

**The United States of America
National Report**

**Agriculture, Rural Development, Land, Drought, Desertification and
Africa**

**Submitted to the
United Nations' Department of Economic and Social Affairs
Commission on Sustainable Development 16/17**

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This U.S. National Report is structured differently than a typical report. Given the breadth of U.S. knowledge, information and assistance programs – built on a strong foundation of research, education, training and information systems – this document compiles samples of information that can be electronically accessed about sustainability programs and activities. The report is organized around CSD 16/17 themes, and is formatted so that readers can easily find detailed information about domestic and international sustainability resources. It is designed to be used by both policy makers and implementers to strengthen sustainable development programs and on the ground implementation activities. It includes a representative sample of the many sustainable development activities and programs in which the U.S. Government is involved. The wealth of comparable programs undertaken by Major Group stakeholders complement and further enrich the U.S. experience.

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LIST OF KEY ABBREVIATIONS

| | |
|----------|--|
| AMS | USDA's Agricultural Marketing Service |
| ARS | USDA's Agricultural Research Service |
| APHIS | USDA's Animal and Plant Health Inspection Service |
| BLM | Department of Interior's Bureau of Land Management |
| CAFTA-DR | Central America Free Trade Agreement – and Dominican Republic |
| CRSP | USAID's Collaborative Research Support Program |
| CSREES | USDA's Cooperative State Research, Education and Extension Service |
| CGIAR | Consultative Group on International Agricultural Research |
| CRP | Conservation Reserve Program |
| CSD | Commission on Sustainable Development |
| DOI | United States Department of Interior |
| EPA | United States Environmental Protection Agency |
| ERS | USDA's Economic Research Service |
| FAS | USDA's Foreign Agricultural Service |
| FEWS Net | Famine Early Warning Systems Network |
| FS | USDA's Forest Service |
| FSA | USDA's Farm Service Agency |
| FNS | USDA's Food and Nutrition Service |
| FSIS | USDA's Food Safety and Inspection Service |
| GIPSA | USDA's Grain Inspection, Packers and Stockyards Administration |
| IALC | International Arid Lands Consortium |
| ICARDA | International Crops Research Institute for Semi-Arid Tropics |
| IWMI | International Water Management Institute |
| MCC | Millennium Challenge Corporation |
| NAL | USDA's National Agricultural Library |
| NASA | United State National Aeronautical and Space Administration |
| NASS | USDA's National Agricultural Statistics Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NRCS | USDA's Natural Resources Conservation Service |
| OCE | USDA's Office of the Chief Economist |
| PFID | USAID's Partnership for Food Industry Development |
| RMA | USDA's Risk Management Agency |
| RD | USDA's Rural Development |
| SARE | Sustainable Agriculture Research and Education |
| UNCCD | United Nations Convention to Combat Desertification |
| UNCED | United Nations Conference on Environment and Development |
| USAID | United States Agency for International Development |
| USDA | United States Department of Agriculture |
| USGS | Department of Interior's United State Geological Survey |
| USTR | Office of the United States Trade Representative |

I. INTRODUCTION

The 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, the 2002 World Summit on Sustainable Development in Johannesburg and the Eighth Session of the Commission on Sustainable Development (CSD) in 1999/2000 which covered agriculture and land management have each focused attention on the sustainability of the world's natural resources and highlighted the need to link and balance environmental stewardship, economic development and social development. The CSD 16/17--2008-2009 Cycle on Agriculture, Rural Development, Land, Drought, Desertification and Africa marks an exciting, challenging time to consider agriculture, rural development, and the environment, globally and in the United States.

Whereas globally the level of economic development has improved in many regions, global population continues to rise and problems of poverty persist in rural, largely agricultural areas. Africa has been particularly vulnerable although environmental degradation and natural resource scarcities and concerns abound in all regions. Recent worldwide attention is highlighting the critical role that agriculture plays in sustainable development. For example, for the first time in a generation, the World Bank has profiled the essential role played by agriculture in global development by dedicating its 2008 World Development Report to "Agriculture for Development." The report emphasizes the critical need for heightened global investment in sustainable agriculture. <http://www.worldbank.org/wdr2008> In another important arena, negotiators at the Doha Round of the World Trade Organization seek to achieve consensus on a new trade regime that will permit partners to better and more fairly trade agricultural products and services along with a range of other goods. In the United States, Congress and the Administration seek to negotiate and pass a new Farm Bill to authorize ongoing and new programs, setting the agricultural policy course in the United States for the next five years.

Against this dynamic backdrop, CSD 16/17 presents an opportunity for the United States to highlight some of its most important initiatives, programs and information sources relating to the six themes of the meeting. In the following report, major Agency programs - both domestic and international - that address problems of sustainable agriculture and rural development, along with land, drought and desertification are highlighted. United States contributions to African development are also included. The United States Government also wants to emphasize the important role of our significant partnerships: with the nongovernmental sector (non-profit, commercial, academic/science community), with local governments, and with our international partners. This Report is meant to be indicative rather than exhaustive and directs the reader to websites where more comprehensive accounts are available.

The United States looks forward to sharing and learning as part of the CSD16/17 process. Historically, the core of sustainable development in the United States was agriculture. Now the percentage of the population engaged in production agriculture is less than 2 percent of the population. At the same time, U.S. agriculture feeds not only U.S.

consumers but exported \$81.9 billion worth of agricultural products in 2007 with the expectation of \$101 billion in 2008. Every dollar of farm exports creates another \$1.48 in supporting activities to process, package, finance and ship agricultural products. Although U.S. agriculture is the most productive in the world, the challenges and opportunities of feeding an increasing global population with growing incomes along with rising biofuel demand and rising oil prices will require sound management of fertilizer, land, energy, pest control and water inputs, to address natural resource and environmental issues cost-effectively. Other important issues are associated with biosafety assessments of emerging biological technologies and conservation of genetic resources. Finally, consumer preferences have encouraged the certification of organic producers and finding ways to ensure connections between farms and urban farmers' markets to offer healthful, fresh foods. A few key challenges include helping to maintain small and mid-sized operation farmers by facilitating linkages to local and regional markets and assisting them to maintain farm and wilderness lands as urban areas expand.

As a whole, the U.S. farming community has made considerable strides in moving to agricultural practices that have lower impacts on the environment and are more sustainable. U.S. Agriculture is often viewed as large corporate farms driven only to achieve high productivity. In reality, the two million U.S. farms range from small, part-time operations to large family or corporate full-time, highly productive operations. Ninety-five percent of U.S. farms remain family-owned. Perhaps most telling, while there used to be a lot of skepticism about whether agriculture could be both profitable and sustainable, in recent decades some integrated, sustainable farm management practices have become not only fashionable but mainstream. The soil erosion rate on U.S. croplands has been reduced by 40 percent since the 1980s while use of no- and minimum tillage has increased significantly. Droughts have been met with better land and water management practices, preventing a recurrence of the Dust Bowl days of the 1930s. Pesticide use has dropped with the increased adoption of integrated pest management (IPM), and increased use of insect-resistant crops. At the same time, U.S. agriculture has continued to increase its productivity so that the demands of growing populations for food, fiber, and more recently biofuels, have been met, without bringing new lands into production and without increases in most agricultural inputs. Fertilizer use has remained relatively steady for the last two decades, for example.

Importantly, over the past few decades agriculture has been changing from a commodity and production-driven system to one that is global and consumer-driven. Consumers care about the safety, nutrition, and quality of their food more than ever. They also care about how and where their food is grown and produced. Many discerning consumers are concerned about "not only maintaining, but improving our land and water resources in order to assure food and other necessities for the future." (United States Department of Agriculture Under Secretary Gale A. Buchanan's Speech, March 2008, SARE 20th Anniversary).

While U.S. agricultural success has depended on several factors, three contributing elements have emerged as being especially important: First, creating **institutions**—both public and private—that are appropriate to the dynamic needs of the era. One enduring

example first created a century and a half ago, in the mid-1800s, as a new model of higher education attuned to the agricultural needs and opportunities of the country at that time was the land grant college and university system. Over generations, it has trained many cadres of U.S. and international agriculturalists, natural resource managers, land care overseers and rural development practitioners in the public and private sectors who have led the innovations that are so necessary to a thriving and sustainable sector. Just as importantly, the research-based outreach and extension programs that the U.S. land grant institutions offer have worked locally and in partnerships in rural and urban settings to respond to changing needs throughout the farm, community and forest sectors for youth, farmers and families. Other government sponsored programs have encouraged collaborative efforts among farmers and communities, have enhanced access to needed capital, and have helped producers manage risks. Institutions such as farmer cooperatives and other producer groups--by pooling resources and capabilities-- are a case in point and have contributed to U.S. economic development. All in all, these democratically--designed and partnership-driven structures that undergird the agricultural and natural resource sectors have served the United States well – and will continue to do so as they evolve into a future with increasing focus on sustainability.

A second related factor contributing to the success of U.S. agriculture is an ongoing, heavy investment in **science and its applications**. Through investments in research in laboratories, research stations, and on farms and by discovering and then using new and better ways of growing, managing, husbanding, harvesting, transporting, and marketing a bounty of agricultural and forest products, U.S. agriculture, communities, and consumers have prospered along with global consumers and producers. The United States recognizes that significant benefits come from research collaboration internationally where the United States has been the largest supporter of the international research centers known as the Consultative Group on International Agricultural Research. The United States has benefited greatly from the premium it has placed on knowledge (including traditional) and its creation and its application to meet needs. Over time investments in science and technology lead in new directions offering new opportunities. U.S. agriculture has evolved through multiple technological “revolutions” in different eras including mechanical- (e.g. the tractor), chemical- (pesticides), and biological (conventional plant breeding and biotechnology). Contributions of each “revolution” enrich and remain part of the sustainable agricultural tool chest.

A third element of success focuses on the incredibly powerful tools offered by **computer and information technologies**. These are helping us discover more, manage more sustainably, grow more smartly, and engage more broadly within the United States and abroad. With the advent of the internet, geographical information systems, nano-technologies and other advanced information and communication devices, information is ever more manageable and accessible at home and abroad. The example of electronic delivered extension advice – through an initiative called eXtension (see Agriculture section for more details) – is just one example of the transformative capabilities the digital age provides.

Our agricultural programs do not stop at our borders. Along with the United States Department of Agriculture (USDA), the U.S. Agency for International Development (USAID), the Millennium Challenge Corporation (MCC), the U.S. Peace Corps, the Office of the U.S. Trade Representative (USTR) and others provide leadership for U.S. international agricultural programs. These efforts reflect the diversity of our interests in agriculture and run the gamut – from market development and trade to research and policy development, from climate change and environmental protection to land tenure and property rights, and soil conservation and watershed management to livestock health and veterinary services. Increasingly, many of these programs work through partnerships with local communities, governments at all levels, non-government organizations, the private sector and foundations. More information on these international programs is available within each of the thematic sections of this report.

Turning to rural development, as in most developed countries, the number of U.S. farms and farmers has dropped steadily as economics has encouraged larger farms and more off-farm opportunities along with the growth of cities. Thus, rural development and farming are no longer the same thing in the United States. Progressively fewer farms mean that fewer rural people and communities derive their incomes from farming activities. As the number of agriculturalists and farmers has declined in much of the country, some but not all farm communities have adjusted to the evolution of agriculture by diversifying their economic base. Agri-tourism, recreation, the growth of retirement communities in smaller towns or alternative productive activities have arisen. Expanding demand for bio-fuels is stimulating increased agricultural activity in some areas. In other cases, rural communities have lost population and shrunk along with their agricultural base. Overall, rural sustainability and the well-being of rural people depend on meeting needs for economic and community development along with access to social services including health care and education.

Many of our rural areas developed originally as a result of farming and farming cooperatives that solidified social and market networks. Today's communities seek alternative connections. Increasingly, they are becoming electronically linked with internet access increasing rural access to knowledge and markets. Notably, a \$1.6 billion investment in loans to rural communities has granted internet access to thousands of communities and nearly 600,000 individuals. Internet connectivity enables access to information, services, and markets. Informational services are now available online; the United States Department of Agriculture recently launched its eXtension services in 2008, connecting research from 74 Universities to over 300,000 practitioners weekly.

The U.S. land base is extremely heterogeneous and ownership and control ranges from public to private. It includes forests, grassland pastures, rangelands and croplands along with parks, residential areas, special-use parks and wildlife areas. Agricultural policies aimed at improving environmental performance often “pay” farmers for employing land use or management changes that result in enhanced environmental services. An important example is the Conservation Reserve Program that provides rental payments to producers who agree to take their fragile land out of production for 10-15 year contract

periods. Each of these land types and ownership/property rights models has taught the United States lessons that have evolved over time and are discussed below.

Just as access to land and farming were essential to the development of the U.S. economy, property rights for land in agriculture and forestry continue to play an essential role in the development of emerging economies around the world.

Throughout its history, the United States has experienced droughts that threatened livelihoods within the affected regions. Work is still underway to adequately respond to these threats. Irrigation infrastructure has been a focus for agriculture in many drought-prone areas. Additionally, much effort has been made to sharpen our predictive ability to prepare for extreme dry spells; our scientific tools for drought and desertification risk assessment and weather prediction are accessible on web platforms. We also continue to develop strategies for mitigating the impact of drought while at the same time we are developing plants and animals that can tolerate dry conditions. Our scientific tools for drought and desertification risk assessment and weather prediction are accessible online and are web-accessible.

Internationally, U.S. development efforts in Africa focus on developing governance structures that support successful entrepreneurship and the hard-work and ingenuity of people. Our United States Agency for International Development, and our Millennium Challenge Corporation fight corruption, support good governance, empower women and youth, and transfer capacity, knowledge, and hope. The U.S. Government has a long history of economic development, public health (e.g. HIV/AIDS), and agricultural involvement in Africa. U.S. Official Development Assistance (ODA) disbursements to Sub-Saharan Africa increased from \$1.4 billion in 2001 to \$5.6 billion in 2006.

Much of the success enjoyed by the United States has been grounded in the thriving network of partnerships – domestic and international, governmental and non-governmental - that help to clearly define needs, formulate priority approaches to meeting those needs, discovering new and better ways of responding to them, and then making broad use of new tools. Indeed, most all of the programs and activities listed in this report depend upon an array of international, national, regional, state and/or local partnerships for success.

II. AGRICULTURE OVERVIEW

Evolution of the U.S. agri-food system continues at a rapid pace in the United States and has led to significant structural changes. Industrialization and increasingly tight integration or coordination of stages of the value chain from input suppliers to producers to final consumers is increasing along with concentration and competition. There is an increasingly bimodal distribution of a growing number of small, “lifestyle” operators producing a small and declining share of all farm output and a growing number of large farms producing most of the commercial agricultural products. The industrialization process has resulted in increasing integration/coordination between the stages of production, processing and marketing. Another result is the de-linking of production agriculture from rural well-being. Production agriculture in the United States is increasingly driven from farther up the value chain. In addition, globalization is increasingly prevalent in both the sourcing and marketing of agricultural products. . (Council on Food, Agriculture and Resource Economics: Improving Information about America’s Farms and Ranches: A Review of the Census of Agriculture: Washington, D.C., March 2007).

There are over two million farmers in the United States. Agriculture – the science and practice of activities related to production, processing, marketing, distribution, utilization, and trade of food, feed and fiber – is a multi-billion dollar business; in 2006, the U.S. cash receipts from farm marketing totaled \$239 billion. The USDA is the primary agency that supports U.S. agriculture, while other government agencies provide related programs. Internationally, along with the USDA, USAID, MCC, the U.S. Peace Corps, USTR and others provide leadership for U.S. international agricultural programs. In this section we highlight services that support domestic and international agriculture such as programs in research and extension, agricultural statistics, trade, food safety, family and consumer sciences, forestry, agroforestry, biotechnology, veterinary medicine, wildlife, fisheries, nutrition and organic certification, weather prediction and risk management. We also address a number of emerging opportunities and challenges: bioenergy, biodiversity in agriculture, sustainable agriculture business practice, and food security.

II.1. Domestically-Focused Agencies and Programs

USDA provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management. Its Strategic Plan describes Departmental priorities and goals <http://www.ocfo.usda.gov/usdasp/usdasp.htm>.

Several agencies within USDA carry out programs that are relevant to CSD 16/17 topics. These agencies include the following:

Agricultural Marketing Service (AMS) facilitates the strategic marketing of agricultural products in domestic and international markets while ensuring fair trading practices and promoting a competitive and efficient marketplace. AMS provides farmers with market data to inform decision-making for six commodity programs – cotton, dairy,

fruit and vegetables, livestock and seed, poultry, and tobacco. <http://www.ams.usda.gov/>
An example of an AMS program that is relevant to CSD 16/17 follows –

The National Organic Program (NOP) regulations require that agricultural products labeled as organic originate from farms or handling operations certified by a State or private entity that has been accredited by USDA. The regulations prohibit the use of genetic engineering, ionizing radiation, and sewage sludge in organic production and handling. As a general rule, all natural (non-synthetic) substances are allowed in organic production and all synthetic substances are prohibited. The NOP also provides rules for labeling of organic products. <http://www.ams.usda.gov/nop/indexIE.htm>

The **Agricultural Research Service (ARS)** is the [U.S. Department of Agriculture's](http://www.ars.usda.gov/main/main.htm) chief scientific research agency. <http://www.ars.usda.gov/main/main.htm>. ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to:

- ensure high-quality, safe food and other agricultural products
- assess the nutritional needs of Americans
- sustain a competitive agricultural economy
- enhance the natural resource base and the environment, and
- provide economic opportunities for rural citizens, communities, and society as a whole

ARS performs research at about 100 [locations](#)—some international--often in science [partnerships](#) with others. ARS conducts 1,200 research projects within 22 National Programs, employs 2,100 scientists, 6,000 other employees, and had a \$1.1 billion fiscal year 2007 budget.

Publications: ARS scientists publish results of their research as articles in refereed journals and as books or book chapters. ARS also produce less technical newsletters and reports for non-specialists. Many can be located at the following link:

<http://www.ars.usda.gov/Services/docs.htm?docid=1279>

Natural Resources and Sustainable Agricultural Systems supports researchers at 70 locations throughout the United States to develop the technologies and strategies needed to help farmers, ranchers, and other managers become effective stewards of the diverse agricultural ecosystems across the Nation. Programs include the Water Availability and Watershed Management Program; the Soil and Air Resource Management Program; the Bioenergy Program; the Agricultural Waste and Byproduct Utilization Program; the Pasture, Forage and Range Land Systems Program.

<http://www.ars.usda.gov/pandp/locations/locations.htm?modecode=02-02-00-00>

The Middle East Regional Irrigation Management Information System (IMIS) project is a multilateral project bringing together participants from Israel,

Jordan, Palestinian Authority, and the United States
http://www.ars.usda.gov/research/projects/projects.htm?ACCN_NO=407062.

Animal and Plant Health Inspection Service (APHIS) provides leadership in ensuring the health and care of animals and plants. The agency improves agricultural productivity and competitiveness and contributes to the national economy and the public health. APHIS responds to conflicts between humans and wildlife, addresses trade barriers related to animal and plant health (commonly known as Sanitary and Phytosanitary (SPS) issues), and ensures that biotechnology-derived agricultural products are safe and that pests are not released into the environment. <http://www.aphis.usda.gov/> An example of an APHIS program that is relevant to CSD 16/17 follows:

The U.S. Government uses a coordinated, risk-based system to ensure new biotechnology products are safe for the environment and human and animal health.

<http://U.S.biotechreg.nbio.gov/>

Crops that have been deregulated by APHIS can be found at:

http://www.aphis.usda.gov/brs/not_reg.html. Crops registered by U.S. EPA can be found at: http://www.epa.gov/oppbpd1/biopesticides/pips/pip_list.htm.

