

# GENDER AND THE ENVIRONMENT



CROSSCUTTING  
ISSUES IN  
SUSTAINABLE  
DEVELOPMENT

Over the past few decades, planet earth has become a global village. Both developed and developing nations are more interdependent economically and environmentally than ever before.

The U.S. Agency for International Development (USAID) helps deliver the benefits of economic and social development to people in more than 90 nations in the developing world, in Central and Eastern Europe, and the newly independent countries of the former Soviet Union. Sound economic development depends on maintaining a quality environment and on the conservation and wise management of natural resources. Environmental problems, such as urban and industrial pollution, loss of tropical rainforest, and destruction of semi-arid rangeland, require the unprecedented cooperation and collective action of all nations. Sustainable development—balancing the use of natural resources with resource conservation—is at the heart of all USAID development programs.

By the early 1970s, development efforts had revealed that in most developing countries, women differed from men in their access to and control over resources, stakes in development outcomes, and responses to incentives. USAID's Office of Women in Development (WID) was established in 1974 to provide intellectual leadership and support for the agency's efforts to integrate women into the national economies of developing countries, thus improving their status and assisting the total development effort.

Since its creation, WID's efforts have evolved from their initial focus



Carl Berg/Kalberne Orr, World Wildlife Fund

on women to a broader inclusion of the gender variable as a crosscutting issue in sustainable development. Today, WID emphasizes gender-disaggregated data collection as one method of assuring that both women and men are properly factored into programs and projects. This allows the design, implementation, monitoring and evaluation of projects to proceed with a clear sense of the people striving for and being affected by economic development.

Women must be systematically included as actors, producers, and agents of development in all sectors,

*As those most responsible for preparing food, women have a vital interest in preserving existing food resources. Women played an important role in a recent program to conserve conch and conch habitat in the Caribbean.*

*On the cover:  
Women nursery workers in Jaipur, India.  
In many cultures, women often have responsibility for raising and transplanting of tree seedlings.*

*Pat Duvet, USDA Forestry Program*

not just those traditionally thought of as "women's concerns," such as health, nutrition, and population control. Failure to include the gender variable is one of the major causes of negative outcomes in development work within such mainline sectors as agriculture and private enterprise. For example, if women are heavily engaged in agricultural production, but their access to input, credit, land, and markets is more limited than the access for men, then the development project is simply starting from a weak data base, and the odds of project failure are increased.

WID is committed to understanding the roles that men and women play in their communities and to

incorporating those roles into all phases of development projects. Three of the most important roles women play in virtually all societies are natural resource managers, community-based organizers, and educators and transmitters of cultural and social values to the next generation.

### **Women as Managers of Many Natural Resources**

Poverty and environmental degradation are strongly linked. Whether in a rural or urban setting, adverse environmental changes, such as the loss of forest cover, pollution of drinking water, and upland soil erosion, often affect women and children



*In traditional societies, such as this Misor hilltribe village in Northern Thailand, women help manage the sustainable extraction of needed products from the nearby forest.*

*Emilie Mead, World Wildlife Fund*

disproportionately. Women draw water, gather firewood, tend flocks and provide them with fodder; manage household gardens, and farm on some of the least desirable local lands.

Many of these tasks are undertaken within a complex set of social and cultural obligations, rights, and responsibilities, some of which may be unique to women. For example, the right to use communal pastureland or to harvest certain products in the forest may be a combination of inherited rights coupled with usage (not using the land for a certain period of time opens it up for others, who then establish rights of their own.)

In a growing number of developing countries, men migrate seasonally to find work in the cash economy. Women are left behind to take over the traditional male tasks of plowing, planting, irrigation, and harvesting the major food crops, while they continue to manage the traditional female responsibilities.

Providing cooking fuel is a major problem for both rural and urban women. Since firewood is usually the fuel of choice, destruction of forests means that women have to walk and carry loads farther to supply their families. These extra hours are taken out of the time they must spend on their many other chores, such as preparing food and raising crops.

In urban areas, firewood is often brought in by truck from distant forests, and the transportation cost is rolled into the fuel price. Poor urban families can spend 25 percent or more of their income buying firewood or charcoal from vendors. To



save on fuel, women reduce cooking time or do not bring water to a boil, thus increasing the risk of water-borne diseases.

