.
- The Guinean government's agri-

cultural development plan, combining control of land degradation, income production, and forest conservation, was supported by a USAID natural resource management initiative.

Preserving Forests

Forests are critical to sustainable development because of the renewable resources they contain and the environmental services they provide. Forest ecosystems provide food, medicine, timber, fuelwood, drinking and irrigation water, fodder, non-timber products, and genetic resources. They remove air pollutants and emit oxygen, cycle nutrients, provide human and wildlife habitat, maintain watershed functions and biodiversity, sequester atmospheric carbon, provide employment, regulate climate, and help build and protect soil against erosion. Notwithstanding, the World Resources Institute estimates that more than 130,000 square kilometers of tropical forests are cut down each year, and that in developing countries, forest area has declined by almost 10 percent since 1980. Globally, the net forest area continues to decline by 9.4 million hectares per year.

More than 1.6 billion people depend on forests for their livelihood, and many developing countries rely on timber and other forest products for export earnings. Loss of forests through land conversion, fragmentation, and degradation undermines investments in social and economic development. Loss of upland forests can result in flash flooding and destruction of downstream infrastructure, decline in surface and groundwater quality, and topsoil and nutrient loss that can limit agricultural production. Illegal logging degrades forest

ecosystems while generating funds for rebel and illicit activities. Logging and mining roads lead the way to open up intact forests to settlement and increased hunting, poaching, fires, and exposure of flora and fauna to pest outbreaks and invasive species. Forest destruction can result in the loss of

Sustainable Natural Resource Management Practices in Guinea

In 1998, the Guinean government began a seven-year agricultural development plan to ensure food security, improve farm productivity, promote natural resource management, and reduce poverty. USAID launched a natural resource management initiative the same year, integrating local capacity building, sustainable agricultural production, and off-farm income generation.

With USAID's assistance (\$14 million in FY 2002), the Government of Guinea transferred control of three state-owned forests totaling over 50,000 hectares. Local communities and the government's Forest Service co-manage the forests, according to agreed management plans that are based on accurate maps and forest inventories. Villagers are restoring forest cover, protecting watersheds, rehabilitating degraded areas, instituting agroforestry, and implementing fire control measures. The Peace Corps partners with USAID to assist communities with agroforestry and environmental education. Beneficiaries include small-scale farmers, micro and small entrepreneurs, and traders. The initiative contains a strong emphasis on women, owing to their key role in the rural economy and household food security.

USAID helps farmers increase the productivity of food, tree crops, and other



cash crops through sustainable agriculture, and offers training and technical assistance in expanding off-farm small enterprise. Building these opportunities reduces the demand for farmland, relieves pressure on the fragile natural resource base, and provides additional income. For example, protection of chimpanzee populations and habitats is also a means of promoting nature tourism and generating income. USAID also provides policy-level support to legally empower communities to manage their natural resources and make the long-term investments necessary to conserve natural resources for future generations. Small landholders, small and microentrepreneurs (70 percent women), and, to a lesser extent, refugees from Sierra Leone and Liberia, are the program's ultimate beneficiaries.

commercially marketed forest products and can also increase pressure on scarce forest resources to meet increasing human demands. Local conflicts can arise from competition over scarce resources because of inequitable distribution or a lack of access. For many, forests also have important religious and spiritual significance.

The U.S. Government is working toward a sustainable future by helping find common solutions to the environmental, social, and economic challenges of deforestation. It is moving to engage the private sector more, accentuating forest certification, and promoting more environmentally sound logging practices, such as reduced impact harvesting.

The United States is active in a wide variety of intergovernmental agreements, organizations, and initiatives that undertake forest work and policy discussions. Key among them is the UN Forum on Forests, established in 2000, which builds on the work of the Intergovernmental Forum on Forests and the Intergovernmental Panel on Forests, and is intended to facilitate coordinated international action on forests.

With an annual program portfolio of approximately \$85 million in forests and related program areas, including biodiversity, the U.S. Government provides substantial bilateral technical and financial assistance on forest-related development. U.S. legislation mandates that USAID include tropical forests and conservation of biological diversity as priority development goals. For more than a decade, USAID and USDA's Forest Service have worked closely to promote sustainable forest management and conservation. These projects are undertaken in partnership with local

and U.S.-based NGOs, national and international research institutions, and host-country agencies. They support a range of activities in forest protection, policy formulation, training and institution building, watershed and related land-use management, natural forest management, park and wildlife management, forest regeneration, production of fuel wood, fire prevention, and species inventory and research.