Information on the International Biosafety Clearinghouse as prescribed by the Cartagena Protocol on Biosafety can be found at:

<http://U.S.biotechreg.nbio.gov/capacity.asp>

Center for Nutrition Policy and Promotion (CNPP) works to improve the health and well-being of Americans by developing and promoting dietary guidance that links scientific research to the nutrition needs of consumers. <http://www.cnpp.usda.gov/>

Cooperative State Research, Education and Extension Service (CSREES) works in partnership with land-grant universities, and other public and private organizations to advance a global system of extramural research, extension, and higher education in the food and agricultural sciences. <http://www.csrees.usda.gov/> Examples of CSREES programs that are relevant to CSD 16/17 include:

eXtension is an internet-based educational environment that provides the most current, objective research-based information from the academic research institutes. eXtension now offers information on [consumer horticulture](#), [parenting](#), [dairy cattle](#), [entrepreneurship](#), [personal finance](#), [horses](#), [wildlife damage management](#), and [imported fire ants](#). <http://www.extension.org/> **eOrganic**, a subset of eXtension, is designed to provide information relevant to organic production systems. <http://asap.sustainability.uiuc.edu/org-ag/eorgv2/>

Sustainable Agriculture Research and Education (SARE) supports research, education and professional development on sustainable agriculture, primarily through competitive grants that are offered through four regions under the direction of councils that include farmers and ranchers along with representatives

from universities, government, agribusiness and nonprofit organizations. [SARE's national outreach office](#) publishes practical how-to books, bulletins and web resources for farmers, ranchers and educators.

Integrated Organic Program provides competitive grants to solve critical organic agriculture issues, priorities, or problems through the integration of research, education, and extension activities. See the [CSREES Organic Agriculture page](#) for information on IOP and related activities.

CSREES also has programs in manure management, precision farming, small farms, and other relevant topics in its [Agricultural Systems National Emphasis Area](#), which also links to programs in natural resources and the environment, plant and animal management, pest management, biotechnology and genomics, and other areas.

Economic Research Service (ERS) is USDA's principal social science research agency. Each year, ERS communicates research results and socioeconomic indicators via briefings, analyses for policymakers and their staffs, market analysis updates, and major reports. <http://www.ers.usda.gov/>

Farm Service Agency (FSA) implements agricultural policy, administers credit and loan programs, and manages conservation, commodity, disaster and farm marketing programs through a national network of offices. <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=landing&topic=landing>

Food and Nutrition Service (FNS) increases food security and reduces hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthy diet, and nutrition education in a manner that supports American agriculture and inspires public confidence. <http://www.fns.usda.gov/fns/default.htm>

Food Safety and Inspection Service (FSIS) enhances public health and well-being by protecting the public from foodborne illness and ensuring that the nation's meat, poultry and egg products are safe, wholesome, and correctly packaged. <http://www.fsis.usda.gov/> Examples of FSIS programs that are relevant to CSD 16/17 include:

As a result of its Food Inspection Programs, FSIS inspects and monitors all meat, poultry and egg products sold in interstate and foreign commerce to ensure compliance with mandatory U.S. food safety standards and inspection legislation. http://www.fsis.usda.gov/regulations_&_policies/federal_inspection_programs/index.asp

FSIS provides educational materials for consumers about the importance of safe food handling and how to reduce the risks of food-borne illness. http://www.fsis.usda.gov/Food_Safety_Education/index.asp

FSIS works to improve the science base for inspection procedures and detection of pathogens, how to control pathogens, and evaluating the risks of food-borne pathogens. <http://www.fsis.usda.gov/Science/index.asp>

Foreign Agricultural Service (FAS) works to improve foreign market access for U.S. products, and operates programs designed to build new markets and improve the competitive position of U.S. agriculture in the global marketplace.
<http://www.fas.usda.gov/>

Forest Service (FS) sustains the health, diversity and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. <http://www.fs.fed.us/>
The Forest Service offers several programs that are relevant to CSD 16/17. They include:

Range Management

Sustainable Rangelands Roundtable:

<http://sustainableRangelands.cnr.colostate.edu>

Society for Range Management: <http://srm.org>

Forest Service Rangelands: <http://www.fs.fed.us/rangelands/>

Biodiversity

Pollinators: <http://www.fs.fed.us/wildflowers/pollinators/index.shtml>

<http://www.pollinator.org>

<http://www.nappc.org>

Wildflowers: <http://www.fs.fed.us/wildflowers/>

Native plant material:

<http://www.fs.fed.us/wildflowers/nativeplantmaterials/index.shtml>

Invasive species: <http://www.fs.fed.us/invasivespecies/>

Migratory birds: <http://www.fs.fed.us/biology/wildlife/partnersinflight.html>

Agroforestry Practices

National Agroforestry Center: <http://www.unl.edu/nac>

Landcare Partnerships

U.S. Landcare: <http://www.landcarecentral.org>

Water Availability and Quality

Green Lands, Blue Waters in the Mississippi River Basin:

<http://www.greenlandsbluewaters.org>.

Upper Mississippi River Forest Partnership:

http://www.na.fs.fed.us/watershed/upper_mississippi_partnership/

Middle Mississippi River Partnership: <http://www.swircd.org/mmrp/>

The Chesapeake Bay Program: <http://www.chesapeakebay.net>

Bioenergy, Bio-based Products, Biomass

Fuels for Schools and Beyond: <http://fuelsforschools.org>

Managing and Using Biomass for Energy and Other uses:

http://www.fs.fed.us/research/pdf/biomass_importance.pdf

Forest Products Laboratory: <http://www.fpl.fs.fed.us/>

Biobased Products: <http://www.fpl.fs.fed.us/documnts/techline/using-waste-wood-and-bark-to-filter-contaminants-from-water.pdf>

Biomass: <http://www.forestsandrangelands.gov>

Gathering and Subsistence (Food)

Non-timber forest products: http://www.sfp.forprod.vt.edu/sfp_link/general.htm

Federal Subsistence Management Program for rural Alaskans: The Forest Service manages over 22 million acres of public lands and waters in Alaska to provide the opportunity for a subsistence way of life by rural Alaskans.

<http://alaska.fws.gov/asm/index.cfm>

Integrated Approaches to Planning and Management of Land Resources

Green infrastructure: <http://www.greeninfrastructure.net>

Healthy forests and rangelands, including National Fire Plan:

<http://www.forestsandrangelands.gov>

Wildland fire safety and risk management: www.fs.fed.us/fire/safety/index.html

Forest health protection, including protection from spread of invasives:

<http://www.fs.fed.us/foresthealth>

Forest-based ecosystem services: <http://www.fs.fed.us/ecosystems/services/>

Cooperative Services and Cross-Boundary Coordination

Service First—Working Together Partnership of federal public land management agencies: <http://www.fs.fed.us/servicefirst/>

Private landowner network: <http://www.privatelandownernetwork.org>

Protecting ‘working forest lands’ and open space through cooperative forestry:

<http://www.fs.fed.us/spf/coop>; and urban and community forestry:

<http://www.fs.fed.us/ucf>

Long-term Monitoring and Assessment of Resource Conditions

Forest land: <http://www.fs.fed.us/research/>

Nation’s ecosystems: <http://www.heinzctr.org/ecosystems/>

Multi-stakeholder indicator processes/ forums related to forests, rangelands, water:

Roundtable on Sustainable Forests (<http://www.sustainableforests.net>);

Sustainable Rangelands Roundtable

<http://sustainableRangelands.cnr.colostate.edu>

Sustainable Water Resources Roundtable (<http://acwi.gov/swrr/>)

Conservation Education and Partnerships

Education resources: <http://na.fs.fed.us/spfo/ce/index.cfm>

Partnership resources: <http://www.fs.fed.us/aboutus/partnership/index.shtml>

Grain Inspection, Packers and Stockyards Administration (GIPSA) facilitates marketing of livestock, poultry, meat, cereals, oilseeds, and related agricultural products. <http://www.gipsa.usda.gov/GIPSA/webapp?area=home&subject=landing&topic=landing>

National Agricultural Library (NAL) ensures and enhances access to agricultural information for a better quality of life. <http://www.nal.usda.gov/> Examples of NAL programs that are relevant to CSD 16/17 include:

A special initiative to provide information on sustainable agriculture through **Sustainable Agriculture Information Access Tools:** <http://www.nal.usda.gov/afsic/pubs/agnic/susag.shtml>

The Alternative Farming Systems Information Center (AFSIC) which specializes in identifying resources about sustainable food systems and practices in support of USDA's effort to ensure a sustainable future for agriculture and farmers worldwide. http://afsic.nal.usda.gov/nal_display/index.php?tax_level=1&info_center=2

National Agricultural Statistics Service (NASS) serves the basic agricultural and rural data needs of the country by providing objective, important and accurate statistical information and services to farmers, ranches, agribusinesses and public officials. These data are vital to monitoring the ever-changing agricultural sector and carrying out farm policy. <http://www.nass.usda.gov/>

Natural Resources Conservation Service (NRCS) provides leadership in a partnership effort to help people conserve, maintain and improve our natural resources and environment. <http://www.nrcs.usda.gov/> Examples of NRCS programs that are relevant to CSD 16/17 include:

The Conservation Technical Assistance (CTA) Program provides technical assistance supported by science-based technology and tools to help people conserve, maintain, and improve their natural resources. <http://www.nrcs.usda.gov/programs/cta/>

Targeted Incentives for Agricultural Greenhouse Gas Sequestration. USDA provides targeted incentives through its conservation programs to encourage wider use of land management and production practices that sequester carbon and reduce greenhouse gas emissions. USDA's actions include financial incentives, technical assistance, demonstrations, pilot programs, education and capacity building, along with measurements to assess the success of these efforts. USDA also provides financial and technical assistance to help farmers install renewable energy systems and make improvements in energy efficiency that help reduce greenhouse gas emissions. Through the Conservation Reserve Program (CRP), USDA encourages landowners to remove environmentally sensitive cropland from production and to install vegetative covers that sequester carbon. In addition, CRP gives landowners the right to sell carbon credits generated from lands enrolled in the program; current enrollment is 36.8 million acres. In 2006, carbon

sequestration on CRP lands was estimated at 50.6 million metric tons CO₂. Additionally, reductions in CO₂ and nitrous oxide (N₂O) emissions associated with reduced field operations and less use of nitrogen fertilizers were estimated at 9 million metric tons carbon dioxide equivalent.

Through the Environmental Quality Incentives Program (EQIP) USDA provides cost-sharing and incentive payments for conservation practices on working farm lands. The Natural Resources Conservation Service (NRCS) delivers guidance to its state offices to reward and recognize actions that provide greenhouse gas benefits within the EQIP ranking systems. By including this ranking criterion, NRCS can provide cost-share assistance to livestock producers to install greenhouse gas mitigating technologies, including construction of methane digesters. Producers who improve the quality of their nutrient management systems by achieving a higher level of nitrogen use efficiency can also be rewarded.

The Conservation Security Program (CSP) promotes the conservation and improvement of soil, water, air, energy, plant and animal life on Tribal and private working agricultural lands. CSP has emerged as a significant contributor within the area of carbon management through enhancement activities that promote carbon sequestration. Since its inception in 2004, over 22.4 million collective acres have been engaged in soil management activities to improve carbon levels in soils.

Finally, USDA provides Conservation Innovation Grants (CIG) to fund the application and demonstration of innovative technologies and approaches to conservation issues. Many of the awards made through the program have greenhouse gas benefits. For example, farm-level wind and solar power projects reduce CO₂ emissions, and new technologies for livestock manure management and fertilizer application reduce methane and N₂O emissions.

For more information, please visit: <http://www.nrcs.usda.gov/programs/>.

Office of the Chief Economist (OCE) advises the USDA Secretary on the economic situation in agricultural markets and the economic implications of policies and programs affecting American agriculture and rural communities. OCE serves as the focal point for economic intelligence and analysis related to agricultural markets and for risk assessment and cost-benefit analysis related to USDA's regulations affecting food and agriculture. <http://www.usda.gov/oce/> OCE also coordinates cross-cutting issues within USDA such as Global Climate Change, Sustainable Development, Energy, etc. Examples of publications relevant to CSD 16/17 follow:

The Weekly Weather and Crop Bulletin (WWCB) is jointly prepared by the U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), and the USDA. The WWCB provides a vital source of

information on weather, climate and agricultural developments worldwide, along with detailed charts and tables of agrometeorological information that are appropriate for the season.

<http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/index.htm>

Weather related publications include **International Weather and Crop Highlights, A Global Crop Production Review**, climatic profiles for major world crop areas, and a drought monitor covering all of North America.

<http://www.usda.gov/oce/weather/pubs/index.htm>

<http://www.usda.gov/oce/weather/DroughtMonitor/index.htm>

Risk Management Agency (RMA) helps to ensure that farmers have the financial tools necessary to manage their agricultural risks. RMA provides coverage through the Federal Crop Insurance Corporation, which promotes national welfare by improving the economic stability of agriculture. In so doing, RMA helps producers manage their business risks through effective, market based risk management solutions. RMA's mission is to promote, support, and regulate sound risk management solutions to preserve and strengthen the economic stability of America's agricultural producers. As part of this mission, RMA operates and manages the Federal Crop Insurance Corporation (FCIC).

<http://www.rma.usda.gov/>

Rural Development (RD) helps rural areas to develop and grow by offering Federal assistance that improves quality of life. RD targets communities in need and then empowers them with financial and technical resources.

<http://www.rurdev.usda.gov/>

Renewable Energy Systems and Energy Efficiency Improvements for Agriculture. USDA's Renewable Energy Systems and Energy Efficiency Improvements Program provides loan guarantees and grants to agricultural producers and rural small businesses to purchase renewable energy systems and improve energy efficiency. From Fiscal Year 2003 to Fiscal Year 2006, the program has invested \$122 million in renewable energy systems and energy efficiency projects, leveraging approximately \$1 billion in outside funding sources.

Over this period, the program helped finance approximately 340 renewable energy systems and over 400 energy efficiency improvements.

USDA estimates that these may achieve an energy savings amounting to 1,960 kilowatt hours, displacing 6.6 million barrels of oil and an estimated reduction in greenhouse gas emissions of approximately 1 million metric tons of carbon. For more information, please visit:

<http://www.rurdev.usda.gov/rbs/farbill/index.html>.

Other Relevant U.S. Government Agencies:

The U.S. Department of State issued a brochure in 2007 titled “U.S. Actions to Address Energy Security, Clean Development and Climate Change” which provides information about a number of relevant programs across the U.S. government.

<http://www.state.gov/g/oes/rls/or/97380.htm>

The **National Oceanic and Atmospheric Administration (NOAA)** provides up to date weather information: <http://www.nws.noaa.gov/> NOAA’s Climate Prediction Center (CPC) produces global tropics benefits/hazards assessments in collaboration with other NOAA centers including the Earth System Research Laboratory, the National Hurricane Center, and select National Weather Service Weather Forecast Offices. The Center’s purpose is to provide emergency managers, planners, forecasters and the public with interests across the global tropics advance notice of potential hazards related to climate, weather and hydrological events. Currently, the type of outlooks provided include forecasts of enhanced or suppressed rainfall, and periods of favorable or unfavorable conditions for tropical cyclogenesis for the week 1 and week 2 time frame.

<http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/mjo.shtml#discU.S.sion>

The **Smithsonian Institution's** many research programs in biodiversity, wildlife, ecosystems and culture support our understanding of the natural world and sustainable development (<http://www.si.edu/research/>). Work ranges from understanding the variety and distribution of biodiversity through impacts of invasive species in terrestrial and coastal communities and their impact on productivity and species composition at the Smithsonian Environmental Research Center (<http://www.serc.si.edu/research/index.jsp>) and National Museum of Natural History (<http://www.mnh.si.edu/rc>). The Systematics Entomology Laboratory of the USDA

(http://www.ars.usda.gov/Main/site_main.htm?modecode=12-75-41-00) is housed at, and uses the collections of the Smithsonian National Museum of Natural History to identify plant pests and understand their relationships. The Smithsonian houses the Secretariat of the Consortium for the Barcode of Life (<http://barcoding.si.edu/>) which is developing new technologies which will enable the speedy identification of organisms used in agriculture, in commerce, and agricultural pests to enable faster and more effective research, management and enforcement. Its education and capacity building programs range from K-12 programs and exhibits, including the new National Museum of Natural History exhibit on Soils to post-doctoral fellowships at all of the Smithsonian centers (<http://www.si.edu/ofg/SORScontents.htm>). The Smithsonian Center for Folklife and Cultural Heritage (<http://folklife.si.edu/index.html>) puts on a yearly Folklife Festival on the National Mall which always has well-researched components on foodways and agriculture from the U.S. and international participants, bringing a richer understanding of the variety and needs of the agricultural communities to the U.S. public.

II.1.2. Partnerships

USDA and its many partners offer additional CSD 16/17-relevant programs such as:

ATTRA is a project of the National Sustainable Agriculture Information Service that provides information and other technical assistance to farmers, ranchers, extension agents, educators, and others involved in sustainable agriculture in the United States. <http://attra.ncat.org/>

Agriculture in the Classroom is a grassroots program coordinated by USDA. Its goal is to help elementary and high school students gain a greater awareness of the role of agriculture in the economy and society, so that they may become citizens who support wise agricultural policies. <http://www.agclassroom.org/aitc/index.htm>

The **Precision Agriculture Center** has a mission to foster the use of tools such as remote sensing, soil sampling and information management techniques to optimize agricultural production. The Center conducts research and offers training in the use of Global Positioning Systems (GPS), Geographical Information Systems (GIS), and remote sensing to target inputs and management practices to variable field conditions. These technologies take into account unique soil/landscape characteristics and pest presence, resulting in higher profits and better environmental protection. <http://precision.agri.umn.edu/index.html>

Agricultural Biotechnology is a farm tool that contributes to sustainable development; available technologies offer crops that are resistant to insect pests and diseases, and to herbicides, which reduce the need for agricultural inputs such as pesticides and can also reduce the pressure to convert fragile lands to agricultural production. Technologies that are under development such as stress tolerance or greater nutritional content will contribute to sustainable approaches in the future. <http://www.ncfap.org/whatwedo/pdf/2005biotechimpacts-finalversion.pdf>
<http://www.isaaa.org/resources/publications/briefs/37/executivesummary/default.html>
<http://www.ers.usda.gov/Briefing/Biotechnology/>

USDA, in partnership with the Cooperative Extension System and U.S. universities, delivers community-based **Nutrition Education Programs** that help individuals, families, and communities make informed choices about food and lifestyles that support their physiological health, economic, and social well-being. The programs also provide policymakers with the knowledge to make appropriate policies for our citizens. <http://www.csrees.usda.gov/nutrition.cfm>

Partnerships for Cooperative Conservation. USDA works in partnership with numerous organizations to promote conservation. Some partnerships that are relevant to CSD 16/17 include:

U.S. Landcare: <http://www.landcarecentral.org>

Green Infrastructure: <http://www.greeninfrastructure.net/>

Sustainable Rangelands Roundtable: <http://SustainableRangelands.cnr.colostate.edu>

NYC Watershed Partnership: <http://www.epa.gov/innovation/collaboration/nyc.pdf>

The Pollinator Partnership: <http://www.pollinator.org>.

Green Lands, Blue Waters: <http://www.greenlandsbluewater.org>.

Mississippi River Partnerships: <http://rivermap.org>

The Chesapeake Bay Program: <http://www.chesapeakebay.net>
Resource Conservation and Development Councils: <http://www.rcdnet.org/>
Mountains to Sound Greenway: <http://www.mtsgreenway.org>
Chicago Wilderness: <http://www.chicagowilderness.org>
Service First: http://www.doi.gov/partnerships/service_first.html
Center for First Americans Forest Lands:
http://www.sustainabledevelopmentinstitute.org/CFAF_Factsheet.pdf

Integrated Pest Management World Textbook features contributed chapters by internationally recognized experts. The website provides an electronic alternative or complement to printed textbooks for communicating information on integrated pest management (IPM). <http://ipmworld.umn.edu/>

USDA and its partners provide informational resources to help consumers plan a **healthy diet**. Special-need diets (during pregnancy and breast feeding, for children, and for vegetarians) are also covered as are culturally-based diets.