In many societies, women are responsible for raising and selling small livestock, such as chicken, goats and sheep, which provide much of the women's cash income. The herds' size and health are determined by the availability of good pasture and fodder. When pastures have been damaged or overgrazed, women must travel in search of fodder and grass to cut and carry back to the animals. Often, they are

*As part of mixed farming systems, women play an important role in small animal production in many parts of the world. A woman extension agent works with a goat milk production effort as part of an A.I.D.-sponsored farming systems project in Mali.*

forced to decrease their herds, thus reducing their one reliable source of income.

Gathering water for drinking, cooking, and washing is a traditional task for women and girls in many developing societies. When local water sources are polluted, women may be forced to walk great distances to find safe water, carrying back heavy loads.

In the agricultural sector, women provide a substantial portion of labor on family fields. They also may have their own separate fields and gardens, which in many cases are small, difficult to reach, less productive than the main fields, and first hit by environmental problems.

### **Women as Community Organizers**

An often unrecognized but vital role that women play in many cultures is that of community organizer. In some societies, women already have formed voluntary groups for social, religious, or economic purposes.

Development activities that require common property management—protecting a watershed, cleaning and upkeep of irrigation canals, rotating use of a pasture, protecting the hygiene of an urban handpump—also require cooperation, a shared set of values, and commitment. The collection and management of funds for operation, maintenance, spare parts, and hired labor also may be necessary.



*Women are often effective as change agents in involving other women in their communities. Here, community outreach staff from the AID-sponsored Sudan Renewable Energy Project discuss plans for disseminating efficient fuelwood cookstoves.*

*Richard M. Cowart*

labor also may be necessary.

Some existing women's groups may have mastered these skills and can serve as the basis for development projects that need to accomplish many of the same management tasks.

### **Women as Educators and Transmitters of Cultural Values**

Children usually learn from their mothers how to wash their hands before handling food or to boil water before making tea. To become part of the social fabric, new concepts, such as protecting and managing a common property resource, also must be taught and internalized as a community value.

For example, in a community reforested with fast-growing tree species, young trees have to be protected from goats, who would quickly strip them of vegetation. Young boys and girls, who traditionally mind the goat herds, must be taught to accept responsibility for keeping the goats away from the saplings for five years or more, until they are big enough to withstand the goats. Educating the children probably would fall to the village women—provided that they have been involved in the planning of the project, will be beneficiaries, and are committed to seeing it succeed.

### **What USAID Is Doing about Gender and the Environment**

Environmental concerns and gender issues cannot be considered separate from, or even separate components of, development projects. They must be seen as central strands woven into the very fabric of project



Photo: U.S. Forest Service

*Women transmit cultural values to children in isolated communities, such as this Karen tribe in Northern Thailand. Reforestation and habitat protection programs may require long-term commodity consensus over a number of generations.*

design and implementation.

The Office of Women in Development works with other USAID offices and field missions to integrate gender issues into each of the five areas of USAID's environmental strategy: tropical forests and biological diversity; urban and industrial pollution; coastal zones and other water resources; environmental impacts of energy use; and sustainable agriculture.

**Pakistan:  
Taking Advantage of an  
Unexpected Opportunity**

Several years ago, the Pakistan Forestry Institute, which traditionally had barred admission to women, inadvertently admitted a female Ethiopian student, having mistaken her name for that of a male. USAID used that opportunity to obtain the Institute's agreement to admit women, then provided funding for scholarships and dormitory facilities for them.

Four women graduated from the Institute in 1989 and two more in 1990. The Institute's goal now is to have women constitute 20 percent of its graduating classes.

USAID also encourages the District Forestry Services to hire women foresters. The wording of job announcements has been changed from "any interested men should apply" to "any interested men or women should apply."

**Tropical Forests and  
Biological Diversity**

Tropical forests are crucial for sustaining human life and livelihood. They contain more than half of the world's animals and plants, providing food, fuel, building materials, pharmaceuticals, and genetic resources for the development of new and disease-resistant crops. They also serve as a vital storage place for carbon, helping to mitigate the threat of global climate changes. Yet, as population and economic pressures grow, the world's tropical forests are vanishing at the fastest rate in history. More than half have been lost since the turn of the century.

USAID's goals in this area are to help countries reduce deforestation; conserve remaining natural forest areas, wildlands, and biological diversity; and derive sustainable

economic growth from these resources. Women play a critical, primary role in forest management. They deplete the forest for fuelwood, harvest it for extractive products, and are actively involved in conserving the forests in many countries.

Small and micro-enterprise development for processing forest products usually relies heavily, if not entirely, on women's labor. And women often are responsible for subsistence farming in forest-dweller households.

