



USAID
FROM THE AMERICAN PEOPLE

FOR IMMEDIATE RELEASE

April 22, 2009

Press Office: 202-712-4320

Public Information: 202-712-4810

Email: press@usaid.gov

www.usaid.gov

FACT SHEET

Environment and Food Security: Toward Sustainable Food Systems

How is environment related to food security?

- Natural resources form the entire basis of food production providing water, soils, nutrients, climate, fish nurseries, insects and birds for pollination and animals for pest control. Sound stewardship of ecosystems and the goods and services they provide is critical to food security.
- Land degradation, water scarcity, overfishing, destructive fishing practices, improper pesticide and fertilizer use, and climate change undermine food security efforts by damaging ecosystems and the natural resource base.
- Cropland available for food production may be reduced by up to 20 percent by 2050 due to land degradation, urban expansion, and conversion of cropland to non-food production. There will be corresponding pressure to destroy critical forests and fragile lands to convert them to agricultural production.
- The combined effects of these threats may cause projected yields to be 5-25 percent short of demand by 2050 and pose a serious threat to food security worldwide.
- Agriculture accounts for nearly 70 percent of water consumption. With water already scarce in many developing countries and estimates that water demand is likely to double by 2050, water-induced food insecurity is a growing concern.
- Fisheries products are the world's most widely traded foods and fishing is the largest extractive use of wildlife in the world. Marine and freshwater fish and shellfish are the primary protein source for some 1 billion people worldwide.
- In poor and marginalized groups living along coasts and inland waterways, fish may be the staple food. Yet fish populations and the food security of those who depend on them are threatened by the lack of management and fish and their ecosystems.
- Degradation of fisheries and inappropriate land and agricultural expansion into fragile areas threaten conservation of biodiversity and ecosystems.



USAID
FROM THE AMERICAN PEOPLE

FACT SHEET

What are best practices for environment and food security?

- Integrating sustainable natural resource management into development activities is critical to ensuring food security and the conservation and long-term productivity of agricultural lands and water resources. Agricultural and fishing practices can be tailored to the needs of the surrounding ecosystem. Such practices include techniques to:
 - Improve soil quality while reducing erosion, salinization and other forms of land degradation
 - Optimize the use of pesticides and herbicides through better training, the use of integrated pest management, management of crop and tree residues, crop rotation and crop diversification
 - Maintain habitats to support wildlife and conserve biodiversity
 - Prevent pollution of water supplies by agricultural wastes and chemicals
 - Reduce agricultural greenhouse gas emissions
- Good governance practices, including land tenure, local management of resources, and community participation in natural resource management decisions, are key to creating incentives for long-term investment in the resource base.
- Adaptation to climate change is essential for achieving long-term food security and development. Climate-change related research will be needed to develop new technologies and approaches that both minimize the negative impact of food production on climate and better adapt food production practices to climate variability.

What are examples of USAID programs which address food security and environment challenges in an integrated manner?

- *Management of Aquatic Ecosystems through Community Husbandry (MACH)*. In return for adopting conservation measures and sustainable fishing practices, villages in Bangladesh revived fisheries in three degraded wetlands improving food security and circumstances of 184,000 of the country's poorest citizens. Between 1999 and 2006, fish catches in project



USAID
FROM THE AMERICAN PEOPLE

FACT SHEET

villages rose by 140 percent, consumption went up 52 percent, and average daily household incomes increased 33 percent. Wetland diversity also expanded, with threatened fish species successfully reestablished, migrating birds returning, and aquatic plants recovering.

- *Farmer-Managed Natural Regeneration in Niger:* Reforestation of native tree species in the arid West African country of Niger coupled with simple soil and water conservation practices have stopped desertification and improved food security on a land area the size of the state of Vermont. National yields in sorghum and millet, the country's food staples, have tripled since the 1980s (World Resources Report 2008). Poor households have new sources of income, including fuelwood, animal fodder and vegetables. More than 600,000 acres of degraded land have been reclaimed for crop production. With trees serving as windbreaks and fixing nitrogen in soils, soil fertility has increased. Birds, wildlife and other biodiversity have returned. USAID played a central role by working with the Government of Niger to convey land and tree rights to poor farmers, reversing a 60-year forest policy.
- *Consultative Group on International Agricultural Research (CGIAR)-Rice-Wheat Consortium for the Indo-Gangetic Plains:* The Rice-Wheat Consortium (RWC) works to increase the productivity of rice-wheat systems in the Indo-Gangetic Plains (covering north-central India and parts of Pakistan and Bangladesh) while conserving soil, water and biological resources. The RWC has used a participatory approach to introduce resource conserving technologies such as no-till, direct seeding, laser-land leveling, and other water and energy saving management practices that minimize environmental impact and maximize economic returns to the farmer. More than 2 million hectares are now under zero/reduced tillage and solid partnerships are poised to scale-up the introduction of these technologies. The Consortium is led by the International Rice Research Institute and supported by USAID, IFAD and the Asian Development Bank.

To learn more:

http://pdf.wri.org/world_resources_2008_roots_of_resilience_chapter3.pdf

www.rwc.cgiar.org/index.asp

www.unep.org/pdf/FoodCrisis_lores.pdf

###