<http://www.nutrition.gov/>
<http://www.ars.usda.gov/is/np/fnr/b/>

The Land-Grant University (LGU) System is a vast network of thousands of scientists, educators, and extension staff and volunteers, who carry out the USDA programs throughout the United States, its territories, and beyond. There are one or more LGU institutions in each U.S. state and territory and in the District of Columbia.

<http://www.csrees.usda.gov/about/partnerships.html>
<http://www.nasulgc.org>

USDA's **Cooperative Extension System (CES)** is administered through an extensive network of Land-Grant administered state, regional, and county extension offices in every U.S. state and territory. With 2,900 field offices, the CES responds to public inquiries and conducts informal, noncredit workshops and other educational events.

<http://www.csrees.usda.gov/qlinks/extension.html>

USDA also supports a system of **State Agriculture Experiment Stations (SAES)** which are designed as federated, yet independent, research institutions in each State and territory to address the location-specific problems of farmers and to build a core of basic scientific knowledge related to agriculture. Websites for each State's Experiment Stations can be found by web-searching for "Agricultural Experiment Station" and the name of the State.

The **Russell Ranch Sustainable Agriculture Facility** conducts experiments examining the relationships between sustainability and external inputs in an arid climate. The facility has numerous ongoing long-term experiments that study irrigation water, fertilizer, carbon inputs, and farming practices and economic and environmental factors that influence yield and farm viability. Research results provide direction for agricultural policies that affect farm sustainability. <http://asi.ucdavis.edu/>

The **Soil Quality** website contains soil quality management data. Along with basic information about soils, indicators and management practices, the site hosts the Soil Management Assessment Framework (SMAF). The SMAF index includes indicators that use the management goals of the site, associated soil functions, and other site specific factors like region or crop sensitivity to determine a decision making framework to work from when planning management of a site. <http://soilquality.org/>

SERA-17 is an organization to minimize **phosphorus losses** from agriculture. SERA-17 consists of research scientists, policy makers, extension personnel, and educators. The mission of SERA-17 is to develop and promote innovative solutions to minimize phosphorus losses from agriculture by supporting 1) information exchange between research, extension, and regulatory communities, 2) development of recommendations for phosphorus management and research and 3) initiatives that address phosphorus loss in agriculture. <http://www.sera17.ext.vt.edu/>

Longer Term Research, Education and Extension (LTAR-EE) is a multiple disciplinary approach to better understand ecosystem services in agriculture, encouraging strong collaboration and coordination strategies among university faculty in research, education, and extension.
http://www.csrees.usda.gov/nea/nre/in_focus/ecosystems_if_long_term_research.html

USDA-ARS Collaboration with the Consultative Group on International Agricultural Research (CGIAR) ARS and the CGIAR have collaborated over time. Currently, ARS and the CGIAR centers have sixteen formal, active projects, including high priority research with partner CGIAR centers in the Borlaug Global Rust Initiative to find sources of genetic resistance to the increasingly mobile UG99 strain. Additionally, ARS has active involvement in the Harvest Plus initiative for bio-fortification of staple crops and has representatives in the Scientific Liaison Officer program funded by USAID that partners senior U.S scientists with CGIAR centers to promote international linkages. The diversity of research projects carried out is broad with partners at eight of the CGIAR centers in the following areas:

- * Crop germplasm exploration, identification, collection geo-referencing, characterization, and preservation, as well as training for nations without critical infrastructure to preserve their national collections.
- * Plant whitefly resistance mechanisms
- * Digitization and enabling of access to agricultural theses and dissertations
- * Anti-tick and anti-pathogen vaccine development
- * Identification and acquisition of new sources of resistance to *Fusarium* head blight
- * Identifying wheat and barley varieties resistant to the Russian wheat aphid
- * Study impacts of common agricultural chemicals on wild relatives of potatoes in and away from production areas

For more information about current activities between ARS and the CGIAR centers:
http://www.ars.usda.gov/research/projects/projects.htm?ACCN_NO=408012&showpars=

[true&fy=2007
http://www.ars.usda.gov/is/pr/2006/060201.htm](http://www.ars.usda.gov/is/pr/2006/060201.htm)

II.2. Internationally-Focused Agencies and Programs

The **U.S. Agency for International Development (USAID)** is a federal government agency that receives overall foreign policy guidance from the Secretary of State. The Agency supports long-term and equitable economic growth and advances U.S. foreign policy objectives by supporting programs that enhance economic growth, agriculture and trade; global health; and democracy, conflict and humanitarian assistance. USAID provides assistance in five regions of the world: Sub-Saharan Africa, Asia, Latin America and the Caribbean, Europe and Eurasia and the Middle East. The Agency's Strategic Plan is at http://www.usaid.gov/policy/coordination/stratplan_fy07-12.html

An **overview of USAID's agricultural portfolio** of programs focused on agricultural markets and trade, biotechnology, climate change, environmental compliance, food security, forestry, irrigation/water, land management, livestock, outreach and training, policy development, research, and sustainable development is provided at http://www.usaid.gov/our_work/agriculture/

USAID's Agricultural Strategy which focuses on linking producers to markets is available at http://www.usaid.gov/our_work/agriculture/ag_strategy_9_04_508.pdf

The **Millennium Challenge Corporation (MCC)** is a United States Government corporation designed to work with some of the poorest countries in the world. Established in 2004, MCC is based on the principle that aid is most effective when it reinforces good governance, economic freedom and investments in people. MCC's mission is to reduce global poverty through the promotion of sustainable economic growth.

MCC's efforts have a direct impact on poverty reduction, and thus on reducing food insecurity. MCC encourages the development of well-functioning markets in the agricultural and rural economy so that they contribute to efficient resource allocation, economic growth, and poverty reduction. Within the context of the agricultural sector and rural economy, programs are focused on public infrastructure investment and maintenance in rural areas; human capital investments in rural people through education, health care, and potable water sources; property rights laws affecting land tenure, zoning, and access to water and other natural resources; and environmental policies including preservation of protected areas, soil conservation, watershed management and pollution regulation. MCC's interest in environmental and social sustainability is also expressed through its Guidelines for Environmental and Social Assessment and its Gender Policy. MCC has approved over U.S. \$1 billion to increasing agricultural productivity and incomes in 15 countries. <http://www.mcc.gov>

The MCC operates by developing a **Compact** with each partner country. A Compact is a multi-year agreement between the Millennium Challenge Corporation and an eligible

country to fund specific programs targeted at reducing poverty and stimulating economic growth. <http://www.mcc.gov/programs/compacts.php>

Furthermore, the MCC's **Threshold Program** is designed to assist countries that are on the "threshold," meaning they have not yet qualified for MCA Compact funding, but have demonstrated a significant commitment to improve their performance on the eligibility criteria for MCA Compact fund. <http://www.mcc.gov/programs/threshold.php>

The **International Programs Office of the US Forest Service, Department of Agriculture**, promotes sustainable forest management and biodiversity conservation internationally. International Programs regularly taps into the agency's wide range of expertise. Wildlife biologists, forest economists, hydrologists, disaster and fire management specialists, and policy makers are among those who comprise the staff of over thirty thousand employees.

The program has three main staff units: Technical Cooperation, Disaster Assistance and Policy. Both Technical Cooperation and Disaster Assistance work closely with USAID. Technical Cooperation develops and manages natural resource projects overseas on a wide range of topics (i.e. fire management and forest health). By linking the skills of the field-based staff of the US Forest Service with partners overseas, the Agency can address the most critical forestry issues and concerns. Disaster Assistance trains and mobilizes personnel domestically to respond and mitigate foreign disasters, such as the drought in Ethiopia and the locust response in West Africa. Finally, International Programs' policy unit is actively involved in sustainability roundtables and international forums, which ensures that U.S. position on global forest policies and agreements reflect the best interests of the country. For more information on the U.S. Forest Service's international work go to: <http://www.fs.fed.us/global>

The U.S. Peace Corps provides practical assistance to developing countries by sharing America's most precious resource—its people. The close interaction between Peace Corps Volunteers and local communities has allowed the Peace Corps to establish an admirable record of service that is recognized around the world. For 47 years, Peace Corps Volunteers have helped build the path to progress with people who want a better life for themselves, their children, and their communities. Throughout the world, Peace Corps Volunteers continue to bring a spirit of hope and optimism to the struggle for progress and human dignity. At the close of FY 2007 more than 190,000 Americans have served in 139 countries. www.peacecorps.gov

Peace Corps Agriculture Volunteers work with small farmers to increase food production while promoting environmental conservation practices. In 2007, 480 Peace Corps Volunteers in the Agriculture sector reached: 1,744 communities; 1,640 organizations; 23,493 men; 25,022 women; 14,249 boys (under age 25); 13,510 girls (under age 25) and 4,128 service providers. Additionally, 885 Volunteers in the Environment sector reached: 3,858 communities; 2,900 organizations; 50,997 men; 52,886 women; 65,225 boys (under age 25); 64,428 girls (under age 25) and 16,233 service providers.

Agriculture Volunteer activities include agro-forestry, applied agriculture, farm management and animal husbandry and are further described here:

<http://www.peacecorps.gov/index.cfm?shell=learn.whatvol.agr>. **Environment**

Volunteers also work in environmental education and awareness, forestry, parks and wildlife and environmental and water resources engineering. Descriptions of their activities are provided here

<http://www.peacecorps.gov/index.cfm?shell=learn.whatvol.env>

Peace Corps Response: Peace Corps Response returns exceptional Volunteers to the field in short-term, high-impact assignments that typically range from three to six months. Response Volunteers are actively engaged in providing much needed targeted assistance in a breadth of assignment areas, from HIV/AIDS activities, humanitarian assistance, post-conflict reconstruction projects as well as addressing critical needs in the areas of education and technology. Peace Corps Response speaks to the needs and interests of all involved stakeholders, retains the element of being responsive to unique and pressing situations, yet also enables U.S. to continue to broaden the scope of our projects as host-country needs develop. Descriptions of recent projects are found here <http://www.peacecorps.gov/index.cfm?shell=resources.former.response.recentproj>

II.2.2 Partnerships

In partnership with more than 50 U.S. universities, USAID supports the **Collaborative Research Support Programs (CRSPs)** which are designed to expand the host country and U.S. agricultural knowledge base, offer international training and capacity building, develop long-term scientific relationships, and focus on program cost-effectiveness. The role of women as producers, processors and consumers is also a major focus of the CRSPs. There are nine CRSPs, and these are briefly described below:

The Aquaculture & Fisheries CRSP implements activities intended to develop and promote more comprehensive, sustainable, ecologically and socially compatible, and economically viable aquaculture systems. It is implemented in partnership with 12 U.S. universities and host-country institutions in Kenya, Tanzania, Ghana, Nicaragua, Guyana, Mexico, Nepal, Cambodia, Philippines, Indonesia, China and Vietnam.

<http://pdacrsp.oregonstate.edu/afcrsp/> (under construction)

The BASIS Assets and Market Access CRSP aims to improve the agricultural competitiveness and quality of life of the rural poor in the developing world through policy-relevant research focused on improving access to resources and enhancing the operation of markets. Key interventions are in smallholder access to markets; insurance and risk management; access to finance; asset building and pathways from poverty (includes land and property issues), and, use and sustainability of natural resources.

<http://www.basis.wisc.edu> USAID supports a number of efforts to develop risk management mechanisms for small producers, especially for lower income country contexts. In particular, the Agency has been analyzing and piloting efforts to develop area-base yield and weather index insurance products. <http://www.basis.wisc.edu> A

primer on weather index insurance for low income countries is available at:
http://www.microlinks.org/ev_en.php?ID=14239_201&ID2=DO_TOPIC

The Dry Grain Pulses CRSP supports international research partnerships to increase the availability of beans and cowpeas. Participants from Latin America, the Caribbean, Africa and the United States work in collaborative projects concentrating on all aspects of food handling from improved production technologies (to manage diseases and insects as well as plant growth and development stresses) or strategies through food processing and the development of value-added products, especially for urban markets.
<http://www.isp.msu.edu/crsp/#>

The Global Livestock CRSP improves food security and quality of life through collaborative research in livestock research and development. It works to improve the interaction between livestock production and natural resource use and conservation; increase the security of people whose livelihoods depend on livestock by providing mechanisms to manage risk; enhance nutritional status, and thereby increase human capacity, through the increased availability and utilization of animal source products; strengthen the capacity of institutions to identify problems in livestock production and develop appropriate solutions; and help decision makers develop policies that will promote: a) livestock production, marketing, and trade; b) human nutrition and child physical and cognitive development; and c) natural resource conservation and management. <http://glcrsp.ucdavis.edu>

The Integrated Pest Management (IPM) CRSP combines strong regional IPM programs with projects on critical global cross-cutting themes to: measurably reduce crop and animal losses due to pests; increase farmer income; reduce pesticide use; reduce residues on export crops; improve IPM research and education program capabilities; improve ability to monitor pests; increase the abilities of women in IPM decision-making and program design. It works with colleagues in 32 different countries.
http://www.oired.vt.edu/ipmcrsp/IPM_2008/draft_home.htm

The Peanut CRSP seeks to enhance research capability in developing countries and the United States and to focus this capability on the alleviation of major researchable constraints, such as management of the aflatoxin problem, that limit sustainable peanut production. Research priorities, planned in conjunction with ICRISAT, include food safety and nutrition; crop production efficiency to sustain the natural resource base; socio-economic factors such as gender equity; post-harvest processing and utilization; and training and information exchange. <http://168.29.148.65/home.cfm>

The Soil Management CRSP works with partners in resource-limited regions of Africa, Asia and Latin America to reach food security without compromising the sustainability of agro-environments. Its objectives include enabling developing country institutions to apply information technology and knowledge-based tools to increase agricultural soil productivity; enabling them to scale-up technology adoption by farmers from local to regional scales; and strengthening human and institutional capacity to combat poverty, land degradation and food insecurity. <http://tpss.hawaii.edu/sm-crsp/>

The Sustainable Agriculture & Natural Resource Management (SANREM) CRSP promotes stakeholder empowerment and improved livelihoods through the discovery, organization and dissemination of sustainable agriculture and natural resources management knowledge. SANREM's objectives are to increase scientific knowledge and technical innovations; improve knowledge management, education, and communication leading to the adaptation and adoption of new technologies and practices; reform and strengthen governance, policies, and local institutions; and promote the functioning of sustainable resource-based local enterprises in national, regional, and global markets. It is implemented with partners in Kenya, Uganda, Zambia, Bolivia, Ecuador, Mexico, Peru, Indonesia, Philippines, and Vietnam. Website:

<http://www.oired.vt.edu/sanremcrsp/>

The Sorghum, Millet and Other Grains CRSP focuses on enhancing production and use of sorghum, millet and some other grains (finger millet, and less known orphan crops like *fonio* and *tef*) that are widely cultivated in the sorghum/millet-based cropping systems in Africa and Central America. It has identified new farming practices that improve yields, reduce crop losses to pests and protect natural resources, and has helped to develop new markets for these important grains. Ongoing scientific collaboration helps participating countries build their crop research capacities. <http://intsormil.org/>

Other USAID partnership programs that are relevant to CSD 16/17 include:

Food Security Cooperative Agreement III focuses on cross-country learning and policy actions to increase trade capacity and reform market systems in African countries. Mobilizing the U.S. universities' capacities in applied policy research, the program works to build African public and private capacity in the areas of agricultural policy, resource use, and marketing chain improvements. <http://www.aec.msu.edu/fs2/>.

Partnerships for Food Industry Development (PFID) – Fruits and Vegetables. This program, supported by USAID and implemented by Michigan State University as lead, mobilizes the capacities of U.S. universities in a joint university and food industry technical assistance program that identifies fresh produce markets; promotes private sector links between suppliers and buyers; and improves produce supply chains and their safety and quality systems. <http://www.pfid.msu.edu/>.

Partnerships for Food Industry Development (PFID) – Natural Products. This program, implemented by Rutgers University as lead, mobilizes the capacities of U.S. universities in a joint university and food industry technical assistance program working in Africa to assist in the development of natural product based food industries, diversification into valuable agricultural commodities including organic and sustainable harvest certification, and post-harvest handling, processing and manufacture. <http://www.pfidnp.org/>.

Partnerships for Food Industry Development (PFID) – Meat, Seafood and Poultry. This program, implemented by Louisiana State University as lead, mobilizes the

capacities of U.S. universities in a joint university and food industry technical assistance program that provides assistance to add value, as well as meet safety and quality standards, in the production of products for domestic and international markets.

http://www.lsuagcenter.com/en/administration/about_us/chancellors_office/International+Programs/Projects/partnership+for+food+industry+development/phase_2/index_seriespage-4.htm.

Gender Informed Nutrition and Agriculture (GINA) works with agriculture and nutrition communities to more effectively reduce poverty and malnutrition in Africa by combining scarce resources, acting together, and adequately incorporating gender analysis throughout their work. GINA focuses on agriculture-based approaches to raising income and reducing malnutrition, explicitly combining the work of agriculturalists and nutritionists, to improve nutritional outcomes of children under five years of age.

<http://inside.usaid.gov/EGAT/off-ag/act-gina.html>.

The **Higher Education for Development (HED)** program supports partnerships between U.S. and developing country universities and colleges, as well as public and private sector partners to strengthen the human and institutional capacity of local higher education institutions to provide quality training and degree programs, extension and technical assistance programs, and applied research. More than half of the 300 HED partnerships in 63 countries since 1999 supported rural development and 75 were directly focused on agriculture <http://www.hedprogram.org/>.

For a set of links to agriculture partnerships, please visit

<http://www.hedprogram.org/WhatWeDo/InstitutionalPartnerships/PartnershipDatabase/tabid/224/id/1/filter/2/Default.aspx>.

Strengthening Agroforestry Education and Development in South Africa is a project that includes curriculum development in agroforestry and rural development, and works with rural people to address food security and environmental degradation.

<http://www.cof.orst.edu/project/usaidalo/index.htm>

Natural Resource Education and Research in Ethiopia is a collaborative project between the Debub University and the Ethiopian Institute of Agricultural Research and Oregon State University to strengthen natural resource education and research.

<http://www.cof.orst.edu/project/ethiopia/>

IALC Agribusiness Workshops on Linking Farmers to Markets. The University of Illinois at Urbana-Champaign, in cooperation with USAID/ANE, several USAID Missions, the World Bank, the International Food and Agribusiness Management Association (IAMA), plus many private-sector firms and NGOs, helped organize three major workshops in Chicago, Cairo, and New Delhi on *Linking Farmers to Markets*. The purpose was to bring together Mission personnel, other donor agencies, private sector firms, NGOs and university researchers to jointly examine successful projects that have increased farm income and improved rural livelihoods by linking farmers to markets, especially for high-value crops, livestock, fishery and value-added products. The focus was primarily on agricultural diversification and building value-chains that have enabled

producer groups to gain access to regional, national and global markets. All of these case studies and videos are available at: <http://www.globalfoodchainpartnerships.org/>

Increasing Access to Finance. USAID sponsors partnership programs that increase rural households' access to finance. These efforts include educating microfinance providers on the development of products suited to rural households and the value chains in which they are engaged, as well as supporting the development of pilot products and approaches. Research is also conducted on issues of importance to rural and agriculture-based households – for example, warehouse receipts financing and leasing.

http://www.microlinks.org/ev_en.php?ID=12633_201&ID2=DO_TOPIC

The general website for access to tools, resources and case studies on microenterprise and microenterprise development is located at: www.microlinks.org

The John Ogonowski Farmer-to-Farmer (FTF) Program transfers knowledge and expertise of U.S. agricultural producers and businesses through volunteers to middle-income and developing country host institutions. Volunteers typically work with medium and small agro-enterprises, cooperatives, individual producers, agricultural extension and research agencies, and financial institutions. Major areas of program focus include horticulture and high value crops, income diversification, dairy and livestock, producer organizations, financial services, marketing and processing, and natural resources management. Information on current implementing agencies and activities can be found at: http://www.usaid.gov/our_work/agriculture/farmer_to_farmer.htm

The Consultative Group on International Agriculture Research (CGIAR). In 1971 USAID joined with other development agencies and foundations to establish the CGIAR which conducts research on cereals and pulses, livestock, fisheries and forests, and the improved management of natural resources. This system of Centers has an overall mandate of science serving the poor – helping to end hunger by combating poverty through income growth, and conserving the natural environment. www.CGIAR.org

The new **USAID/El Salvador Agricultural Diversification Program** helps farmers and small and medium enterprises increase domestic sales and exports of non-traditional, high-value agriculture products including fruits and vegetables and specialty coffee. This Program is improving value-added processing, increasing access to markets, building long-term business relationships and introducing new agricultural technologies. It stimulates job creation and investments, and increases sales of horticulture products including short-term cycle fruits, vegetables, ornamental plants, specialty coffee, as well as tackles SPS issues facing the private sector.