Over time, women develop extensive knowledge of forest composition, extraction potential, and management, becoming the primary agents of forest product transformation. It is critical that their part in conservation and the use of biological diversity be recognized and acted upon.



*Sustainable forest conservation and forest product processing requires skilled and committed workers. Here, women weed and tend tree seedlings in a nursery in Baij, India.*

Pat Duerst, USDA Forestry Support Program

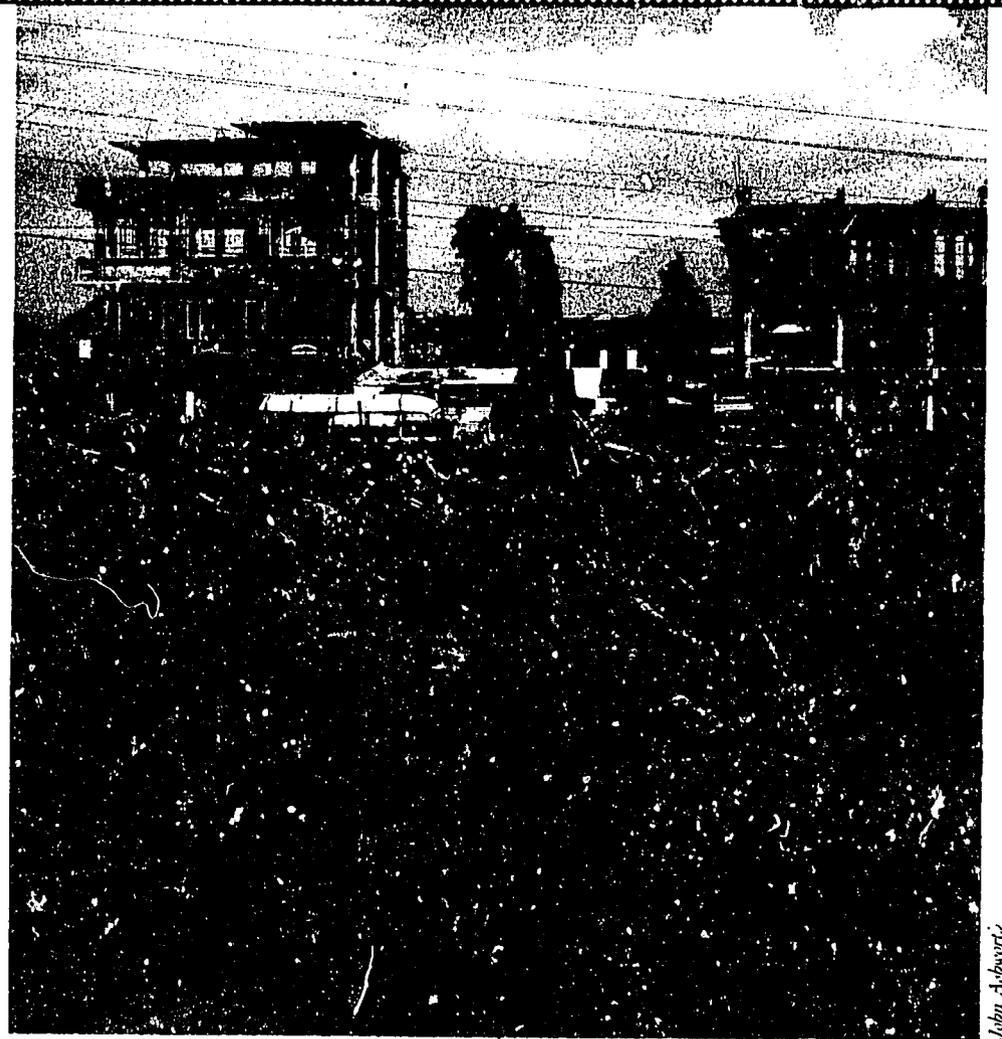
## Urban and Industrial Pollution

Within the next 30 years, more than 60 percent of the world's population is expected to live in cities, as people continue to migrate to urban areas in search of employment and a better life. Cities in the developing world are ill-equipped to manage this growth, despite increased investments in the basic facilities that countries need to function.

Delivery of needed services has actually declined since the 1970s. During the last decade alone, urban populations without water supply grew by some 31 million, and those without sanitation increased by 85 million. In the developing world, 30-50 percent of solid wastes remain uncollected. Most industries rarely treat industrial waste and frequently dispose of toxic waste in the nearest body of water. The result is widespread environmental degradation that threatens both human health and economic growth. USAID's goals are to help developing countries establish effective pollution controls to ensure clean air and water and to protect public health.