U.S. Government agencies support or implement forest-related initiatives in 47 countries worldwide, working in various ways to promote conservation and sustainable management of the world's forests.

Promoting Collaborative Research, Scientific Exchange, and Training

Collaborative research, scientific exchange, and training play an important role in U.S. forest conservation programs. For instance, NASA works with other space agencies to improve remote sensing for forest inventory, assessment and monitoring in general, and for fire detection, management, and suppression. NASA supports the international Global Observation of Forest Cover program by funding forest mapping and monitoring as well as studies on carbon dynamics in forest systems. It also supports research with Brazil's Large Scale Biosphere-Atmosphere Experiment in Amazonia, led by the Ministry of Science and Technology and its National Institute for Space Research.

In the Amazon, USDA's Forest Service links field research, training, and technical assistance to sustainable forestry practices, particularly reduced-impact timber harvesting. A strong partnership with the Tropical Forest Foundation

focused on training forest practitioners, managers, and decisionmakers in sustainable forestry practices, strengthens the Foundation to undertake tropical silviculture and other conservation studies. Implemented by the Forest Service's International Institute of Tropical Forestry, another collaborative research project in the Tapajos National Forest focuses on generating new knowledge on the effects of selective timber harvesting in tropical forests and disseminating and using this knowledge to promote sustainable forest management for timber across the Amazon. USAID capitalizes on a growing demand for certified forests by supporting creation of a permanent forest-management training center that will manage an estimated 2 million hectares of certified forests in the Brazilian Amazon by 2003. USAID training and reduced-impact management models helped four Amazon timber producers respond to market demand by having 280,000 hectares of forest holdings independently certified.

USDA's Forest Service helped organize a conference and publish proceedings on the ecology and management of Korean pine forests, the most valuable tree species in the Russian Far East. More than 150 Russian foresters attended sessions by American scientists and forest regeneration specialists. The Forest Service collaborates with the Zvenigorod Moscow State University Biological Station in studying weather variability influences on sub-boreal forest plants. The service also supports long-term research on the effects of forest fires on carbon cycling, emissions, and forest sustainability. Partners include the Canadian Forest Service, the Siberian Branch of the Russian Academy of Science in Novosibirsk, and the Sukachev Institute of Forests in Krasnoyarsk. NASA funds this research,

Bolivia Sustainable Forestry Management Project and the Amazonian Center for Sustainable Forest Enterprise

With nearly a million hectares of natural forests independently certified as economically, ecologically, and socially well managed, and with more than 6 million hectares of forest under approved forest management plans, Bolivia is the global leader in sustainable tropical forestry. Yet this economically poor, resource-rich country has been plagued by extensive and largely uncontrolled deforestation by private companies that harvest only a few

model. At the municipal level, the project has directly supported municipal governments in their efforts to create forestry reserves and manage them through local community groups. In 2001, the first 12 local community groups were officially presented with forest concessions. With the project's assistance, four such groups have entered into strategic alliances with the forestry industry to sell their products.



highly valuable tree species—especially mahogany and cedar—almost driving the species to commercial extinction.

In 1993, the governments of Bolivia and the United States established the Bolivia Sustainable Forest Management Project. To date, USAID has invested over \$20 million. By working closely with government, the private sector, universities, and civil society, the Bolivian project has catalyzed dramatic improvements in forest management. With its support, in 1996 the Ministry of Sustainable Development established a new Bolivian forestry law based on greater transparency, more technically and financially independent government institutions, greater civil society and municipal government participation, and a voluntary certification program based on the Forest Stewardship Council

Despite these achievements, Bolivia continues to experience competitive problems in producing and selling environmentally friendly or certified wood products internationally. In response, in 2000 USAID and the Bolivian Chamber of Forest Industries created the Amazonian Center for Sustainable Forest Enterprise in partnership with the World Wildlife Fund and USDA's Forest Service. The center works to support communities and the private sector with production processes, product development, and market promotion by linking buyers and sellers of certified wood and providing business development assistance to private companies. Since the program began, the value of certified forest products exported from Bolivia rose from \$8.5 million (10 percent of exports) in 2000 to \$13 million (25 percent of exports) in 2001.

with added financial and technical support from the Forest Service.