<http://www.usaid.gov/sv/development.html>

USAID/Panama finances activities to abate the threats to biodiversity including promotion of environmentally-friendly agricultural activities in the Panama Canal Watershed. This includes identification and promotion of best management practices for a number of income and job generation activities through training and demonstration projects, promotion of sustainable cattle ranching which helps cattle farms adopt best practices, establishing a network of tree nurseries, the promotion, production, collection,

and commercialization of chicken products, and providing technical assistance for developing business plans. <http://www.usaidcbcpanama.org>

Alternative Development and Livelihoods Support. A significant portion of USAID's economic growth assistance in the Latin America and Caribbean region is focused on helping to link markets to producers on a sustainable basis. In the Andean Region, much of the alternative development assistance focuses on helping small-scale producers to grow crops that can be marketed on a sustainable basis in lieu of the illicit production of coca. For the Programa Áreas de Desarrollo Alternativo Municipal (ADAM): www.adam.org.co and for the Programa Mas Inversión de Desarrollo Alternativo Sostenible (MIDAS): www.midas.org.co.

Trade Expansion. For the growing number of countries participating in free trade agreements with the United States, notably CAFTA-DR, small-scale producers are being assisted to sustainably produce higher-value crops and value-added products, while assistance also has been provided to help small-scale coffee growers to become more competitive in higher-value niche markets. Further, USAID also provides support to small-scale basic grain producers in assessing local, regional, national and export (under free trade agreements) market potential. <http://qesdb.usaid.gov/tcb/index.html>

Biotechnology and Biosafety. USAID has forged partnerships with public and private sector institutions in the United States and in our partner countries to make the tools of modern biotechnology available to farmers and scientists in developing countries. USAID biotechnology and biosafety programs are aimed at increasing agricultural productivity, generating income for small holder farmers and enhancing the policy environment for agriculture.

The **Agricultural Biotechnology Support Program II**, a consortium of public and private sector institutions led by Cornell University and supported by USAID, focuses on the safe and effective deployment of biotech crops to help boost food security, economic growth, nutrition and environmental quality in East and West Africa, Indonesia, India, Bangladesh and the Philippines. ABSPII technology development projects include an insect resistant eggplant and disease resistant banana and potato. <http://www.ahsp2.cornell.edu>

The **Program for Biosafety Systems (PBS)** is managed by the International Food Policy Research Institute (IFPRI). PBS receives USAID support to work with our partner countries in Africa and Asia on the responsible and safe use of agricultural biotechnology by supporting the development and implementation of national biosafety systems. PBS works through a variety of partner-driven activities and initiatives including training workshops, a competitive grants program, biosafety policy analysis and policy development, and consultative guidance on biotechnology product development. <http://www.ifpri.org/pbs/pbs.asp>

The **South Asia Biosafety Program (SABP)**, a USAID supported collaboration between Agriculture & Biotechnology Strategies (AGBIOS) Canada and IFPRI, is

dedicated to assisting the Governments of Bangladesh and India to further strengthen the institutional governance of biotechnology. The program builds on existing efforts by providing expert, directed policy advice to agencies responsible for the regulation of biotech crops and conducting relevant and timely biosafety policy studies with national partners. SABP has assisted with the revision and implementation of guidelines for the safe management of confined field trials, for science-based risk assessments of food safety for biotech crops, and in the development and implementation of national biosafety systems.
http://www.agbios.com/sabp_main.php

USAID provides support to the **African Agricultural Technology Foundation (AATF)**, an organization that facilitates public-private partnerships to access proprietary technology and deliver technology products through the local private sector in Africa. AATF has assisted with the delivery of striga-resistant maize varieties and has established international partnerships for the development of insect resistant cowpea, water efficient maize and nitrogen use efficient rice. <http://www.aatf-africa.org>

The **Middle East Regional Cooperation (MERC)** Program is a USAID-managed, peer-reviewed, competitive research grants program specifically focused on promoting technical cooperation between Arab and Israeli scientists, students and communities on topics relevant to development in the Middle East. The bulk of the research grants fall within agriculture, environment, or health. Water is an important sector, due to its importance to the region. MERC presently funds about 35 ongoing joint Arab-Israeli projects involving scientists and institutions in Israel, Jordan, Egypt, West Bank/Gaza, Morocco, Tunisia, Lebanon, and the United States. The link to MERC on the National Academy of Science website:
http://www7.nationalacademies.org/dsc/USAID_MERC_Program.html. Inside is another link to program guidelines:
http://www7.nationalacademies.org/dsc/1USAID_MERC_Guidelines_2007.html

II.3. Emerging Opportunities and Challenges

Emerging technologies present opportunity as well as challenges. This section identifies U.S. programs in a number of high profile thematic areas such as biofuels, pesticide safety and alternatives, sustainable agricultural business practices, preservation of agricultural biodiversity, and food security programs.

II. 3.1. Biofuels, Energy Efficiency and Bio-based Products - The U.S. Government is working in a number of ways to ensure sustainable use and production of biofuels. The recently passed Energy Independence and Security Act (EISA) improves biofuels sustainability by, mandating minimum reductions for lifecycle GHG emissions from renewable fuels, defining renewable fuels as those produced on land previously cleared for cultivation prior to enactment of EISA (December 2007), discouraging potentially detrimental land-use changes, and setting a 15 billion gallon cap on first generation starch based ethanol that meets the Renewable Fuel Standard (RFS) with the aim of minimizing food security and environmental concerns.

There are a number of environmental and food security concerns associated with biofuels. The USG is deeply concerned about the role of biofuel production in deforestation and biodiversity loss, and we are working to minimize those impacts. We also believe that biofuels are only one of a number of factors contributing to rising food prices. The USG is investing in R&D of next generation cellulosic biofuels, which can both minimize food security concerns and lead to more GHG reductions. Next-generation biofuels made from plant fiber (not food or feed crops) can potentially lead to an overall life-cycle reduction of GHG emissions of 80% or more. Our R&D effort is intended to make next-generation technology cost competitive by 2012. Including the FY2009 Budget, the Administration has dedicated nearly \$1 billion for research, development, and demonstration of cellulosic biofuels technology. EISA mandates that 58% of the Renewable Fuel Standard be next generation and advanced biofuels.
<http://www1.eere.energy.gov/biomass/index.html>

We are collaborating with international partners on biofuels sustainability issues. The United States actively participates in sustainability discussions in the Global Bioenergy Partnership (GBEP), International Biofuels Forum (IBF), and many other forums. The USG co-chairs GBEP's work to develop a common methodological framework to quantify biofuel GHG emissions. In the IBF we are highlighting sustainability concerns and solutions. We participate in GBEP's efforts to develop ways to achieve sustainable bioenergy and are beginning to discuss science-based sustainability benchmarks with international stakeholders.
<http://www.globalbioenergy.org/>

The USDA supports research to develop **second generation fuel technologies** and feedstock production management. Cellulosic ethanol promises to reduce pressure on food crop production while increasing the energy and carbon efficiency of ethanol. USDA programs are developing technologies to convert cellulose to ethanol, to precisely manage second generation feedstock production at the farm and regional levels, and to increase feedstock productivity while lowering inputs.
http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=307
http://www.ars.usda.gov/research/programs/programs.htm?np_code=216&docid=16490

The United States is working to increase the Federal government's purchase and use of biobased products. The use of **bio-based materials** promotes economic development by creating new jobs in rural communities and providing new markets for farm commodities.
<http://www.biopreferred.gov>

Energy conservation practices contribute to energy efficiency and fuel savings. USDA's Natural Resources Conservation Service has programs that help farmers and ranchers cut input costs, maintain production, protect soil and water resources, reduce dependence on fossil fuels, and save money by using energy conservation practices and tools described on this website. Grants and guaranteed loans provide financial incentives for farmers to adopt energy efficient farm practices.
<http://www.nrcs.usda.gov/technical/energy/>

<http://www.nrcs.usda.gov/programs/csp>

Web-based **energy efficiency** tools are available that allow farmers to estimate energy and cost savings that result from switching to alternative practices for tilling, nitrogen application, and irrigation pumping.

<http://ecat.sc.egov.usda.gov/>

<http://nfat.sc.egov.usda.gov>

The U.S. Environmental Protection Agency's **Methane to Markets Partnership** focuses on methane recovery and utilization from livestock waste management in concentrated and commercialized operations. Through multilateral cooperation, the initiative promotes cost-effective, near-term methane recovery and use as a clean energy source. With today's technology, a wide range of opportunities exist internationally to abate livestock waste methane emissions at zero or negative economic cost. Plus, farms can achieve other environmental benefits related to improved livestock waste management.

<http://www.epa.gov/methanetomarkets>

<http://www.methanetomarkets.org/ag/index.htm>

<http://www.epa.gov/methanetomarkets/accomporeport.htm>

The **Forest Service** is developing science and technology to sustainably produce, manage, harvest, and convert forest biomass from wood to biofuels.

<http://www.forestsandrangelands.gov>. The **National Forest Products Laboratory** is providing many breakthrough technologies for bio-based products through the efficient, sustainable use of wood resources. <http://www.fpl.fs.fed.us>

II.3.2. Pesticide Safety and Alternatives – USDA **Integrated Pest Management Centers** work in partnership with researchers and educators in the land-grant university system and the private sector to develop and implement new ways to address complex pest management issues. USDA provides funding to support extension IPM implementation and four regional IPM centers, which contribute to the development of safe and effective IPM systems that increase farm profitability, reduce environmental and human health risks, and protect natural resources.

http://www.csrees.usda.gov/nea/pest/in_focus/ipm_if_regional.html

USAID has initiated a **Global Development Alliance** with CropLife International to promote the **safe use of pesticides** in an integrated pest management context. Under this agreement, CropLife is making its well-developed and highly successful training programs available to USAID projects worldwide. This program trains users in the safe and responsible use of pesticides. <http://www.croplife.org/>

The EPA **Strategic Agriculture Initiative** is designed to provide a reasonable transition from the use of high risk pesticides, such as organophosphate and carbamate insecticides and carcinogenic products, to reduced risk pesticides and pest management practices. The program funds innovative research and demonstration projects by universities or agricultural groups to reduce potential adverse impacts on human health and the

environment that may result from pesticide use and to encourage sustainable agricultural production systems. www.epa.gov/pesticides/grants/aginitiative.htm

The EPA **Pesticide Environmental Stewardship Program** (PESP) is a voluntary public-private partnership organized to reduce pesticide risk and increase adoption of integrated pest management (IPM) in U.S. agriculture. PESP partners recognize that environmental stewardship is an integral part of pest management, and they commit to working toward innovative practices that reduce risk to human health and the environment. <http://www.epa.gov/opbppd1/pep/about.htm>

The Central America Free Trade Agreement (CAFTA) funded "train-the-trainer program" on pesticide safety in Central America: In addition to promoting agricultural worker safety and appropriate pesticide application in the United States through regulated certification and training programs, EPA actively supports safe pesticide use in Central America through a train-the-trainer program. A consortium of interested parties, including government ministries, academia, industry, and non-governmental organizations collaborate to adapt the program model to the needs of their country. To date, the program has been implemented in Honduras, El Salvador, the Dominican Republic and Nicaragua. Audiences served by this program include pesticide applicators, field workers, pesticide dealers, students, agricultural extension programs, housewives and farmers. <http://www.epa.gov/pesticides/health/worker.htm>

II. 3.3. Sustainable Business Practices in Farming - The goals of sustainable agriculture are to provide a more profitable farm income, to promote environmental stewardship, and to enhance the quality of life for farm families and their communities. USDA promotes sustainable agriculture through national program leadership and funding for research and extension. It offers competitive grants programs and a professional development program, and it collaborates with other federal agencies through the USDA Sustainable Development Council. <http://www.usda.gov/oc/sustainable/>

USDA aims to incorporate **sustainability concepts** and principles into the policies, practices, and programs of the Land Grant University System, with the aim that everyone may benefit from sound sustainable development in the United States. These conservation programs help private landowners conserve and enhance their natural resources, including soil, air, water, plants, and animals. <http://www.csrees.usda.gov/sustainabledevelopment.cfm>

The **Sustainable Agriculture Research and Education (SARE)** program works to increase knowledge about, and help farmers and ranchers adopt practices that are profitable, environmentally sound, and good to communities. Small grants are awarded through a competitive process for research, professional development and educational opportunities, and for farmers and ranchers to test innovative ideas and share the results with their neighbors. Projects address crop and livestock production and marketing, stewardship of soil and other natural resources, economics and quality of life. <http://www.sare.org/about/>

USDA's **Green Purchasing Program** promotes the purchase of recycled-content products, biobased products, Energy Star and energy-efficient products, and environmentally preferable products and services, in accord with requirements across the Federal government. <http://www.usda.gov/energyandenvironment/greenpurchasing/>

II.3.4. Agricultural Biodiversity - U.S. agriculture has made considerable strides in moving to sustainable agricultural practices that reduce negative effects on off-farm biodiversity.

The **National Genetic Resources Program (NGRP)** mission is to acquire, characterize, preserve, document, and distribute to scientists, germplasm of all lifeforms important for food and agricultural production including: food processing (e.g. cheese making), alternate energy, and biocontrol agents. <http://www.ars-grin.gov/>

A number of non-profit and commercial organizations in the United States also contribute to the preservation of agricultural diversity by maintaining collections of heirloom plant varieties and wild plants, and making them available to growers.

<http://www.seedsavers.org/>

<http://www.one-garden.org>

<http://www.seedstrust.com/>

<http://www.halcyon.com/tmend/links.htm>

<http://www.greenpeople.org/seeds.htm>

<http://www.crfg.org/>

The **National Plant Germplasm System** maintains 484,000 samples of 12,482 plant species (as of December 2007). The collection includes staple food and feed crops, horticultural crops, fruit and nut crops, industrial crops, ornamental crops, and forest tree crops. The collection is continually growing through acquisition of plant germplasm (over 9,000 samples in 2006, 2,000 from non-U.S. sources) through international and domestic exchanges, and supporting international and domestic plant explorations. Samples are distributed free of charge and without restrictions each year to scientists and breeders, with an average over the past five years of 44,000 samples per year going to facilities in 166 countries. <http://www.ars-grin.gov/npgs/>
<http://www.ars-grin.gov/>

The **North American Pollinator Protection Campaign** builds awareness about the importance of beneficial insects and encourages the health of resident and migratory pollinating animals in North America.

http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=305

<http://www.nappc.org/>

II. 3.5. Food Security - A number of programs address food security and improved nutrition for the poor in the United States. Additionally, efforts internationally use a variety of strategies to reduce food insecurity.

USDA's **Food and Nutrition Service (FNS)** provides children and needy families better access to food and a more healthful diet through its food assistance programs and comprehensive nutrition education efforts. FNS administers programs for school meals, disaster relief, seniors, low-income persons, and women, infants and children. FNS provides services to nearly one in five people in the United States. FNS has elevated nutrition and nutrition education to a top priority in all of its programs. In addition to providing access to nutritious food, FNS also works to empower program participants with knowledge of the link between diet and health. <http://www.fns.usda.gov/fns/>

Farmers Market Nutrition Program (FMNP) is associated with the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). The FMNP was established by Congress in 1992 to provide fresh, unprepared, locally grown fruits and vegetables to WIC participants, and to expand the use of and sales at farmers' markets. <http://www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm>

Several programs strengthen food security by linking local farms and food to communities, through direct marketing, value added producer grants, farmers markets, and farm-to-school programs.

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateD&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMWIC&description=WIC&acct=frmrdirmt>

<http://www.rurdev.usda.gov/rbs/coops/vadg.htm>

<http://www.ams.usda.gov/farmersmarkets/>

http://www.fns.usda.gov/cnd/Guidance/Farm-to-School-Guidance_12-19-2005.pdf

<http://www.csrees.usda.gov/fo/fundview.cfm?fonum=1200>

USAID's **Famine Early Warning Systems Network (FEWS Net)** collaborates with international, regional and national partners to provide timely and rigorous early warning and vulnerability information on emerging and evolving food security issues. FEWS Net professionals in Africa, Central America, Haiti, Afghanistan and the United States monitor and analyze relevant data and information in terms of its impacts on livelihoods and markets to identify potential threats to food security. Once these issues are identified, FEWS Net uses a suite of communications and decision support products to help decision makers act to mitigate food insecurity. FEWS Net also focuses its efforts on strengthening early warning and food security networks. Activities in this area include developing capacity, building and strengthening networks, developing policy-useful information, and building consensus around food security problems and solutions.

www.fews.net

The National Integrated Drought Information System (NIDIS) is led by NOAA, with major contributions by United States Geological Survey (USGS), USDA, and academia (National Drought Mitigation Center, University of Nebraska, Lincoln), NIDIS is working with state and local governments to provide the vital information needed for drought early warning and adaptation. The emerging system is beginning to fill the need for more accessible and relevant drought related information needed to support decision making processes. A new drought web portal, www.drought.gov, has been launched by

NIDIS to provide the very latest data and information describing ongoing conditions, outlooks, and impacts.

NOAA provides hazard assessments for Africa produced weekly in collaboration with the FEWS Net team, including the USGS, NASA, Chemonics, and USAID. The assessments are based on a wide range of products, including rain gauge data, satellite rainfall estimates (RFE), and rainfall forecasts out to seven days. Other inputs include river flow forecasts from the USGS, normalized difference vegetation index (NDVI), field observations, etc. The objective is to monitor high impact weather such as extreme drought or flooding in order to assist USAID to develop mitigation strategies to help FEWS Net countries cope with food security vulnerability. Hence, based on current conditions and outlooks for the week, a GIS-based risk map is produced to highlight areas that face food security threats, including drought, flooding, locust invasion, and outbreak of epidemic diseases.

<http://www.cpc.ncep.noaa.gov/products/fews/hazards.shtml>

NOAA Fellowships as part of the U.S. Contribution to the World Meteorological Organization (WMO) Voluntary Cooperation Program (VCP). To help emerging nations improve climate services and cope better with impacts of weather and climate, NOAA's National Weather Services established several international desks, including the African Desk, the South American Desk and the Tropical Desk. NWS also administers a 4 month WMO VCP fellowship to enable professional meteorologists and university scientists from emerging nations to train at the NCEP International Desks. The curriculum is specifically tailored to the needs and requirements for improved climate and weather monitoring and prediction services.