In urban households, like those in rural areas, women are primarily responsible for food, water, and household sanitation. They and their children may be particularly vulnerable to lack of ambient air in living spaces and critically affected by pollutants in household water supplies.

Understanding these and other health-related factors requires that inventories of household sources of pollution include information about



*Providing firewood to urban users contributes to overcutting of distant forests in many of the poorest developing countries. Paying for firewood is a burden on many poor urban families. Here is one of many firewood sales centers in Kathmandu, Nepal. Adoption by women of new cooking techniques and new efficient stoves can help slow the firewood demand.*

task allocations. Assessments of human impact must be disaggregated by gender and age. In addition, the development of host country capacity to identify and address critical environmental health problems depends on the provision of technical assistance and training to both men and women.

### **Kenya: Local Women Become Part of the Solution to Improve Water Purity and Health**

Ecology, Community Organization, and Gender (ECOGEN), a project supported by WID, studies the division of labor between men and women, their participation in community institutions that deal with natural resource management, and resource use and access.

In a recent project, an ECOGEN team worked with colleagues from Kenya's National Environmental Secretariat to conduct a case study in the South Nyanza district in western Kenya. The team discovered severe sanitary, nutrition, and health problems that were linked to the poor quality of water. Diarrhea and dehydration among children were chief among the health problems.

The team realized that the best way to address the problem was to educate and empower the district's women, since it was their responsibility to handle the water and care for the sick. What the women lacked was the knowledge that impure water is linked to disease.

ECOGEN's study prompted UNICEF to send professionals to the area to train women as health workers and to begin an education program underscoring the link between clean water, sanitation and health. Thanks to the work of ECOGEN and UNICEF, women now will participate in community decision-making about these issues.

### **Brazil: Reducing Deforestation in the Amazon Basin**

Deforestation accounts for as much as 85 percent of Brazil's current carbon dioxide emissions. One of the strategic objectives of USAID's Global Climate Change (GCC) Program is to reduce deforestation in the Brazilian Amazon by promoting viable alternatives to deforestation, establishing sound policies, and building a constituency in local communities. In the Brazilian Amazon, alternative forest uses and management practices rely heavily on women's knowledge, skills, and labor.

A WID project—Gender in Economic and Social Systems (GENESYS)—works directly with Amazonian non-governmental organizations (NGOs) to apply socioeconomic considerations, including gender, in the design, implementation, and evaluation of sustainable projects throughout the Amazon Basin. Training of NGO personnel focuses on the design, collection, and analysis of socioeconomic baseline and monitoring data. Research activities are designed to identify marketing opportunities for non-timber forest products, such as tropical fruits.

*AID programs for assisting local communities to build and operate protected drinking water systems, such as this one in the Dominican Republic, often rely on local women to maintain the handpumps and collect user fees from families in the community to pay for spare parts.*

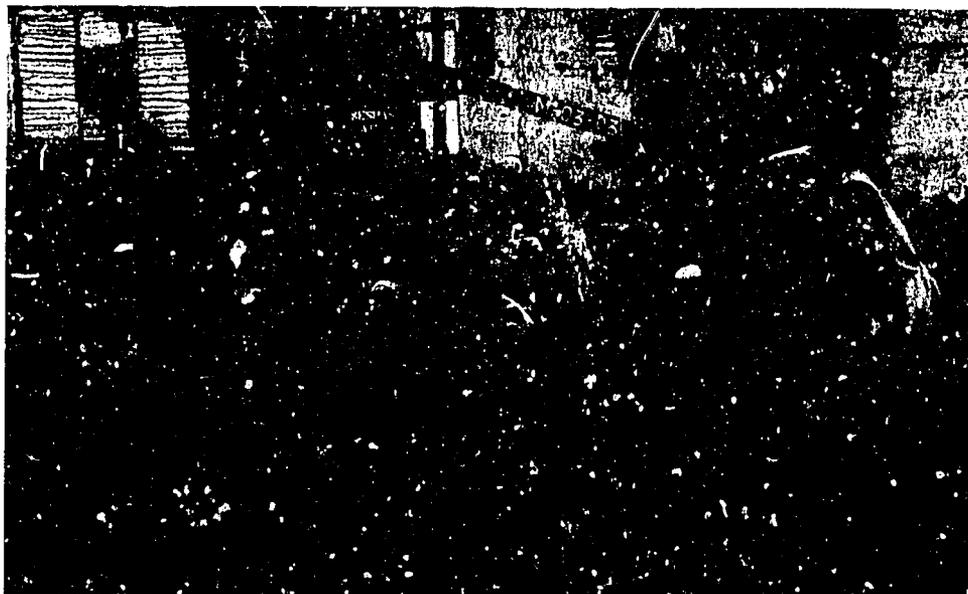
### **Coastal Zones and Other Water Resources**