Reforming Policies and Strengthening Regulatory Structures

Policy, regulatory, and legislative issues set the stage for development of sustainable forestry. Bolivia's leadership in this area is notable. Supported by U.S. initiatives, Bolivia's programs are a text

book case of moving from sound law to sound implementation.

Improving Forest Management Practices

The U.S. Fish and Wildlife Service supports forest habitat and species management programs in Latin America and the Caribbean. It operates training programs for managers of protected areas under the Reserve Manager Training Program, as well as graduate-level training, regional outreach institutes, and clearinghouses for information on biodiversity and habitat management in Latin America. The National Park Service trains park managers in several countries.

In southern Africa, protected area management and transboundary conservation have become priorities for environmental and political reasons. Politicians are turning to these approaches to bring peace to the region, while environmentalists want to protect large ecosystems and watersheds that cross political boundaries from further degradation. USDA's Forest Service is working with the University of Natal in South Africa and the University of Montana to develop a protected area management program that will cover management skills and approaches. The partners are developing short technical courses for protected area managers, complementing the academic program by promoting capacity-building opportunities for the practitioner.

Central Africa, with its warfare and intertribal conflict, is politically more difficult. But the countries of the region face the common challenge of better managing the region's rich forest resources. There, the United States is leading a major effort to better manage one of the world's great tropical forestry endowments.

Central African Regional Program for the Environment

Launched in 1995, the Central African Regional Program for the Environment promotes conservation and sustainable management of the Congo Basin rainforest—the second largest remaining tract of tropical rainforest in the world. A USAID initiative, the program includes a host of U.S. Government agencies, U.S. and international NGOs, and academic institutions.



These groups collaborate with a range of partners—including African NGO conservation organizations, private logging companies, government wildlife and forestry representatives, research and educational organizations—to evaluate threats to the forests and identify opportunities to sustainably manage them. Participating countries are Burundi, Cameroon, the Central African Republic, the Democratic Republic of Congo, Equatorial Guinea, Gabon, the Republic of Congo, Rwanda, and São Tome and Príncipe. The program addresses national policy, logging concessions, development of minor forest products, wildlife habitat monitoring, and restoration. U.S. technical expertise offers strategies for improving forest management, such as reduced-impact logging, forest planning, and monitoring techniques.

USAID has provided more than \$25 million and the Department of State recently allocated \$1 million to the program. The program has invested in information-gathering on protected areas and has made a significant contribution to managing protected areas. The partners have been particularly successful in gathering information on forest exploitation in Cameroon and Gabon. The program reviewed environmental and forest-sector legislation and held a high-level conference on conservation after the war in the Democratic Republic of Congo. The program also worked closely with logging companies there to engender responsible approaches to biodiversity conservation. The program has also monitored deforestation by remote sensing and offered training in biodiversity inventory to measure deforestation and biodiversity loss.

In Madagascar, USAID worked with USDA's Forest Service to develop a long-term forest strategy. Forest Service professionals spent time in-country with USAID partners to prepare a management planning process for natural forest stands, develop a plan for forest cultivation and care, and an economic analysis tool for plantation management.

Supporting Good Governance and Reinforcing the Rights of Communities

Several natural resource management programs—in Egypt, Indonesia, Nepal, the Philippines, and elsewhere—have developed model community-based approaches to forest management and biodiversity conservation that have halted deforestation while contributing to local livelihoods.

The Peace Corps, with USAID support, has more than 900 volunteers in 40 countries dedicated to natural resource projects, including community reforestation, nursery development, agroforestry, park management, and environmental education.

In Indonesia, USAID has been partnering with NGOs to support community-based forest management. USAID offered NGOs training in oversight, management, human resources, and finances. USAID's NGO partners have been very successful in achieving local recognition for community forests through such tools as community mapping. In West Kalimantan, the local government recognized the communities' rights to forests after community mapping. The communities then protected their forests from fires while an adjacent timber concession burned. Community mapping has also facilitated adoption of community-managed zones in Lore Lindu National

Park. A formal decree awarded indigenous people the right to remain and control their traditional lands in the park. They have been effective in keeping out illegal loggers and poachers.