<http://www.nws.noaa.gov/iao/index.php>

http://www.cpc.ncep.noaa.gov/products/african_desk/

<http://www.hpc.ncep.noaa.gov/international/intl2.shtml>

The Presidential Initiative to End Hunger in Africa (IEHA)'s goal is to rapidly and sustainably increase agricultural growth and rural incomes in sub-Saharan Africa. This initiative focuses on promoting agricultural growth and building an African-led partnership to cut hunger and poverty by investing in agriculture oriented towards small-scale farmers.

http://www.usaid.gov/locations/sub-saharan_africa/initiatives/ieha.html

III. RURAL DEVELOPMENT OVERVIEW

Historically, rural America has figured prominently in the economy, culture, ethos and overall outlook of the United States. While urbanization and suburbanization have emerged as important trends in recent years, rural populations continue to increase. For example, from 2000-2005, the number of people living in nonmetro areas (rural areas and small towns) increased by 2.2 percent, with international immigrants accounting for nearly one-third of that increase. Much of this growth also occurred in counties adjacent to metro areas.

Rural U.S. populations are in step with several broader national trends. The population is aging; between 2000 and 2005, the nonmetro population grew by 8 percent while the group of young people under 20 years of age declined by 5 percent. In terms of employment, between 2004 and 2005 employment increased by 1.4 percent in nonmetro areas compared to growth of 1.8 percent in metro areas.

Traditionally, farming has been the glue that holds rural communities together. The most recent Census of U.S. Agriculture indicates that as of 2002, there were approximately 2.1 million farms covering about 938 million acres of land in the United States. In 2008, average farm operator household income is projected to be \$89,434, up 6.3 percent from 2007, and is largely attributable to increases in both farm and off-farm sources. But importantly, nearly two-thirds of farm households classified as rural residence households receive virtually all their income from off-farm sources. Clearly, non-farm jobs and networks are playing an increasingly important role in rural settings in the U.S. <http://www.ers.usda.gov/publications/eib18/>
<http://www.agcensus.usda.gov/Publications/2002/index.asp>
<http://www.ers.usda.gov/Briefing/WellBeing/farmhouseincome.htm>

With this backdrop, the U.S. government offers many domestically- and internationally focused programs that speak to the CSD16/17 focus on rural development.

III. 1. Domestically-Focused Agencies and Programs

The following USDA programs promote rural development:

Rural Businesses Programs (BP) are conducted in partnership with the private sector and community-based organizations to provide financial assistance and business planning. BP helps fund projects that create or preserve quality jobs and/or promote a clean rural environment. The financial resources of BP are often leveraged with those of other public and private credit source lenders to meet business and credit needs in under-served areas. Recipients of these programs may include individuals, corporations, partnerships, cooperatives, public bodies, nonprofit corporations, Indian tribes, and private companies. <http://www.rurdev.usda.gov/rbs/bU.S.p/bpdir.htm>

Community Development Programs promote self-sustaining, long-term economic and community development in rural areas. The programs are designed to develop essential

community facilities including schools, libraries, childcare, hospitals, medical clinics, assisted living facilities, fire and rescue stations, police stations, community centers, public buildings and transportation. The programs stress continued local involvement and decision making which is supported by partnerships among private, public and nonprofit entities. <http://www.rurdev.usda.gov/rhs/Admin/administrator.htm>

Cooperative Programs promote understanding and use of the cooperative form of business as a viable organizational option for marketing and distributing agricultural products. A cooperative is a business or service organization that is owned and democratically controlled by the people who use its services. Rural cooperatives can provide a variety of different functions and benefits to the rural community. Marketing cooperatives improve the bargaining power of farmers and increase the efficiency of distribution of products, and can even open up new markets. Supply cooperatives can reduce the costs of farmers obtaining necessary agricultural supplies (such as feed, fertilizer, petroleum, and seeds) and even make supplies available that would not otherwise be available. Service cooperatives provide specialized services to farmers such as cotton ginning, storing, trucking, and drying. Rural utilities cooperatives may provide electricity, water, and telecommunications to the areas where the low density of customers is unattractive to investor-owned utilities. These utility cooperatives supply 40 million customers, generate 5 percent of the nation's electricity, deliver about 10 percent of the nation's electricity, but cover over three quarters of the U.S. area. Similarly the cooperative model can be used to provide services such as health care facilities, children day care, insurance, credit unions, and housing for rural communities. The programs serve cooperative members, directors, management, educational institutions, organizations, rural residents, and all others with an interest in the cooperative form of business. <http://www.rurdev.usda.gov/rbs/coops/csdir.htm>

Regional Rural Development Centers - The CSREES [Regional Rural Development Centers \(RRDCs\)](#) play a unique role in USDA's service to rural America. They link the research and educational outreach capacity of the nation's public universities with communities, local decisionmakers, entrepreneurs, families, and farmers and ranchers to help address a wide range of development issues. They collaborate on national issues that span regions—like e-commerce, the changing interface between rural, suburban, and urban places, and workforce quality and jobs creation. Each tailors programs to address particular needs in its region. http://www.csrees.usda.gov/nea/economics/in_focus/rural_if_regional.html

Housing and Community Facilities Programs help rural communities and individuals by providing loans and grants for housing and community facilities. These programs provide funding for single family homes, apartments for low-income persons or the elderly, housing for farm laborers, childcare centers, fire and police stations, hospitals, libraries, nursing homes, schools, and much more. <http://www.rurdev.usda.gov/rhs/>

Electric Programs provide loans and loan guarantees to upgrade, expand, maintain, and replace America's vast rural electric infrastructure. The programs help finance the construction of electric distribution, transmission, and generation facilities, including

system improvements and replacement required to furnish and improve electric service in rural areas, as well as demand side management, energy conservation programs, and on-grid and off-grid renewable energy systems. <http://www.usda.gov/rus/electric/index.htm>

Water and Environment Programs (WEP) provide loans, grants and loan guarantees for drinking water, sanitary sewer, solid waste and storm drainage facilities in rural areas and cities and towns of 10,000 or less. Public bodies, non-profit organizations and recognized Indian tribes may qualify for assistance. WEP also makes grants to nonprofit organizations to provide technical assistance and training to assist rural communities with their water, wastewater, and solid waste problems.

<http://www.usda.gov/rus/water/index.htm>

Telecommunications Programs include a traditional telephone loan program, a broadband access loan program, a distance learning and telemedicine program, and a community connect grant program that provides financial support for accessing broadband connectivity to currently unserved areas.

<http://www.usda.gov/rus/telecom/index.htm>

Rural Community Empowerment Program focuses on building continued local involvement and decision making which is supported by partnerships among private, public and nonprofit entities. <http://www.rurdev.usda.gov/rbs/ezec/index.html>

Family, Youth and Communities Programs are devoted to facilitating and fostering families, youth, and communities – in rural, suburban and urban areas. In cooperation with public and private sector partners and the Land-Grant University System, USDA supports the 4-H youth development program and other family- and community-focused programs. <http://www.csrees.usda.gov/nea/family/family.cfm>

National Research Initiative - Agricultural Prosperity for Small and Medium-Sized Farms. The purpose of this program is to foster interdisciplinary studies to improve our understanding of the interactions between the economic and environmental components important to the long-term viability, competitiveness and efficiency of small and medium-sized farms (including social, biological and other components, if necessary). While small and medium-sized farms account for less than 25 percent of the value of all agricultural products sold in the U.S., the long-term viability of these farms is critical to the prosperity of rural people and places as these farms account for approximately 92 percent of all farms in the U.S.

<http://www.csrees.usda.gov/fo/fundview.cfm?fonum=1200>

Fuels for Schools and Beyond: <http://fuelsforschools.org>

Education and Training is a component of many partnership activities. These include programs such as:

Student Conservation Corps: <http://www.thesca.org>

Energy and biomass: <http://www.forestsandrangelands.gov>

Forest-based products: <http://www.fpl.fs.fed.us>

Sustainable tourism and travel partnership programs include one in **ecotourism**:

<http://www.nationalgeographic.com/adventure/travel/eco-travel/eco-success.html>

Specific examples from Moosalamoo in Vermont:

<http://www.moosalamoo.org>

Valles Caldera National Natural Preserve in New Mexico:

<http://vallescaldera.gov/index.aspx>

Scenic byways: <http://www.byways.org>

Federal forest-based tourism and programs:

<http://www.fs.fed.us/recreation/programs/tourism/>

<http://www.passportintime.com/>

Heritage tourism: <http://www.preserveamerica.gov>

Besides USDA, other Government Agencies offer programs that are relevant to CSD 16/17 such as the following.

III. 2. Internationally-Focused Agencies and Programs

Rural Youth/Workforce Development

USAID supports youth and workforce development as a key driver in private sector competitiveness in formal and informal sectors through the EQUIP 3 Youth Trust mechanism. EQUIP 3 supports programs to improve the quality of education and learning opportunities for out-of-school children, youth, and young adults. In Timor-Leste, the Youth Have Opportunities for Work (JOBS) Program is working to provide 2,500 minimally-educated rural men and women, ages 18-30, with workforce preparation that combines off-the-job instruction with on-the-job training. Elements of this program include literacy/language learning, employability and life-skills training, entrepreneurship training, and vocational skill building. The program will combine formal instruction with on-the-job training in some of the country's most rural areas.

More information on EQUIP 3 is available at <http://www.equip123.net>.

Agricultural Jobs for Former Fighters. USAID has conducted a successful reintegration program for former rebels in Mindanao, in the Philippines. Called Livelihoods Enhancement and Peace (LEAP), the program has helped thousands of former MNLF combatants start up or resume farming activities – principally, producing corn and rice for the domestic market and harvesting seaweed for the export market.

<http://philippines.usaid.gov/documents/conflict/leap.pdf>

Agriculture Commercial, Legal and Institutional Reform (AG CLIR). Implemented through the USAID Business Law Reform (BIZ-CLIR) project, AG-CLIR provides a comprehensive assessment methodology to deepen host country institutions' knowledge of agriculture-related macroeconomic policy and business reform needs. This helps to ensure that agricultural and rural constraints are addressed as part of the broader economic reform process underpinning transformational development.

<http://www.bizlawreform.com/home.htm>

The **Millennium Challenge Corporation (MCC)**. (See Section II.2. Internationally-focused Agencies and Programs for a complete description of MCC). MCC works with development partners to catalyze economic growth and reduce poverty by making agriculture more productive while improving linkages upstream, downstream, and throughout the rural economy. Increased agricultural production has benefits not just for the farmer, but for rural communities and the global trading system as a whole. Within the context of the rural economy, MCC has supported eligible country investment initiatives that will have powerful impacts on long-lasting rural economic opportunities:

- public infrastructure investment and maintenance;
- human capital investments in people through education, health care, and potable water sources;
- property rights laws affecting land tenure, zoning, and access to water and other natural resources; and
- environmental policies including preservation of protected areas, soil conservation, watershed management and pollution regulation

Well-functioning markets in the agricultural and rural economy contribute to efficient resource allocation, economic growth, and poverty reduction. MCC and its partner countries are working to improve agricultural development and its contributions to rural economic growth through many programs. More information on the MCC approach and current compacts including background on specific country investments in rural development can be found at <http://www.mcc.gov>.

IV. LAND OVERVIEW

The United States is made up of a diversity of land types including forests (28%), grassland pastures and rangelands, (26 percent), croplands, (20 percent), urban, suburban and rural residential areas, (6 percent) miscellaneous. other uses, (7 percent); and, special uses-primarily parks and wildlife areas (13 percent).

<http://www.ers.usda.gov/publications/sb973/sb973.pdf>

In the United States, all levels of government, the private sector and individuals share major responsibilities for conservation and biological diversity. About 60 percent of the land is privately owned. State governments have primary jurisdictions over private lands, while the national government regulates certain private uses of resources where there is a national interest regarding important values (such as estuaries, wetlands, floodplains, critical habitats for endangered species). Twenty nine percent of the land is owned by the national government and is managed in accordance with a range of U.S. environmental laws, including the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Of the remaining land in the United States, 9 percent is owned by States and local governments, and over 2 percent is held in trust by the Bureau of Indian Affairs. <http://www.ers.usda.gov/publications/sb973/sb973.pdf> .

The right to own land - **land tenure** - is guaranteed to property owners by the U.S. Constitution, which states that no person shall “be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.” http://www.archives.gov/national-archives-experience/charters/bill_of_rights_transcript.html The U.S. experience demonstrates that land tenure systems and land ownership are essential for creating pride and stewardship of resources, that tenure systems provide access to finance, and that knowledge and land management systems are the axis of land stewardship.

IV. Domestically-Focused Agencies and Programs –

Land protected by the national government primarily for conservation and sustainable development purposes is described in this section of the National Report:

National Parks: The Department of Interior’s National Park Service (NPS) cares for national parks, a network of nearly 400 natural, cultural and recreational sites across the nation covering more than 84 million acres. The American system of national parks was the first of its kind in the world, and provides a living model for other nations wishing to establish and manage their own protected areas. The park service actively consults with these nations, sharing what we've learned, and gaining knowledge from the experience of others. Beyond national parks, the NPS helps communities across America preserve and enhance important local heritage and close-to-home recreational opportunities. Grants and assistance are offered to register, record and save historic places; create community parks and local recreation facilities; conserve rivers and streams, and develop trails and greenways. <http://www.nps.gov/aboutus/index.htm>
http://www.doi.gov/news/07_News_Releases/070531.html

National Wildlife Refuges: The Department of Interior's Fish and Wildlife Service (FWS) is a bureau that works with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. Its functions include enforcement of Federal wildlife laws; protection of endangered species; management of migratory birds; restoring nationally significant fisheries; conserving and restoring wildlife habitats such as wetlands; helping other governments with their international conservation efforts; and distributing financial resources raised through fishing and hunting taxes to State fish and wildlife agencies. FWS manages the 93 million-acre National Wildlife Refuge System of more than 520 National Wildlife Refuges and thousands of small wetlands and other special management areas. Under the Fisheries program FWS also operates 69 National Fish Hatcheries, 64 fishery resource offices and 78 ecological services field stations. http://www.fws.gov/help/about_us.html; <http://www.fws.gov/refuges/welcome.html>

Forests: The USDA's Forest Service (FS) manages a 193 million acre National Forest System (NFS), consisting of 155 national forests, 20 national grasslands, and 112 other areas. Most NFS lands are concentrated in the western United States and Alaska, but the FS also manages more than half of all national lands in the eastern United States. NFS lands are for multiple uses, including watershed protection, tourism and recreation, wildlife conservation, and forest products. Under the provisions of various laws, the FS depends on interdisciplinary expertise and teams to formulate land and resource management plans and to designate permitted levels and locations for activities and land. The FS has committed to the goal of ensuring the sustainable management of the forests it manages wherever they are found in the United States, and works actively internationally to share with and learn from other countries to advance sustainable forest management. <http://www.fs.fed.us/>; <http://www.fs.fed.us/publications/strategic/fs-spy04-08.pdf>

National Landscape Conservation Areas: The National Landscape Conservation System (NLCS) of the Bureau of Land Management (BLM) contains some of the most remarkable, diverse, and expansive landscapes found on public lands in the American West. The NLCS consists of more than 26 million acres. These lands include National Conservation Areas, National Monuments, Wilderness, Wilderness Study Areas, Wild and Scenic Rivers, National Scenic and Historic Trails, and some other congressionally designated public lands. The NLCS mission is to conserve, protect, and restore these nationally significant landscapes and their exceptional cultural, ecological, and scientific values for the benefit of current and future generations. http://www.blm.gov/wo/st/en/prog/blm_special_areas/NLCS.1.html

Multipurpose lands: The BLM is responsible for carrying out a variety of programs for the management and conservation of resources on 258 million surface acres, as well as 700 million acres of subsurface mineral estate. These public lands make up about 13 percent of the total land surface of the United States and more than 40 percent of all land managed by the Federal government. To see how BLM is organized: <http://www.blm.gov/wo/st/en.html>

Most of the public lands are located in the Western United States, including Alaska, and are characterized predominantly by extensive grassland, forest, high mountain, arctic tundra, and desert landscapes. The BLM manages multiple resources and uses, including energy and minerals; timber; forage; recreation; wild horse and burro herds; fish and wildlife habitat; wilderness areas; and archaeological, paleontological, and historical sites. To view the BLM-managed lands, see

<http://www.blm.gov/pgdata/etc/medialib/blm/national.Par.93357.Image.-1.-1.gif>

for a medium size map (1288 x 760) and

<http://www.blm.gov/pgdata/etc/medialib/blm/national.Par.54506.Image.-1.-1.1.gif>

for a large size map (4168 x 2460).

Other domestically-focused agencies and programs that are relevant to CSD 16 include:

The **Smart Growth Program** at the **Environmental Protection Agency (EPA)**

<http://www.epa.gov/dced/index.htm> helps communities improve their development practices and get the type of development they want. This program works with local, state, and national experts to discover and encourage successful, environmentally sensitive development strategies. EPA offers many tools and resources to help communities learn about and implement smart growth approaches

http://www.epa.gov/dced/sg_implementation.htm. Policies and regulations vary from community to community and state to state. Many federal policies, particularly those related to the environment, transportation, and housing, affect how communities develop, but the federal government generally does not directly regulate development. The federal government can help states and municipalities better understand the impacts of development patterns, but development decisions are predominately under state and community jurisdiction. Two publications (*Getting to Smart Growth*, Volume 1 and 2), prepared by the International City/County Management Association (ICMA) and the Smart Growth Network with support from EPA, describe concrete techniques of putting smart growth principles into practice. English and Spanish versions are available http://www.epa.gov/dced/getting_to_sg2.htm. Lastly, **The Smart Growth Network (SGN)** which is a partnership of government, business and civic organizations that support smart growth – growth in and around urban areas that takes into account all land uses and priorities. Since its creation in late 1996, the Network has become a storehouse of knowledge about smart growth principles, facilitating the sharing of best practices and acting as a catalyst for implementation of ideas. <http://www.smartgrowth.org>

USDA's Natural Resource Conservation Service (NRCS) which offers a number of natural resources conservation programs that help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty.

<http://www.nrcs.usda.gov/programs/>

Cooperative Conservation describes the efforts of landowners, communities, conservation groups, industry, and governmental agencies who join together to conserve

the environment. Through cooperative conservation, citizens from every walk of life enhance, restore, and protect lands, waters, air, and wildlife resources on public and private lands. Through cooperative conservation, citizens play a central and substantive role in the stewardship and governance of the environments in which they live, work, and play.

It is voluntary and incentive-based: people associate together voluntarily to pursue common conservation goals. It rests on cooperation and collaboration: problems are solved by people working together. It is rooted in local action and reliant on local, experiential knowledge as well as science. It is non-partisan: cooperative conservation is the practical option to litigation and polarization that otherwise divide Americans. Finally, it is entrepreneurial: innovation and creativity by citizens is the engine that drives cooperative conservation problem solving.

Programs that exemplify cooperative conservation include: U.S. Landcare, The National Oceanic and Atmospheric Administration (NOAA)'s cooperative conservation, The American Heritage Rivers, the Rivers, Trails, and Conservation Assistance Program. <http://cooperativeconservation.gov/pdfs/whatislandcare.pdf>
<http://sustainableangelands.warnercnr.colostate.edu/>
<http://www.unr.edu/mines/smr/>
<http://acwi.gov/swrr/>
<http://www.doi.gov/initiatives/conservation.html>

The State Areas for Wildlife Enhancement (SAFE) initiative is a locally led, results-oriented effort to address high-value wildlife habitat restoration and Cooperative Conservation goals. SAFE is the latest initiative within the Conservation Reserve Program. SAFE enables the public, producers, state and federal agencies, non-profit conservation organizations and others to propose areas where new CRP acreage may be established to address the habitat needs of endangered, threatened or high-priority fish and other wildlife species. SAFE seeks to enroll 500,000 acres in new CRP contracts. In addition, conservation practices currently offered under CRP can be fine-tuned under SAFE to improve, connect or create higher-quality habitat to promote healthier ecosystems in areas identified as essential to effective species management. http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=nr&newstype=newsrel&type=detail&item=nr_20070322_rel_1428.html

National Agroforestry Center (NAC) conducts research and provides technology transfer information, publications, and training on the six major agroforestry practices used in temperate climates: silvopasture systems, alley cropping, windbreaks and shelterbelts, forest farming, riparian forest buffers, and specialty practices. Most agroforestry practices are eligible for cost share assistance to landowners under the conservation programs of the Farm Bill. <http://www.unl.edu/nac/>

Land Revitalization programs include the following:

The **U.S. Environmental Protection Agency (EPA)** oversees the **Land Revitalization Initiative** to restore contaminated and potentially contaminated sites to productive economic and greenspace use. <http://www.epa.gov/landrevitalization/index.htm>

EPA sponsors the **Brownfields Program** which seeks to clean up properties the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. http://epa.gov/brownfields/basic_info.htm

EPA also sponsors the **Superfund program** to clean up the nation's uncontrolled hazardous waste sites. <http://www.epa.gov/superfund/>

The Bureau of Land Management (BLM) has been very active in supporting and promoting the concept of sustainable development, not only in reclaiming lands disturbed by **mining**, but by completing many outreach efforts to NGOs and the mining industry.