Coastal areas already contain more than 85 percent of the world's people and are projected to have the greatest population growth over the next 20 years. Coastal zones are vital centers of tourism and transportation, as well as industry, fishing, and agriculture. Economic development in many countries depends largely on how coastal areas are used and managed. Yet these fragile, biologically productive areas are being rapidly degraded. In the Philippines, for example, 70-90 percent of coastal wetlands have been destroyed or severely degraded.

USAID's goal in this area is to strengthen the ability of developing countries to carry out integrated coastal resource management programs, addressing the environmental, social, cultural, and institutional factors involved in conserving and using coastal resources for economic development.

Women use marine resources for food and cash products. Fish products, coral, shells, and sponges are sold to tourists. Women also make and repair nets and traps in many areas. Their role is important in developing new techniques for small-scale fishing, marketing new or alternative varieties of species, and conserving resources.

Both women and men living in watershed areas are stakeholders in the process of increasing the quality and quantity of usable water on a sustainable basis. Their stakes may differ in some instances because of gender responsibilities, which must be considered and incorporated into the planning of assessments, monitoring, field trials, and technology. Training and technical assistance also must include both men and women to maximize the sustainability of intervention strategies.



*John A. Aboweth*

## Environmental Impacts of Energy Use

Developing countries typically lack sufficient capital to meet their rapidly growing energy needs from environmentally sound sources. Older facilities often are inefficient and generally lack pollution control devices. Thus, many current energy development programs contribute to environmental degradation.

To help countries provide energy services that are environmentally sound, USAID's goals are to increase energy efficiency and conservation and to encourage the use of renewable energy sources. Minimizing the reliance on fossil fuels, such as coal, in the household environment will rely almost entirely on providing affordable fuel alternatives for women.

Marketing in the rural areas for renewable commercial technologies also will have to plan specifically to respond to the needs of both male and female consumers.



Pat Ducey, USDA Forestry Support Program

*Gathering of firewood for cooking is a major demand on the time of women and children in many developing countries, reducing time available for income generating activities or education. In parts of Southern Africa and India, women can spend up to four hours a day collecting cooking fuels.*

### Malawi: Women Learn to Repair and Tend Village Pumps

Ten years of experience by the Water and Sanitation and Health (WASH) Project document that the involvement of women in project planning and implementation is essential both to sustainability and to long-term health benefits.

In Malawi, women are being trained by the government to be village pump caretakers and repair technicians. Consideration is being given to including them in village pipe-repair teams. Women caretakers and repair technicians usually live in the community year-round, unlike men, who must occasionally go to the cities in search of paid employment.

### Central America: Case Studies Reveal Problems with Agricultural Practices—and Some Solutions

WID's GENESYS Project has compiled case studies that show how women in Central America have been adversely affected by some agricultural practices—and how women have become part of innovative solutions to some agricultural problems.

For example, in many parts of Central America, agricultural commercialization appears to have adversely affected farming communities and especially farm women. In Guatemala, when small farms shifted to growing profitable vegetable crops for export, women's participation in unpaid field work increased dramatically. Added time for agricultural work was robbed from other income-earning activities. As a result, women lost much of their economic independence, since income from the new vegetable enterprises was generally controlled by men (ICRW 1987, von Braun 1989).

In Belize, as sugarcane production was commercialized in the 1970s, production of food crops and small livestock declined, and families had to rely increasingly on purchased food. Cash from sugarcane, which was in the hands of men, was usually inadequate to meet family needs. As women lost control of food distribution, they became completely dependent on men (Nash 1983, Waring 1988).

However, women have become involved in non-traditional or expanded areas of natural resource management, or both, as they find new ways to meet their needs. For example, a project in El Salvador helped women to expand their home gardens and to plant soybeans as a means of supplementing the family diet, while also conserving and restoring soil and soil fertility (Solis and Trejos 1990).

In one Honouan project, women overcame men's skepticism about terracing and reforestation and were able to secure the necessary land from men. The women succeeded not only with terraces and trees; they also were able to grow and market several vegetable crops (Rodda 1991).