Seeking Alternatives to Forest Extraction

Ecotourism can provide alternative income for countries and people dependent on forested areas for their livelihoods. USDA's Forest Service helped the Chinese State Forestry Administration plan ecotourism in southwestern China as an alternative to commercial logging, banned in 1998. The Forest Service also helped develop an ecotourism brochure for the northwest region of Yunnan and a workshop on regional ecotourism planning in Sichuan Province.

In Albania, the Forest Service provided training in marketing for nontimber forest products. In 1999, it led a three-week training program for Albanian business owners working with botanical and medicinal plants and wild mushrooms. The goal was to improve the economic and environmental sustainability of nontimber enterprises.

Training addressed effective marketing, developing products and markets, and business management, including using the Internet for marketing and market research. It exposed participants to marketing concepts, environmental sustainability, and marketing practices of small U.S. firms and organizations. The training also provided opportunities to make contacts with U.S. firms, resulting in two budding partnerships. The Forest Service is continuing to work with Albanian counterparts on sustainability of nontimber forest products. ■

Concluding Note

This overview of sustainable development initiatives assisted by the U.S. Government represents an extraordinary range and depth of commitment. The great majority of programs and projects are part of longer term initiatives and strategies in critically important areas such as building human capital, understanding and managing climate change, and preserving biodiversity. This survey is the first such compilation for the U.S. Government. While not a complete inventory, it is nevertheless a significant sampling of initiatives totaling billions of dollars of annual governmental and partner commitments.

The World Summit on Sustainable Development is an opportunity to reinforce consensus on what needs to be done to achieve a more sustainable world. The United States intends to continue its programs and partnerships that mobilize the talent and financial resources to achieve this aim. U.S. programs, like the summit itself, will strive to promote social and economic growth that can be sustained over the long term. Good sense and morality unite to motivate this strategy. Thus, the test of the Johannesburg World Summit for Sustainable Development is whether momentum can be maintained, and even accelerated. ■



Attachments

Survey Methodology

At the request of President Bush, USAID conducted a survey of U.S. Government departments and agencies, requesting information on sustainable development activities receiving current (FY 2002) financial support. Survey responses were then sorted in many different ways. USAID selected 400 cases to analyze as a major sampling of U.S. activities. The survey is not a complete inventory—many more activities are underway in some sectors than were recorded through the survey. In many instances, a single activity (counted just once) consists of separate commitments to a great many countries. The research team that compiled this report relied quite considerably on the survey data. The team also gathered information from published reports and discussions. Many agencies and departments filled in data gaps not covered in the survey results. Despite shortcomings in collection and comprehensiveness, the information from the survey is considered generally representative of the main sectors and activities of sustainable development receiving U.S. Government support. The survey results are presented in full on the CD-ROM accompanying the summary report so readers can learn more about individual initiatives.

The survey statistics appearing throughout this report are derived from information reported in the approximately 400 surveys submitted by June 30, 2002. Any surveys submitted after this date appear in the database but were not used in the tabulations for the report. One survey equals one U.S. Government initiative, although, as noted above, in many cases one initiative is composed of numerous activities and programs. The survey asked U.S. Government agencies to indicate the major themes and sector areas of their initiatives. Agencies were offered choices between six themes—good domestic governance, private sector financing, public–private partnerships, PVO/NGO institution building/strengthening,

resource stewardship, and science and technology—and 12 sectors—agriculture and food security, biodiversity, climate, education, energy, forests, freshwater, health, labor, land degradation, oceans (coastal), and transportation. From these options, they selected one primary theme and, for most initiatives, one primary sector for each initiative. In many cases, agencies also selected multiple secondary themes and sectors that indicated components of their initiatives.

Participating U.S. Departments and Agencies

Department of Agriculture
Department of Commerce
Department of Education
Department of Energy
Department of Health and Human Services
Department of Interior
Department of Justice
Department of Labor
Department of State
Department of Transportation
Department of Treasury

Agency for International Development
Environmental Protection Agency
Export-Import Bank
Federal Trade Commission
National Aeronautics and Space Administration
National Oceanic and Atmospheric Administration
National Science Foundation
Overseas Private Investment Corporation
Peace Corps
Small Business Administration
The Smithsonian Institution
Trade and Development Agency

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