- BLM and the United States FS published and distributed a brochure entitled “Sustainable Development and its Influence on Mining Operations on Federal Lands—A Conversation In Plain Language.” <http://ublib.buffalo.edu/libraries/e-resources/ebooks/records/eep7794-1.html>
- BLM has incorporated language in its Land Use Planning Policy, as follows: “*Planning decisions will also be developed in concert with sustainable development concepts. These concepts include a vision of economic prosperity, a healthy environment, and a just and equitable society. These sustainable development concepts are consistent with the mission and goals as outlined in BLM’s Strategic Plan.*” http://www.blm.gov/nhp/200/wo210/landuse_man.pdf
- The Mine Ministries of the Americas Conference (CAMMA is the Spanish acronym), the only hemispheric forum for discussion of sustainable development issues in mining, has met regularly since the mid 1990s. <http://www.camma.org/sd.asp?lang=en>
- Sustainable Development Awards have been made since 2004 for those mining companies that have implemented Sustainable Development, especially in the area of reclaimed mined lands. DVD’s are available for each year wherein 3-4 awardees were honored. http://www.blm.gov/wo/st/en/info/newsroom/2007/september/NR_0709_04.html
http://www.blm.gov/wo/st/en/info/newsroom/2007/august/NR_0708_06.html
http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html

IV. 2. Internationally-Focused Agencies and Programs

USAID provides a variety of natural resource management research and technical assistance programs that are relevant to the CSD 16/17 focus on land.

http://www.usaid.gov/our_work/environment/index.html,
<http://www.oired.vt.edu/sanremersp>, <http://www.translinks.org/>

The Agency also conducts research, training, and technical assistance for **land tenure and natural resources property rights** are described at:

<http://www.ardinc.com/projects/project.php?area=Regions&tid=614>

USAID's programs in **sustainable forestry** are described at:

<http://inside.usaid.gov/EGAT/off-nrm/forest-team/index.htm>

Its programs in **sustainable land use and forestry planning** are described at:

http://www.usaid.gov/our_work/environment/climate/policies_prog/carbon.html

Its programs in **land tenure and natural resources property rights** are described at:

<http://www.ardinc.com/projects/project.php?area=Regions&tid=614>

Its programs that **integrate equitable economic development and governance with natural resources management** are described at: <http://www.translinks.org/>

http://www.wri.org/governance#project_tabs-4

Its programs on **biodiversity conservation (wildlife, fisheries)** are described at:

http://www.usaid.gov/our_work/environment/biodiversity/bio_progs.html

http://www.usaid.gov/our_work/environment/biodiversity/gcp.html

Its programs on **integrated water resources management and development** are

described at: http://www.usaid.gov/our_work/environment/water/index.html

Its programs on **climate change mitigation and adaptation** are described at:

http://www.usaid.gov/our_work/environment/climate/index.html

<http://www.servir.net/>

Its programs in **disaster management and weather prediction** are described at:

<http://www.servir.net/>

Its programs to promote **clean energy and energy efficiency** are located at:

http://www.usaid.gov/our_work/economic_growth_and_trade/energy/index.html

Its programs on **coastal zone and coral reef management** are described at:

http://www.usaid.gov/our_work/environment/biodiversity/coastal_coral.reef.html

Its programs on **aquaculture and fisheries management, livestock management, land tenure and resource property rights** are described at:

<http://www.ardinc.com/projects/project.php?area=Regions&tid=614>

Its programs on **sustainable tourism** as a land resource tool are described at:

http://www.usaid.gov/our_work/agriculture/landmanagement/tourism/sustainable_tourism.html including **public-private development partnerships** <http://www.gstalliance.org>

and **tourism competitiveness**

<http://www.weforum.org/en/initiatives/gcp/TravelandTourismReport/index.htm>

Its programs on **natural products enterprise and commodity/value chain development** are described at:

http://www.usaid.gov/our_work/environment/biodiversity/enterprise_dev.html

Its programs on **pro-poor rewards and payment for ecosystem services** are described at:

<http://www.oired.vt.edu/sanremcsp/PES.php>. <http://www.translinks.org/>

Its programs on **geographical information systems** are described at:

<http://www.wri.org/publication/natures-benefits-in-kenya#>

<http://www.servir.net/>

Its programs on **environmental communication, knowledge management, and networking** are described at: http://www.frameweb.org/ev_en.php

<http://www.rmportal.net>

Its programs focused on **land management** are described at:

http://www.usaid.gov/our_work/agriculture/landmanagement/index.html

USAID's programs in **environmental health**, such as the interactions of livestock, wildlife, and human health are described at: <http://www.wcs-ahead.org/>

Its programs in **environmental impact assessment** are described at:

<http://www.encapafrika.org/>

http://www.usaid.gov/our_work/environment/compliance/reg216.pdf

http://www.usaid.gov/locations/europe_eurasia/environment/

http://www.usaid.gov/locations/latin_america_caribbean/environment/compliance.html

One of the U.S. government's more unique efforts is in the area of innovative financial mechanisms for tropical forest conservation. With the U.S. Department of State and the Treasury Department, USAID helps to manage programs authorized under the **Tropical Forest Conservation Act** (TFCA) of 1998 which offers eligible developing countries opportunities to reduce or re-direct certain official debt owed the U.S. Government while generating funds locally to support grants and projects, principally to NGOs, to conserve and sustainably manage high value tropical forests. Since 1998, 13 TFCA "debt-for-nature" agreements have arranged to provide \$163 million over 10-25 years to help conserve about 20M hectares (50M acres) of tropical forest. The private sector, non-governmental organizations Nature Conservancy, World Wildlife Fund, and Conservation International contributed \$12.1 million to 8 TFCA agreements.

http://www.usaid.gov/our_work/environment/forestry/tfca.html

Millennium Challenge Corporation. MCC invests in partner countries to promote property rights and land policy in three ways: 1) Activities to strengthen elements of the property rights systems (improving tenure security and reducing costs of doing land-related transactions); 2) Actions that facilitate access to new or expanded rights (e.g. the allocation of state land or facilitating land markets); and 3) Activities in other sectors

(e.g. agriculture) that have important property rights and land policy implications that may need to be addressed. To date, there are eight MCC Country Compacts that include investments in addressing property rights and land policy issues or land activities incorporated as a means to remove constraints to other compact objectives such as agricultural access to finance for investments. For more information on current compacts and MCC Sector Guidelines for Countries Proposing Property Rights and Land Policy, go to <http://www.mcc.gov/countries/index.php>.

The U.S. Department of the Interior's International Technical Assistance Program (ITAP) provides **capacity building technical assistance** to developing countries **to manage parks, wetlands, critical habitat for wildlife** and other high priority environmental and heritage resource areas. Recent examples include assistance to Galapagos National Park in Ecuador, Montecristo National Park in El Salvador, Georgia National Park System, Gorongosa National Park in Mozambique, and Protected Area Management in Tanzania:
<http://www.doi.gov/intl/itap/overview.html>

The **International Programs (IP) Office of the US Forest Service, Department of Agriculture**, promotes sustainable forest management and biodiversity conservation internationally. IP regularly taps into the agency's wide range of expertise. Wildlife biologists, forest economists, hydrologists, disaster and fire management specialists, and policy makers are among those who comprise the staff of over thirty thousand employees.

The program has three main staff units: Technical Cooperation, Disaster Assistance and Policy. Both Technical Cooperation and Disaster Assistance work closely with USAID. Technical Cooperation develops and manages natural resource projects overseas on a wide range of topics (i.e. fire management and forest health). By linking the skills of the field-based staff of the US Forest Service with partners overseas, the Agency can address the most critical forestry issues and concerns. Disaster Assistance trains and mobilizes personnel domestically to respond and mitigate foreign disasters, such as the drought in Ethiopia and the locust response in West Africa. Finally, IP's policy unit is actively involved in sustainability roundtables and international forums, which ensures that US position on global forest policies and agreements reflect the best interests of the country. For more information on the U.S. FS's international work go to:
<http://www.fs.fed.us/global>

The Smithsonian Tropical Research Institute headquartered in Panama undertakes a broad range of research on the biodiversity, ecology, and sustainable development of the tropics (<http://www.stri.org/english/research/index.php>). It coordinates a network of research sites in Panama and the international network of forest dynamics plots through the Center for Tropical Forest Science which provides key information on the long term sustainability of tropical forests and their components and is a key source for information on carbon sequestration, growth, and resiliency of this key biome (<http://www.ctfs.si.edu/doc/index.php>). The Smithsonian Institution co-manages the Mpala Research Centre in Kenya with the Kenyan Wildlife Service, the National Museums of Kenya and Princeton University. Mpala researches dryland production

systems and ecology, wildlife-livestock interactions, and global change impacts on this ecotype (<http://www.mpala.org/>). The Smithsonian National Zoological Park works with counterparts around the world on conservation projects of endangered species, including ungulate research in the Sahelian region and elephant and great cat collaborations in Southern Africa and works on biodiversity research and sustainable management in Gabon (<http://nationalzoo.si.edu/conservationandscience/>). All Smithsonian units do capacity building and training in our facilities and at field sites around the world.

V. DROUGHT AND DESERTIFICATION OVERVIEW

The U.S. has a **national drought policy** instituted by Congress in 1998. The National Drought Policy Act of 1998 (Public Law 105-199) recognizes the need to prepare for and lessen the severe impacts of drought on the American people and the environment. The National Drought Policy Commission was established under the National Drought Policy Act of 1998 to ensure collaboration between different government agencies on drought-related issues. The Commission issued a groundbreaking report, *Preparing for Drought in the 21st Century*, in 2000. Following the Commission's recommendations, the National Integrated Drought Information System (NIDIS) was envisioned in a Western Governors' Association Report in 2004. The NIDIS Act was introduced in the U.S. Congress and signed by the President in 2006.

Drought and desertification have historically been a problem and are a current concern across large portions of the United States. Historically, some part of the United States has experienced a severe or extreme drought in each year from 1896 to 1995, and during that 100-year period droughts covered more than 10 percent of the country in 72 years. Severe droughts in the 1930s were generally considered to be some of the most economically damaging to affect the United States, but a more recent drought in 1988 caused roughly \$39 billion of losses from damage in agriculture, energy, water, ecosystems, and other sectors of the economy.

The effects of drought go well beyond agriculture and water supply issues. Prolonged drought stresses wildlife habitat, rural communities, and local economies. It also affects hydropower generation, lake- and river-based recreation, and fire risk. In urban settings it affects landscaping and structural integrity of building foundations. Drought's "winners" typically include airline and construction industries, and sometimes agricultural producers in non-drought areas who benefit from higher prices or reduced competition. The [National Drought Mitigation Center](#) provides more extensive discussion of drought's impacts.

Desertification has been an issue in the Western regions of the United States on rangelands and lower elevation forests and woodlands due to unsustainable practices such as overgrazing, particularly during drought conditions. A number of factors were historically responsible for the early land degradation and subsequent desertification of lands in the western United States. Livestock grazing, largely unregulated from the mid-1880s until the 1930s, caused major damage to forests and rangelands. Natural vegetation was lost and bare soil increased soil erosion. The first U.S. National Report to the UN Convention to Combat Desertification on Efforts to Mitigate Desertification in the Western United States describes historical and recent trends and programs that are designed to prevent desertification and to mitigate its impacts.

http://www.unccd.int/cop/reports/otheraffected/national/2006/united_states_of_america-eng.pdf:

V. 1. Domestically-Focused Agencies and Programs

U.S. Department of Interior’s (DOI) Bureau of Land Management (BLM). Nearly 80 percent of the land in the areas affected or potentially affected by desertification in the western United States is classified as rangelands. The federal government manages 39 percent of the land susceptible to desertification in the western United States, and the DOI’s BLM now manages the majority of the federal rangelands in the western United States. <http://www.blm.gov> Historically, the vast majority of lands not in private ownership in the West were rangelands, first regulated by the U.S. Grazing Service, established with the passage of the Taylor Grazing Act of 1934, enacted in part to "stop injury to the public grazing lands by preventing overgrazing and soil deterioration,..." DOI’s **National Park Service (NPS)** also directs that lands disturbed by human activity will be restored to reestablish natural functions and processes unless otherwise directed by Congress. <http://www.nps.gov/policy/mp/chapter4.htm>

Sustaining adequate water supplies for human consumption, agricultural, recreational, wildlife and other uses in the arid West is causing conflicts as the area continues to see population increases. The **DOI** launched Water 2025 as a problem-solving initiative to help manage scarce water resources and develop partnerships to nourish a healthy environment and sustain a vibrant economy. Water 2025 encourages voluntary water banks and other market-based measures, improved technology for water conservation and efficiency, and removal of institutional barriers to increase cooperation and collaboration among federal, state, tribal, and private organizations.

<http://www.doi.gov/initiatives/water2025.html> The magnitude of this water problem is described in the 2005 report entitled, “Water 2025 - Preventing Crisis and Conflict in the West”<http://www.usbr.gov/water2025/>.

U.S. Department of Agriculture. Lower elevation forests and woodlands in the western United States are subject to desertification processes. Inappropriate harvest techniques may result in accelerated erosion and loss of biodiversity. Forest management practices are in place on federally managed forests to change current harvest techniques and to improve the health of the forest. The following series of websites provides USDA information on solutions for land degradation and soil conservation in forested ecosystems:

NRCS Technical Note describing tree and shrub practices in **sustained agroforestry systems** (growing trees and shrubs in combination with crops or forage). <http://www.nrcs.usda.gov/technical/forestry.html>

Programs promoting **economic and social values of forest ecosystems** including new opportunities in market-based conservation and stewardship. <http://www.fs.fed.us/ecosystems/services/>

Innovations in agroforestry practices and technologies. Information and publications are available on the six major agroforestry practices: silvopastures,

alley cropping, windbreaks and shelterbelts, forest farming, forest riparian buffers, and specialty practices. <http://www.unl.edu/nac/>

National Fire Plan addresses stabilizing soils and reestablishing desired vegetation after wildfires to reduce erosion, maintain diversity and slow the spread of invasive plants. The Plan prescribes use of fire, mechanical thinning, herbicides, grazing, or combinations of these and other methods to restore soils and vegetation. <http://www.forestsandrangelands.gov/>

Healthy Forests Initiative (HFI) was launched in August, 2002 with the intent to reduce the risks severe wildfires pose to people, communities, and the environment. By protecting forests, woodlands, shrublands, and grasslands from unnaturally intensive and destructive fires, HFI helps improve the condition of our public lands, increases firefighter safety, and conserves landscape attributes valued by society. <http://www.forestsandrangelands.gov/>

USDA's Economic Research Service has published an Agricultural Economics Report on agriculture's domestic and international **adaptation to climate change**. <http://www.ers.usda.gov/Publications/AER740/>

Both the **DOI and USDA** have research organizations to assist land managers in applying the appropriate practices to manage water, vegetation, and soils in a sustainable manner. The DOI's **U.S. Geological Survey (USGS)** provides sister agencies in DOI and other entities with access to water-resources data (occurrence, quantity, quality, distribution, and movement of surface and underground waters) collected at approximately 1.5 million sites in the United States. <http://waterdata.usgs.gov/nwis>. Rangeland research on invasive species, monitoring technology, wildfire impacts, biological soil crusts, and livestock impacts are also conducted by USGS scientists at several regional centers: <http://fresc.usgs.gov/>, <http://sbsc.wr.usgs.gov/> and <http://www.werc.usgs.gov/>

Drought Monitoring and Prediction. The U.S. has a **national drought policy** instituted by Congress in 1998. The National Drought Policy Act of 1998 (Public Law 105-199) recognizes the need to prepare for and lessen the severe impacts of drought on the American people and the environment. Following a groundbreaking report by the Commission in 2000, the National Integrated Drought Information System (NIDIS) was envisioned in a Western Governors' Association Report in 2004 entitled, "Creating a Drought Early Warning System for the 21st Century: The National Integrated Drought Information System (NIDIS)". This proposed a system that would provide all water users the ability to obtain drought information in real time in order to understand their risks and to be able to plan accordingly. In December 2006, the President signed the NIDIS bill into law. Through NIDIS, a drought early warning system will be created with the capabilities to provide accurate, timely and integrated information on drought conditions at the relevant spatial scale to facilitate proactive decisions aimed at minimizing the economic, social and ecosystem losses associated with drought. NIDIS will tie existing

operational programs into an interactive delivery system for drought information and will provide a framework for interacting with and educating those affected by drought using a web portal environment. The NIDIS Drought Portal (www.drought.gov) is already providing access to drought monitoring, forecasting, research, planning, and education information by integrating information across agencies from the federal to state and local levels.

Currently, about twenty-two U.S. federal programs have some responsibility for drought monitoring/prediction and research. In relation to monitoring and prediction, these include programs that focus on weather patterns, climate, soil conditions, and stream-flow measurements. Examples of programs that will be important components of a **National Integrated Drought Information System** include:

U.S. Drought Monitor (USDM): An operational drought monitoring program led by NOAA, the USDA, and the National Drought Mitigation Center to provide weekly assessments of the state of drought across the nation.

<http://drought.unl.edu/dm/monitor.html>

U.S. Climate Reference Network (USCRN): A network of climate stations developed by the National Oceanic and Atmospheric Administration ([NOAA](http://www.noaa.gov)) for climate monitoring and detection of present and future climate change.

<http://www.ncdc.noaa.gov/oa/climate/uscrn/>

U.S. Drought Assessment:

http://www.cpc.noaa.gov/products/expert_assessment/drought_assessment.shtml

Climate Outlook Products: <http://www.cpc.noaa.gov/index.php>

North American Drought Monitor: A program established by the United States, Mexico, and Canada to provide information on drought conditions across the continent on an ongoing basis.

<http://www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/index.html>.

USDA's Soil Climate Analysis Network (SCAN)/Snow Telemetry Network (SNOTEL). <http://www.wcc.nrcs.usda.gov/snow/>

NOAA/National Weather Service's Cooperative Observer Network (COOP) provides access to other drought monitoring and forecasting products at

<http://www.drought.noaa.gov/>

http://www.noaanews.noaa.gov/stories2007/20071101_droughtportal.html

The **USGS's** stream gauging and groundwater monitoring network.