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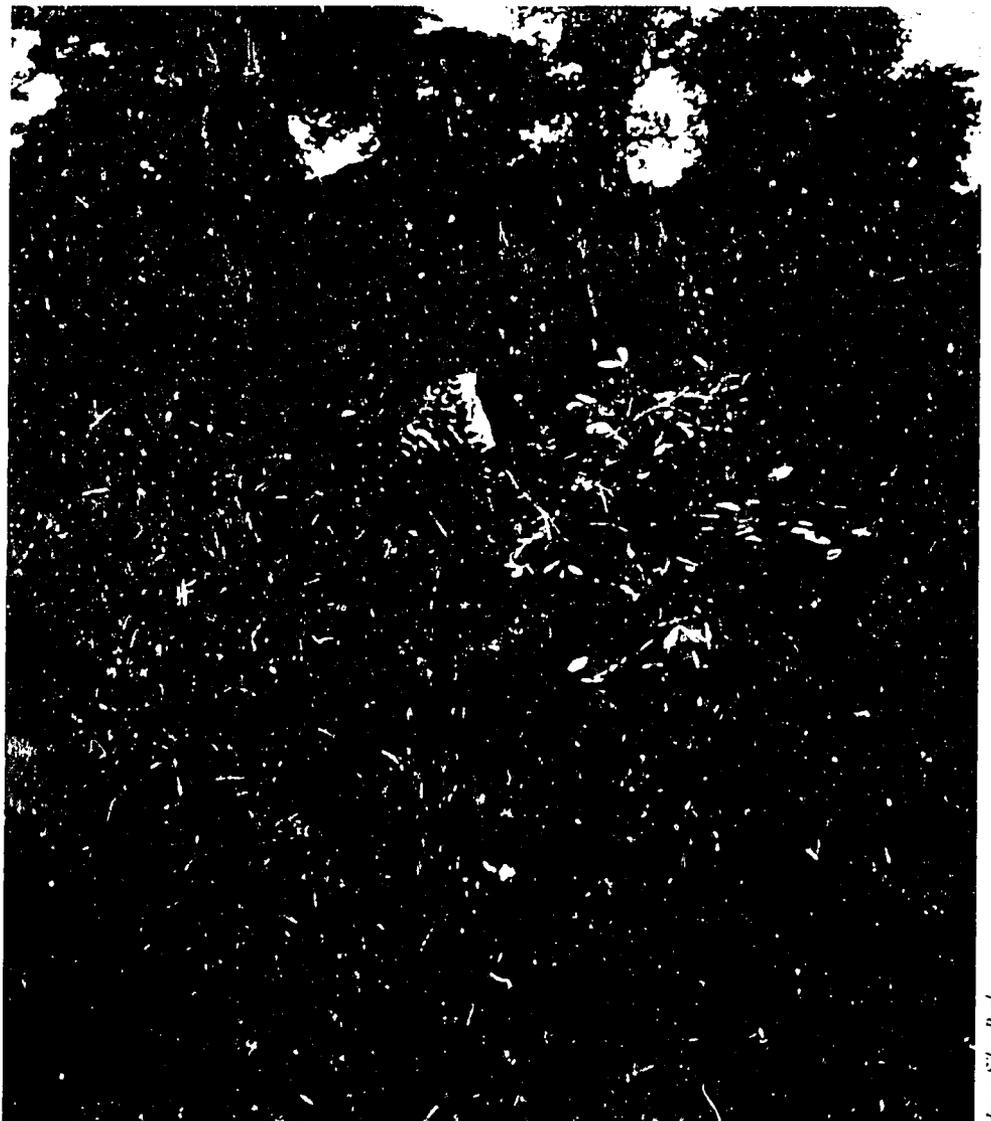
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*Agricultural research must involve women farmers if they are to be reached with new technology. This woman is harvesting peanuts in Mali as part of on-farm fertilizer trials.*

### Sustainable Agriculture

Agriculture is a critical component of the economy in almost all developing countries, providing food, fuel, employment, and income for most of the people. But unsound and shortsighted agricultural practices lead to reduced productivity and environmental degradation. Destruction of forests and inappropriate use of crop and rangelands contribute to soil erosion. Pesticide and fertilizer overuse adds to pollution of surface and groundwater.

USAID tries to help countries meet their needs for food and income with environmentally sustainable agricultural practices. Since women make up more than 40 percent of the world's agricultural labor force and grow at least 50 percent of the world's food, they as well as men must be involved as collaborators and recipients of technology information if sustainable agricultural systems are to be developed and maintained.



From Silver-Bachle