<http://www.usgs.gov/> Additional relevant USGS information is at

<http://water.usgs.gov/waterwatch/>

The **Mapped Atmosphere-Plant-Soil System (MAPSS)** Team, a collaborative effort of the **USDA Forest Service** and other federal, state, industry and private

partners, has developed forecasting technology for both long-term (100 years) and near-term (seasonal) ecosystem responses to drought, climate variability and climate change. <http://www.fs.fed.us/pnw/corvallis/mdr/mapss/>

The **National Drought Mitigation Center** helps people and institutions develop and implement measures to reduce vulnerability to drought. <http://www.drought.unl.edu/index.htm>

ARIDnet, a research network funded by the **U.S. National Science Foundation** helps develop and test new paradigms for desertification. For example, the Drylands Development Paradigm is based upon simultaneous roles of the meteorological and ecological dimensions of desertification (the biophysical factors) and the human dimensions of desertification (the socio-economic factors). <http://www.nsf.gov>

Monitoring Systems. A number of monitoring systems provide useful information related to this issue. There are several comprehensive efforts to describe the status and trend of resources and social well-being on lands in the western United States. In addition, a number of federal agencies have protocols and strategies to report on regional or local ecosystem conditions; these include:

The **Sustainable Rangelands Roundtable** is a collaborative partnership with over 50 federal, academic, environmental, commodity, and public entities working to develop and promote the use of common criteria and indicators for rangeland assessments. <http://sustainableangelands.warnercnr.colostate.edu/>

The USDA has issued several reports that assess the **condition of and trends in soil, water and related resources**. The results guide the Department's soil and water conservation priorities and have been the basis for improvements in the nation's overall conservation efforts. <http://www.nrcs.usda.gov/technical/land/>

The USDA's NRCS has conducted a **National Resource Inventory (NRI)** on U.S. private land use and natural resource trends every 5 years during the period 1977 to 2005. <http://www.nrcs.usda.gov/technical/NRI/>

The **Forest Inventory and Analysis (FIA)** is conducted by USDA's FS and reports annually on status and trends in forest area and location; on the species, size, and health of trees; on total tree growth, mortality, and removals by harvest; on wood production and utilization rates by various products; and on forest land ownership. <http://www.fia.fs.fed.us/>

LANDFIRE is a five-year project that is a joint effort between USDA's FS and DOI to provide the spatial data and predictive models required to characterize fuel conditions and help evaluate wildland fire hazard. <http://www.landfire.gov/>

Mapped Atmosphere-Plant-Soil System (MAPSS) is a landscape to global vegetation distribution model that was developed by the USDA's FS to simulate the potential biosphere impacts and biosphere-atmosphere feedbacks from climatic change. <http://www.fs.fed.us/pnw/corvallis/mdr/mapss/>

The U.S. EPA's **Environmental Monitoring and Assessment Program (EMAP)** is a long-term research program designed to develop the scientific basis for monitoring programs that measure the current and changing conditions of the nation's ecological resources. <http://www.epa.gov/emap/index.html>

Other **monitoring and evaluation** resources include USDA ARS' *Journada Experimental Range* which publishes monitoring and assessment studies and protocols http://usda-ars.nmsu.edu/JER/Monit_Assess/monitoring.php, as well as ARS' *Monitoring Manuals for Grassland, Shrubland and Savanna Ecosystems* Vol. I (Quick Start: basic methods and instructions) and II (guidance on monitoring program design).

http://usda-ars.nmsu.edu/monit_assess/PDF_files/Quick_Start.pdf
http://usda-ars.nmsu.edu/Monit_Assess/PDF_files/Volume_II.pdf

V. II. Internationally-Focused Agencies and Programs

Desertification is one of the greatest global challenges of our times – and correlated directly to poverty, food insecurity and degradation of human wellbeing. Desertification is the process of land degradation in drylands and directly results in a decline in soil fertility, water availability, plant cover and biodiversity changes, which indirectly affects livelihoods of dryland populations. Inappropriate land use practices, but also policy, economic and social factors cause desertification. Rapid population growth in a situation of limited livelihood options is a major factor for growing poverty. Relevant international programs are described below.

UN Convention to Combat Desertification. The United States has submitted three national reports to the UNCCD regarding our international work relevant to the Convention's objectives. For more information, go to:

<http://www.unccd.int/cop/reports/developed/developed.php>

http://www.unccd.int/cop/reports/developed/2002/united_states_of_america-eng.pdf;

http://www.unccd.int/cop/reports/developed/2004/united_states_of_america-eng.pdf;

http://www.unccd.int/cop/reports/developed/2006/united_states_of_america-eng.pdf

USAID and Implementing the UN Convention to Combat Desertification (UNCCD) Objectives. USAID addresses the goals of UNCCD through programs that address sustainable agriculture, integrated water resource management (IWRM), participatory development, improved agricultural practices, natural resource management, conservation of natural resources and integrated water management in arid, semi-arid and dry sub humid habitats, that the process of combating desertification is addressed. USAID and its partner organizations focus on building the capacity of communities and local institutions to utilize new technologies and tools to improve management of agricultural lands and natural resource areas. Community based natural resource

management (CBNRM) promotes the devolution to, and capacity of communities to effectively manage their resources.

In terms of Sustainable Agriculture and Natural Resource Management, sound environmental management of agricultural activities is essential for sustaining the natural resource base in dryland ecosystems and mitigating the effects of drought. Farming practices that increase soil organic matter increase the soil's ability to hold water and allow deeper rooting of plants making crops better able to withstand drought. Appropriate pasture and livestock management reduces overgrazing and resulting land degradation. More efficient irrigation systems conserve water for critical needs other than agriculture, thereby reducing conflict over this increasingly scarce resource. Involving local stakeholders in the management of natural resources ensures that those most dependent on the natural resource base are able to maintain its productivity for their children.

At the regional and national level, USAID supports research, capacity building, and the development of information systems that inform decision making and policy development related to agriculture. Monitoring systems such as the Famine Early Warning Systems Network (FEWS Net) harness technology to provide decision-makers with critical information on weather patterns, food scarcity and land management. Participatory research carried out by the International Agricultural Research Centers and U.S. Universities is identifying management practices and technologies that mitigate the impact of drought. This research includes farmers in developing technologies that are well suited to local conditions. Breeding programs develop high-yielding crop varieties appropriate for arid and semi-arid environments.

At the community level, USAID interventions increase local participation in the management of the natural resource base. Community Based Natural Resource Management (CBNRM) activities involve those most dependent on the long-term preservation of natural resources in their management. This encourages more transparent governance and improved stewardship of the land. The promotion of diversified cropping, agroforestry, conservation farming, contour farming and alternatives to slash and burn farming increase soil organic matter, improve water infiltration and reduce erosion. These farming systems are more productive, better able to withstand the effects of drought and other disasters, and reduce the contamination of streams and groundwater by animal waste and agricultural chemicals.

<http://www.unccd.int/cop/reports/developed/developed.php>

Consultative Group on International Agricultural Research (CGIAR). USAID supports efforts to combat desertification through its contribution to the CGIAR. In a world where 75 percent of poor people depend on agriculture, new knowledge must be mobilized for creating agricultural technologies that promote growth, reduce poverty, and make more prudent use of the earth's dwindling natural resources. For over 30 years, CGIAR scientists and their collaborators have demonstrated the value of science-for-development partnerships. <http://www.cgiar.org/>

- Scientists at the **International Center for Agricultural Research in the Dry Areas** (ICARDA) are drawing on indigenous knowledge for developing improved water harvesting techniques for arid areas. <http://www.icarda.org/>
- The **International Crops Research Institute for the Semi-Arid Tropics** (ICRISAT) headquartered in India has developed innovative techniques that use low-cost soil and water conservation structures to fight recurrent droughts, the leading cause of low crop yields in the dry tropics. The Desert Margins Program is developing sustainable land management practices that are helping reverse desertification. <http://www.icrisat.org/>
- The **World Agroforestry Centre** in Kenya is leading an effort to improve soil fertility by promoting the use of nitrogen-accumulating leguminous trees (*Sesbania*); scientists are also developing alternatives to slash-and-burn agriculture, a deleterious farming practice that reduces soil biodiversity and contributes to global warming. <http://www.worldagroforestrycentre.org/>
- The **International Rice Research Institute** (IRRI) has been developing resilient rice varieties that can withstand drought yet give high yields. The Institute also introduced aerobic zero-tilled rice. Through this intervention, the highly water- and labor-demanding conventional puddle transplanting is replaced with zero-tilled direct-sowing systems of rice. This saves 35 to 40 percent irrigation, without decreasing yields. IRRI's projects are helping dryland farmers in the Indian subcontinent to improve productivity and fight drought. <http://www.irri.org/>
- The **International Potato Center** (CIP) is working through conventional breeding and biotechnology to improve drought resistance in potato and sweet potato. Likewise, the International Livestock Research Institute (ILRI) and ICRISAT, in collaboration with partners, are working to improve the digestibility of stalks by animals in millet and sorghum. This helps dryland farmers have better fodder for their cattle during drought periods. <http://www.cipotato.org/>
- The **International Water Management Institute** (IWMI) is combining satellite technology with on-the-ground assessments, for drought monitoring and impact management in India, Pakistan, Afghanistan and in Central Asia. It is also working at policies for improved groundwater governance and the use of water harvesting as a strategic tool for drought mitigation. <http://www.iwmi.cgiar.org/>

The USAID-funded **FEWS Net** activity tracks the appearance and evolution of drought through its implementing partners, the USGS, and the Climate Prediction Center at NOAA. Working from a variety of global datasets, particular attention is paid to the African continent, to Central America and Haiti, and to Central Asia that are assessed on a weekly basis for drought and other physical threats to food security: <http://www.fews.net/Pages/imageryhome.aspx?l=en>.

The report of the Regional Implementation Meeting of the **Economic and Social Commission for Western Asia** provides an implementation update in advance of the 16th meeting of the United Nations Commission for Sustainable Development (CSD-16). The report reviews the progress achieved in the implementation of obligations and objectives at the regional level relevant to the agriculture, rural development, land, drought and desertification topics and assesses the challenges and constraints facing the Arab region in the implementation of those objectives and sheds light on possible actions in priority areas for the next stage.

http://www.un.org/esa/sustdev/csd/csd16/rim/escwa_outcome.pdf

Sustainable Development of Drylands in Asia and the Middle East. This project, currently in its sixth year of the current 7-year Cooperative Agreement (CA) with USAID and implemented by the International Arid Lands Consortium (IALC) of universities in the United States, Israel and Jordan, meets three interdependent objectives: 1) improve wise use and re-use of water, treated wastewater and soil resources at the farm, community and regional levels; 2) support human and institutional capacity development in arid lands agricultural development and conservation by partnering with educational and other institutions of host country nations; and 3) apply appropriate technology, especially information technology, to support sustainable arid lands development. This project addresses directly desertification and drought, enormous obstacles to sustainable development that threaten the lives and livelihoods of millions of men, women and children in Asia and the Middle East. The methodologies employed are well tested, replicable and have shown success.

<http://ag.arizona.edu/oals/susdev/Home/Home.htm>

<http://ialcworld.org/About/about.html>

The **International Arid Lands Consortium (IALC)** provides a “Welcome to Deserts of the World,” which is a web-based gateway to information about the world’s drylands. This site provides original content on the nature of deserts. Annotated links to other web-based resources on all of the world’s drylands allow users to quickly find the information they need. <http://dow.arid.arizona.edu/>

IALC Afghanistan/Pakistan Component: Human Capacity Development for the Agriculture Sector. Led by the University of Illinois (UIUC), this project operates at three levels: 1) short-term high impact training of more than 400 farm leaders, NGOs and agricultural officers in 21 technical courses; 2) re-training 24 agricultural scientists in a “twinning” program matching the Afghan counterpart with a Pakistani agricultural scientist, using a very successful train-the-trainer methodology while building bridges for future collaborative efforts between neighboring country scientists; and 3) training of the next generation of agricultural teachers by enrolling and graduating a second group of 10 Afghan teachers in a Master of Science program at Northwest Frontier Province Agricultural University.

<http://ag.arizona.edu/oals/susdev/Home/Home.htm>

IALC Jordan Water and Environment Component: Treated Wastewater and Bio-solids Reuse. This project, led by the University of Arizona and Badia Research and

Development Centre (BRDC), has focused on providing USAID/Jordan and Government of Jordan key expertise in the safe re-use of treated wastewater and bio-solids that are principally destined to farmlands. The project works closely with its Jordanian partners to tackle water scarcity by re-using water, using water more efficiently, and improving soil resources through the use of treated bio-solids. This work has included intensive training (laboratory, lecture and field), scientific study tours, applied on-farm research and the transfer of lower-cost treatment technologies. The lead United States university provides advanced, laboratory hands-on training in the micro-biology of wastewater treatment analysis and salinity studies for long-term farm use of wastewater and bio-solids. Seven Jordanian institutions (government, research and higher learning) received capacity building.

<http://ag.arizona.edu/oals/susdev/Home/Home.htm>

IALC Jordan Agri-Business and Marketing Component. Implemented by New Mexico State University (NMSU) and the Badia Research and Development Centre (BRDC), Jordan, the “Business and Socioeconomic Assessment of Water and Products for Community-Based Projects in the Badia Region” provides technical assistance to Jordanian government-sponsored, but privately run cooperatives on economic feasibility analysis of various cooperative businesses, business planning, management and marketing of produce, dairy and milk production as well as the restoration of rangelands. The project is working on USAID-defined priorities to perform an economic analysis of water use efficiency of scarce groundwater resources and an additional study to validate water harvesting/range restoration technologies that are integrated with farm-community participation in rural Jordan.

<http://ag.arizona.edu/oals/susdev/Home/Home.htm>

Developing the Sustainable Livelihoods of Agropastoral Communities of West Asia and North Africa (Mashreq/Maghreb) is a project partially funded by USAID that is working to improve the livelihoods of poor farmers in low rainfall areas of North Africa and West Asia. The project works with eight countries - Algeria, Iraq, Jordan, Lebanon, Libya, Morocco, Syria, and Tunisia. In these areas, researchers are working with farmers and local communities to develop new technical, institutional and policy options. These will improve people's lives by boosting the productivity of livestock, crops, rangelands, and water. <http://www.mashreq-maghreb.org/>

Supported in part with USAID funding, **Oasis** is a global agricultural research-for-development program against **dryland degradation and desertification**. <http://www.oasisglobal.net/index.html>. Five bodies are jointly co-proposing Oasis to the CGIAR for Challenge Program status.: **CIRAD/IRD, European DesertNet, ICARDA/ICRISAT, Institute for Environment and Sustainability (IES-JRC of the European Commission), and the Sahel and Sahara Observatory (OSS)**. Oasis has also received special endorsement from the **Global Forum for Agricultural Research (GFAR)** and the **UN Convention to Combat Desertification (UNCCD)** Secretariat.

Another CGIAR Center, **IWMI**, sponsors a drought information center that is a good source of information about drought in general as well as tools developed by CGIAR Centers specifically. <http://www.iwmi.cgiar.org/drw/info/default.asp?PGID=3>

Improving Agricultural Practices in Balochistan, Pakistan. USAID is supporting market-driven agriculture through a project implemented by the United Nation's Food and Agriculture Organization (FAO) in collaboration with Balochistan's Department of Agriculture. This project assists 100,000 agricultural producers in this province to improve water resource management that will increase on-farm water use efficiency; improve agricultural production and agro-processing by introducing high-value, water-efficient crops such as olives, pistachios, almonds, grapes, and pomegranates; and improve dairy and livestock production by 30 percent by introducing new animal husbandry, feed, and rangeland management practices. <http://www.usaid.gov/pk/ecgrowth/index.htm>

Gobi Forage Project, Mongolia. In response to the catastrophic effects of the severe drought and harsh winter that ravaged Mongolia at the start of this decade, USAID launched the Gobi Forage project in May 2004. This cutting-edge project employs imagery and analysis from remote sensing satellites. The goal of the Gobi Forage project was to mitigate risks to pastoral livelihoods in Mongolia from severe climatic conditions and to improve the sustainability of rangeland. The project set out to establish a forage monitoring and forecasting service that could regularly deliver visual information in the form of forage maps to pastoral communities and policymakers in Mongolia. The four-year project, currently managed under the auspices of USAID's Global Livestock Collaborative Research and Support Program (GL-CRSP), will end soon. The next phase will institutionalize the project activity within a national government agency and expand its geographic range. <http://www.usaid.gov/mn/programs/gobiforage/index.html>

Millennium Challenge Corporation. MCC recognizes that the pursuit of sustainable economic growth and a healthy environment are necessarily related. MCC also recognizes that gender inequality can be a significant constraint to economic growth and poverty reduction and that development projects can have unintended negative impacts on people when not well designed. MCC has two specific guidance documents that address these issues more fully: the Environmental Guidelines and Gender Policy. These documents can be found at <http://www.mcc.gov/countries/index.php>.

The purpose of the Guidelines is to establish a process for the review of environmental and social impacts to ensure that the projects undertaken as part of programs funded under MCC Compacts with eligible countries are environmentally sound, are designed to operate in compliance with applicable regulatory requirements, and as required by the legislation establishing MCC, and are not likely to cause significant environmental, health, or safety hazard. The guidelines as well as MCC's Gender Policy are also designed to assure that the interests of women and vulnerable groups are considered in project design and that any potentially negative impacts are avoided or mitigated. MCC compacts may include measures incorporated into the design of investments to mitigate potential negative impacts of deforestation, for example, whereby expanding irrigated

perimeters is combined with funding for community-led reforestation interventions. Another example is the introduction of community-based natural resource management and rangeland management as part of broader livestock productivity and marketing investment projects, so that further deterioration of rangelands may be avoided, and prolongation of drought may be minimized. Other examples of application of MCC's Environmental Guidelines and Gender Policy to eligible country compacts can be found at <http://www.mcc.gov/countries/index.php>.

The North America Drought Monitor (NA-DM) is a cooperative effort between drought experts in Canada, Mexico and the United States to monitor drought across the continent on an ongoing basis. The program was initiated at a three day workshop in late April 2002 and is part of a larger effort to improve the monitoring of climate extremes on the continent. The NA-DM (Lawrimore et al. 2002) is based on the highly successful US Drought Monitor (US-DM), and as such, is being developed to provide an ongoing comprehensive and integrated assessment of drought throughout all three countries. <http://www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/>

U.S. Peace Corps Response: Peace Corps Response Volunteers are actively engaged in providing much needed targeted assistance in a breadth of assignment areas, from HIV/AIDS activities, humanitarian assistance, post-conflict reconstruction projects as well as addressing critical needs in the areas of education and technology. Descriptions of recent projects in natural disaster relief, disaster prevention and mitigation, humanitarian assistance and relief and post conflict relief and reconstruction are found here: <http://www.peacecorps.gov/index.cfm?shell=resources.former.response.recentproj>

VI. AFRICA OVERVIEW

The United States government provides assistance to 47 countries in Africa, with an overarching aim of supporting African efforts to implement sustainable solutions to the continent's development challenges. U.S. assistance is directed to helping African governments, institutions, and African-based organizations incorporate good governance principles and innovative approaches to health, education, economic growth, agriculture, and environment programs.

This section highlights some key U.S. government assistance programs in Africa that support sustainable development. In addition to the activities showcased in this report, the United States supports many bilateral and multi-lateral programs that, in partnership with Africans, support the overall goal of transformational diplomacy -- to help build sustained and well governed states that respond to the needs of their people, reduce widespread poverty, and engage meaningfully in the international system.

Programs that support sustainable development in Africa are numerous and diverse, and span a wide range of topics, including agriculture, trade, HIV/AIDS relief, emergency humanitarian assistance, debt relief, education and training, and more. Several U.S. government agencies manage different programs, notably the U.S. Agency for International Development (USAID), U.S. Department of Agriculture (USDA), the Millennium Challenge Corporation (MCC) and the U.S. Peace Corps. Other organizations also play leadership roles, such as U.S. universities, private sector companies and charitable foundations.

Economic growth, in the context of sustainable development, is a major theme for U.S. assistance programs. Africa's economic growth and fiscal balance indicators show a gap between the present stage of development and the average for developing countries. Thus a major focus is to stimulate private sector development, increase African trade competitiveness, and integrate African nations in the global economy. Building on the success of the **African Growth and Opportunity Act (AGOA)**, diplomatic and development resources help facilitate increased cross-border, regional, and international trade. Efforts to break the cycle of recurrent food crises through the **Africa Global Competitiveness Initiative (AGHI)** encourage agricultural and economic growth interventions in partnerships with other donors and regional African organizations.

www.agoa.gov

http://www.usaid.gov/locations/sub-saharan_africa/initiatives/agci.html

VI.1. Agriculture and Rural Development

In 2002 at the World Summit on Sustainable Development, the U.S. government launched the **Presidential Initiative to End Hunger in Africa (IEHA)**. Focusing on smallholder-based agriculture, this initiative is designed to rapidly increase agricultural growth and rural incomes in Sub-Saharan Africa by harnessing the power of new agricultural production and processing technology; improving the efficiency of agricultural trade and market systems; building the capacity of community and producer-

based organizations; and, integrating vulnerable groups and countries into sustainable development processes.

http://www.usaid.gov/locations/sub-saharan_africa/initiatives/ieha.html

In 2005, as a run up to the G-8 Summit meeting in Gleneagles, U.S. President Bush and U.K. Prime Minister Blair reported that the G-8, through its Breaking the Cycle of Famine initiative, was committed to engagement with the New Partnership for Africa's Development (NEPAD) and others to improve agricultural productivity in Africa. Through NEPAD, African heads of state and government established the Comprehensive African Agricultural Development Programme (CAADP) and committed their own resources and leadership to support implementation. Following the Summit, at the 2005 United Nations General Assembly, the U.S. government announced that through the U.S. President's Initiative to End Hunger in Africa, it would align with and support African led implementation of the CAADP integrated agricultural framework.

U.S. investments focus on six CAADP priority areas:

- building economic governance;
- growing private sector agribusiness investment;
- applying the power of markets (domestic, regional and global) to rural communities and households;
- harnessing science and technology to support smallholder agriculture;
- managing land and water in a sustainable way; and
- meeting nutritional needs and building assets of the persistently poor and hungry to increase their ability to participate in economic growth processes.

Achieving the CAADP goals requires efficient and consistent planning and execution of sector policies and programs; effective translation of government expenditures into public goods and services; and appropriate mechanisms to regularly and transparently measure performance to keep CAADP on track.

The **Regional Strategic Analysis and Knowledge Support System** is an Africa-wide network that provides credible information and analysis during the design and implementation of agricultural-led development strategies. In close collaboration with regional economic communities, member states, and local and regional partners, this network provides support in three areas: strategic analysis, knowledge management and communications, and capacity strengthening. www.resakss.org

Food Security Cooperative Agreement III is a policy research program on the structural transformations required to enable African food security and sustainable resource use. This USAID-funded program, implemented by Michigan State University, provides technical assistance to integrate sound policies into the design of local, regional, and international actions, in ways that promote rapid and sustainable agricultural growth directed at cutting hunger and poverty. <http://www.aec.msu.edu/fs2/>

The **Common Market for Eastern and Southern Africa** (COMESA) promotes regional economic integration through trade and investment. The COMESA objectives align with

the broader Comprehensive African Agricultural Development Programme (CAADP) of the New Partnership for Africa's Development (NEPAD). The CAADP defines four Pillars for improving Africa's agriculture: extending the area under sustainable land management and reliable water control systems; improving rural infrastructure and trade related capacities for market access; increasing food supply, reducing hunger and improving responses to food emergency crises; and improving agricultural research, technology dissemination and adoption. www.comesa.int/agri

The **West Africa Seed Alliance** (WASA) seeks to develop an industry that will provide small-scale farmers in Ghana, Mali, Nigeria, Burkina Faso, and Niger with affordable, timely, and reliable access to high-quality seeds and planting material. Through this Global Development Alliance, partners (Rockefeller Foundation, the Bill and Melinda Gates Foundation, Pioneer Hi-bred, Monsanto, Kemseed, the African Trade Association) will establish a network of agro-dealers to reach more than 500,000 farmers. <http://www.rockfound.org/initiatives/agra/agra.shtml>

The **Regional Agriculture Trade Expansion Support** (RATES) program is designed to increase the value of commodity-specific regional agricultural trade within East and Southern Africa, and between the region and the rest of the world, through innovative public-private alliances and partnerships. The program focuses on developing commodity-specific regional trade initiatives such as specialty coffee, maize and pulses, cotton/textiles, and dairy sectors. www.ratescenter.org

The **Sustainable Tree Crop Program** (STCP) is a public-private partnership that helps improve smallholder agricultural systems based on tree crops in West Africa. Working with industry, producers, researchers, government agencies, public sector institutions and conservation groups, this program supports valuable tropical export tree commodities in West Africa, especially cocoa, while preserving and restoring tropical forests. www.treecrops.org
www.ars.usda.gov/Research/docs.htm?docid=6705

The **Partnership for Food Industry Development/ Natural Products** creates sustainable economic development for rural sub-Saharan African communities through the development of the natural plant product sector. This program has already succeeded in helping to diversify rural livelihoods in several countries, with significant impact on the economic opportunities for rural women in these countries. www.pfidnp.org

The **Regional Network on AIDS, Livelihoods, and Food Security** (RENEWAL) program strengthens the capacity of research institutions to investigate the interactions between agriculture, food and nutrition security, and HIV/AIDS. This program provides training and supports institutions, policies and incentives that ensure availability of adequate, safe and nutritious food and that those vulnerable to food insecurity are able to access and appropriately utilize that food. www.ifpri.org/renewal

The **Forum for Agricultural Research in Africa** (FARA) is an umbrella organization that brings together major stakeholders in agricultural research and development in

Africa. The FARA mission is to create broad-based improvements in agricultural productivity, competitiveness and markets by supporting Africa's sub-regional organizations in strengthening capacity for agricultural innovation.

www.fara-africa.org

The Sustainable Commercialization of Seeds in Africa (SCOSA) program helps overcome critical constraints to effective and profitable seed system development in Africa by working towards harmonized seed trade policies; supporting the development of business plans to establish independent foundation seed enterprises; and training local entrepreneurs to produce and market high quality improved seeds. www.icrisat.org

The U.S. Department of Agriculture (USDA) administers a range of additional **agricultural technical assistance and training programs** in Africa. The Sanitary and Phytosanitary Capacity Building Program, for example, provides sanitary and phytosanitary training and capacity building in Africa with emphasis on harmonizing regulations with international standards and increasing export opportunities for agricultural products. Other programs provide training and educational opportunities for agricultural professionals in Africa for a wide range of topics, such as the international effort to control the spread of highly pathogenic avian influenza. Through its food aid programs, USDA funds an extensive list of agricultural development activities in Africa, from farmer training and agribusiness development, to school feeding programs and teacher training. Finally, trade and investment missions (TIM) to Africa link U.S. agribusiness leaders with African companies to promote U.S.–Africa agribusiness cooperation, two-way trade, and investment. TIMS have occurred in East Africa, Madagascar, Southern Africa, and West and Central Africa, and one is planned for North Africa in 2008. www.fas.usda.gov/OCBD.asp
<http://www.fas.usda.gov/itp/biotech/internationaldevelopment.asp>

Additionally, a variety of **cooperative research and higher education** activities are underway between U.S. and African scientists in sub-Saharan Africa. These projects involve cooperation with national, regional, and international institutions. Specific African projects can be found using keywords in a searchable database.

www.ars.usda.gov/Services/docs.htm?docid=1279

The Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP) provides decision makers in developing countries access to appropriate data, knowledge, tools, and methods of analysis. This information can enhance decisions to improve livelihoods and the sustainability of natural resources. www.oired.vt.edu/sanremcrsp/africa

IFDC is an **international center for soil fertility and agricultural development** that provides a broad range of agricultural sector services, including technical assistance, research, training, and problem solving. Working with African country partners, IFDC projects cover specialties from agribusiness to engineering and technology development, from management information systems to plant nutrient management, policy reform, and market development. www.ifdc.org

VI.2. Land, Drought and Desertification

Property rights and land tenure systems are key building blocks for effective economic growth, local governance, and sustainable natural resources management. Property rights reform in Africa must be carefully linked and sequenced with interventions in agriculture, economic growth, environmental conservation, and democracy. USAID provides technical assistance, training and consulting services that support land and natural resources reform. <http://www.ardinc.com/projects/africa.php>

The **Famine Early Warning Systems Network** (FEWS Net) relies on international, regional and national partners to provide timely and rigorous early warning and vulnerability information on emerging and evolving food security issues. FEWS Net professionals in the Africa and the United States monitor and analyze relevant data and information in terms of its impacts on livelihoods and markets to identify potential threats to food security. Once these issues are identified, FEWS Net uses a suite of communications and decision support products to help decision maker's act to mitigate food insecurity. www.fews.net

VI.3. Development Compacts

Millennium Challenge Corporation (MCC) is an essential component of American engagement with Africa to promote economic growth on the continent and to reduce poverty among its people. The MCC model for development assistance awards development grants—not loans—to countries that perform relatively better than their peers on seventeen independent indicators of ruling justly, including fighting corruption, managing natural resources, investing in the health, education of their people, and promoting economic freedom. MCC provides the funding and technical support, but country partners develop their own proposals and implement their programs. MCC selection criteria and indicators can be found at <http://www.mcc.gov/selection/indicators/index.php> .

Millennium Challenge “Compacts” are multi-year agreement between the MCC and an eligible country to fund specific programs targeted at reducing poverty through sustainable economic development. These programs must be:

- Developed in consultation with a country's citizens — including women, non-governmental organizations, and the private sector;
- Able to measure both economic growth and poverty reduction; and
- Implemented, managed and maintained by the country.

A country submits a “compact proposal” following MCC guidelines that presents the specific investments to stimulate economic growth and reduce poverty. MCC works in partnership with the country to ensure the proposed programs are reasonable, measurable, and attainable.

Africa, as a whole, remains the largest recipient of MCC's development assistance, both in the number of agreements and in the amount of assistance provided. Of MCC's 16 compacts, nine are with African countries, totaling about \$3.8 billion. These partnerships span the continent, from Morocco and Cape Verde; to Benin, Ghana, and Mali; to Lesotho, Mozambique, Madagascar, and Tanzania. And, two more compacts are anticipated in Africa by the end of this summer—with Namibia and Burkina Faso. This means that nearly 70 percent of what MCC has awarded so far in compacts benefits the people of Africa. Descriptions of each country compact in Africa can be found at www.mca.gov/programs/africa/index.php.

Additionally, MCC provides smaller-scale grants through **Threshold Program Agreements**, designed to assist countries that are on the "threshold" of compact eligibility. These programs provide specialized assistance to countries where policy improvements are needed. Of the 17 Threshold Programs worldwide, ten are with African countries totaling another \$124 million focused largely on fighting corruption and improving governance. <http://www.mcc.gov/programs/threshold.php>

VI.4. Health and Education

Africa is the primary focus of the **President's Emergency Plan for AIDS Relief** (PEPFAR). Over the last four years, the program has provided over \$18.8 billion, primarily for AIDS prevention, treatment and care programs in African countries severely affected by the HIV/AIDS pandemic. A key objective of the program is building sustainable, locally managed programs that enhance overall health service delivery capacity and improve the quality of AIDS-related health care. On May 30, 2007, President Bush announced his intention to work with Congress to reauthorize and double the size of PEPFAR (to \$30 billion) for the next five-year period, in addition to the initial five-year \$15 billion commitment the United States made in 2003.

www.pepfar.gov

The **President's Malaria Initiative** (PMI) is a five-year, US\$ 1.2 billion program designed to cut malaria deaths in half in 15 target countries in Africa. Through PMI, by the end of 2007, 25 million people have already benefited from long-lasting insecticide-treated mosquito nets, indoor residual spraying with insecticides to control mosquitoes, intermittent preventive treatment in pregnancy, and treatment with artemisinin-based combination therapy.

www.fightingmalaria.gov

Neglected Tropical Diseases (NTD) Initiative - A new \$350 million, five-year U.S. initiative to combat selected neglected tropical diseases in Africa and other regions. This increases U.S. commitment to NTDs from \$15 million in 2008 to a total of \$350 million over five years and will increase the number of countries targeted from 10 in 2008 to approximately 30 by 2013. The new initiative will target communities with integrated treatment for three to five years in order to reduce NTD prevalence in these communities.

<http://www.usaid.gov/press/factsheets/2008/fs080222.html>

Polio Eradication Initiative (PEI): Through this international initiative, the United States supports national immunization days (NIDs) and other special immunization campaigns that strengthen routine immunization services. Support also includes assistance for advocacy, communication, social mobilization, planning, and the logistics of delivering the oral polio vaccine under temperature-controlled conditions. The US is especially concerned about the situation in Nigeria, one of the last endemic countries globally, and cases exported from Nigeria to other African countries. The U.S. has been the leading donor in the eradication effort, and has provided over \$1.3 billion since 1988, which represents nearly a quarter of the global contributions.

www.polioeradication.org

The U.S. supports public-private alliances to address critical human health needs, poverty alleviation, and sustainable development through increased access to water supply, sanitation, hygiene and better management of water resources. Among these are **West Africa Water Initiative (WAWI)**, a \$57 million initiative carrying out water activities in Ghana, Niger and Mali, and the Coca-Cola/USAID Water and Development Alliance, working in over 10 countries in Africa with a combined investment of over \$10 million for water-related activities in this region.

www.wawipartnership.net

Through the **Partnership for Clean Indoor Air (PCIA)**, a UN CSD partnership, the U.S. works to reduce the environmental health risk faced by three billion people exposed to high levels of pollution caused by burning biomass fuels for cooking and heating. The U.S. Environmental Protection Agency (EPA) recently awarded \$442k in grants to support scaling up of two improved cookstove projects in Ethiopia and Ghana. Besides health benefits, these projects will result in increased economic activity and fuel savings, a decreased rate of deforestation, and a reduction in greenhouse gas emissions.

<http://www.pciaonline.org/>

The **MEASURE Evaluation Project**, with funding by USAID, provides technical assistance to health ministers, district caregivers and local trainees in Africa and other areas of the world to successfully manage data for better informed program planning and policy-making. With an overall objective to improve the collection, analysis, and presentation of data to promote better use of data in planning, policy-making, managing, monitoring, and evaluating population, health, and nutrition programs.

<http://www.cpc.unc.edu/measure>

The **Africa Education Initiative** increases access to quality education by supporting training of new teachers and providing textbooks and scholarships for children. Key to this approach is strong community involvement and scholarships to girls.

http://www.usaid.gov/locations/sub-saharan_africa/initiatives/aei.html

http://www.usaid.gov/about_usaid/presidential_initiative/afreducation.html

The **Women in Science Program**, part of the Borlaug Fellows Program, offers training and collaborative research opportunities for African women in international agricultural science, leadership and policy. Training venues usually include U.S. universities,

government agencies, and international agricultural research centers. The goals are to empower women leaders, mentor early career women scientists, and link to university-based scientists in the United States and the CGIAR.

<http://www.fas.usda.gov/ICD/borlaug/countries.htm>

VI.5. Other Sustainable Development Issues

Peace Corps volunteers currently work in Africa on education, health and HIV/AIDS, business development, agriculture, and the environment. The Peace Corps supports 19 agriculture and environments projects in 14 countries in Africa. Approximately 550 volunteers work with pilot farmers, community groups, NGOs and government extension agents to help farmers increase their income, and the variety of agricultural produce, through wise use of natural resources. Volunteers and their partners use demonstration fields, farmer field days, exchange visits, and hands-on technical assistance to introduce techniques that prevent soil erosion, reduce the use of harmful pesticides, and increase forest cover. Projects support improved natural resource management through agro-forestry and soil and water conservation. Priorities include improved storage, processing and marketing of agricultural produce, and improved vegetable gardening, livestock management, and freshwater fisheries. With African communities and governments partners, Peace Corps volunteers improve protected area management; support ecotourism; develop water sources; conduct forest inventories and habitat and wildlife surveys; and, promote energy-efficient and renewable technologies.

www.peacecorps.gov/index.cfm?shell=learn.wherepc.africa

The **Women's Justice and Empowerment Initiative** helps African governments improve their ability to investigate, prosecute, and adjudicate gender-based violence and provide support to victims. This initiative directly assists the existing efforts of four African countries -- Benin, Kenya, South Africa, and Zambia -- to combat sexual violence and abuse against women, and empower them in society. As the programs in these four nations develop, their successes will produce a ripple effect through other countries in their regions. Priorities include: strengthening the capacity of the legal system to protect women and punish violators by training police, prosecutors, and judges in sexual violence and abuse cases against women, and developing or strengthening laws which protect women and empower their role in society; rehabilitating, reintegrating, and empowering former victims in society by bolstering the capacity of shelters and counseling programs, and addressing health care needs of women; and, increasing awareness of the need for women's justice and empowerment, through high-level engagement, conferences, public awareness, and education. www.state.gov/p/af/rt/wjei

Tourism is one of the largest industries in the world. **Sustainable tourism** aims to achieve an effective balance among the environmental, economic, and socio-cultural aspects of tourism development in order to guarantee long-term benefits to recipient communities – crucial for developing countries in Africa. A wide range of information and resources addressing various aspects of sustainable tourism is available online.

<http://www.nric.net/tourism.htm>

FRAMEweb is an online portal for knowledge sharing within the natural resources management community. The site can be searched by African region or country, and users can browse for the latest publications, participate in online discussions and specialized communities, and share knowledge with the network. www.frameweb.org

The ENCAP program (**Environmentally Sound Design and Management Capacity Building for Partners and Programs in Africa**) strengthens environmental review, management and monitoring capacity of USAID missions, contractors, grantees and host country collaborators in Africa. Three types of activities are carried out: environmental training for small-scale development projects, dissemination of resource materials, and professional development of African environmental assessment professionals.

www.encapafrika.org

The U.S. Forest Service works with 20 African countries to promote **sustainable forest management**. Working with many African forest management agencies, these efforts help build local capacity to improve forest management through sustainable use of forest resources, land-use planning, and biodiversity conservation. A variety of technical issues are addressed, including forest concession management, land-use planning, watershed management, development of information systems for decision making, and protected area management. www.fs.fed.U.S./global/globe/africa/welcome

The **Liberia Forest Initiative**, initiated by the United States, is helping Liberia conserve and recover its rich and war-torn forests. This partnership of government, international and non-governmental organizations supports the rehabilitation and reform of Liberia's forestry sector through sustainable forest management. If sustainably managed, the country's forests (by some estimates) could generate significant foreign exchange earnings and employ thousands of workers. <http://www.fao.org/forestry/site/lfi/en>

The United States launched the **Congo Basin Forest Partnership** in 2002 to better manage 80 million hectares in the world's second largest tropical forest. The partnership includes 36 entities – countries, international organizations and environmental and business interests – that are committed to strengthening national institutions in the region, engaging communities, training thousands of conservation professionals, and assisting the people of the Congo Basin to secure long-term forest-based livelihoods through forest conservation. www.cbf.org/en

http://www.usaid.gov/locations/sub-saharan_africa/initiatives/cbfp.html

The United States and Botswana signed a series of **debt reduction agreements** in October 2006 that will generate funds to help conserve and restore Botswana's tropical forests, including the ecologically fragile Okavango Delta and Chobe National Park regions. The agreements (authorized under the **Tropical Forest Conservation Act -- TFCA**) comprise the first U.S. "debt-for-nature" pact with an African country. TFCA was enacted in 1998 to offer eligible developing countries options to relieve certain official debt owed the U.S. while generating funds to support local tropical forest conservation activities. TFCA is implemented through bilateral agreements with eligible countries or through "debt swaps" involving third parties, such as NGOs.

http://www.usaid.gov/our_work/environment/forestry/tfca.html

USDA's Economic Research Service has focused on **African food security**, intimately related to sustainability issues.

<http://www.ers.usda.gov/publications/gfa9/gfa9b.pdf>