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Chapter 1

# Summary and Options

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## SUMMARY

Africa's\* problems in the immediate future will almost surely worsen. In no other region of the world has food production per capita declined steadily for the last two decades. Population growth is the highest in the world and little expectation exists that this situation will change quickly. Food production simply is not keeping pace with population growth and each year there are more hungry. The current drought has aggravated the suffering and increased stresses on natural resources.

Africa's declining per capita food production has been blamed on many factors: environmental limitations, inadequate incentives for farmers, a lack of appropriate research on food crops, poorly developed extension and management systems, general insensitivity to cultural and environmental conditions, local governments' failures to deliver physical and economic inputs on time, lack of infrastructure, and an inability to identify the problems facing producers. All of these factors, in addition to large population growth, play a part in the problem.

Foreign assistance is one mechanism used by the United States to help solve these problems. The American people traditionally are generous with their public and private assistance. Since foreign aid was first initiated after World War II, the United States has supplied funds, food, and expertise throughout the world, and since **1950** it has directed special attention to developing countries. Foreign assistance programs have grown to reflect our understanding of the humanitarian, economic, political, and security benefits they produce. What is apparent now, however, is that many opportunities exist to improve assistance programs, especially in sub-Saharan Africa, and to encourage constructive activities within the developing nations themselves,

\*Africa, as used in this report, refers to Sub-Saharan Africa (see fig. 1).

## The Role of Foreign Assistance

Foreign assistance has the obvious goal of helping to improve recipients' lives. Agricultural assistance, whether direct food aid or technological assistance to improve food production, aims to alleviate hunger and malnutrition. But in Africa and other parts of the world, the United States also has economic and political rationales for its foreign assistance policies. Foreign aid is a mechanism to promote U.S. interests. Developing countries currently receive 40 percent of all U.S. exports and are the fastest growing market, by value, for U.S. goods and services. Twenty percent of U.S. farm acreage grows crops destined for developing countries. Foreign aid is also used as a nonmilitary tool to further numerous foreign policy objectives such as promoting regional and economic stability, securing access to strategic facilities, and encouraging cooperation with the U.S. on international issues.

Agriculture is the central focus of much American aid to sub-Saharan Africa. The Agency for International Development (AID) allocates about 60 percent of its African assistance to agriculture, or approximately \$150 million for fiscal year 1985. Foreign aid can be used to meet short- and long-term goals. Short-term aid, for example, includes emergency food supplies for crises such as the current devastating famines in Ethiopia, Chad, and Mozambique. Such aid serves a critical purpose. Long-term aid is aimed at helping the developing countries become more self-sufficient in food production. For example, such aid includes support for research on improved livestock and crop varieties. Long-term aid includes technology transfer, research, education, and other actions to promote future well-being.

In the face of famine or other crises, long-term agricultural goals are sometimes neglected. But this is extremely short-sighted. Short-term aid alone is not a viable way to improve conditions in Africa. What is needed is a blend of both short- and long-term aid, shaped by long-term goals.

Three major weaknesses are seen by many observers to limit the effectiveness of U.S. foreign aid: it is too shortsighted and crisis-oriented, too political, and suffers from unclear and inconsistent goals. Critics argue that American foreign assistance policy erroneously strives for a “quick fix” —development projects are generally too short in duration (3 to 6 years), with limited attention to follow-up. This is particularly disadvantageous to research projects, which generally require longer durations to show results. It will take long-term commitments to make lasting improvements in the difficult agricultural problems faced by sub-Saharan Africa.

Similarly, American foreign assistance sometimes seems preoccupied with new ideas, changing focus from year to year so programs do not have time to chart real progress. Irrigation, education, mechanization, fuelwood, and others have each had a moment in the limelight. The U.S. Government lacks a stable, long-term political commitment to foreign assistance; development policy shifts every decade or so, with mixed results, and public support waivers greatly.

Development assistance policies are shaped more by political considerations than the actual needs of developing countries. Priorities and initiatives shift with administrations as foreign policy goals change, and administration’s policies sometimes conflict with legislated goals. This may further some American economic and political objectives but can be detrimental to immediate humanitarian goals and long-term hopes for international cooperation and development.

America’s foreign assistance goals not only are unclear they seem at times inconsistent. How, for instance, does the country reconcile its efforts to help developing countries become more self-sufficient in food production when our agricultural sector relies on those nations as essential markets?

### Limitations of U.S. Assistance

Sub-Saharan Africa is over twice the size of the United States and is made up of 45 different countries (fig. 1). The area contains a wide range of climates and environments and a diversity of cultural, economic, and political characteristics.

About 70 percent of Africa’s 400 million people live in rural areas. They are predominantly farmers and herders—subsistence level producers who work with few economic and natural resources. Yet these “low resource” farmers and herders provide most of Africa’s food. Much of the region is also characterized by the major role women play in food production.

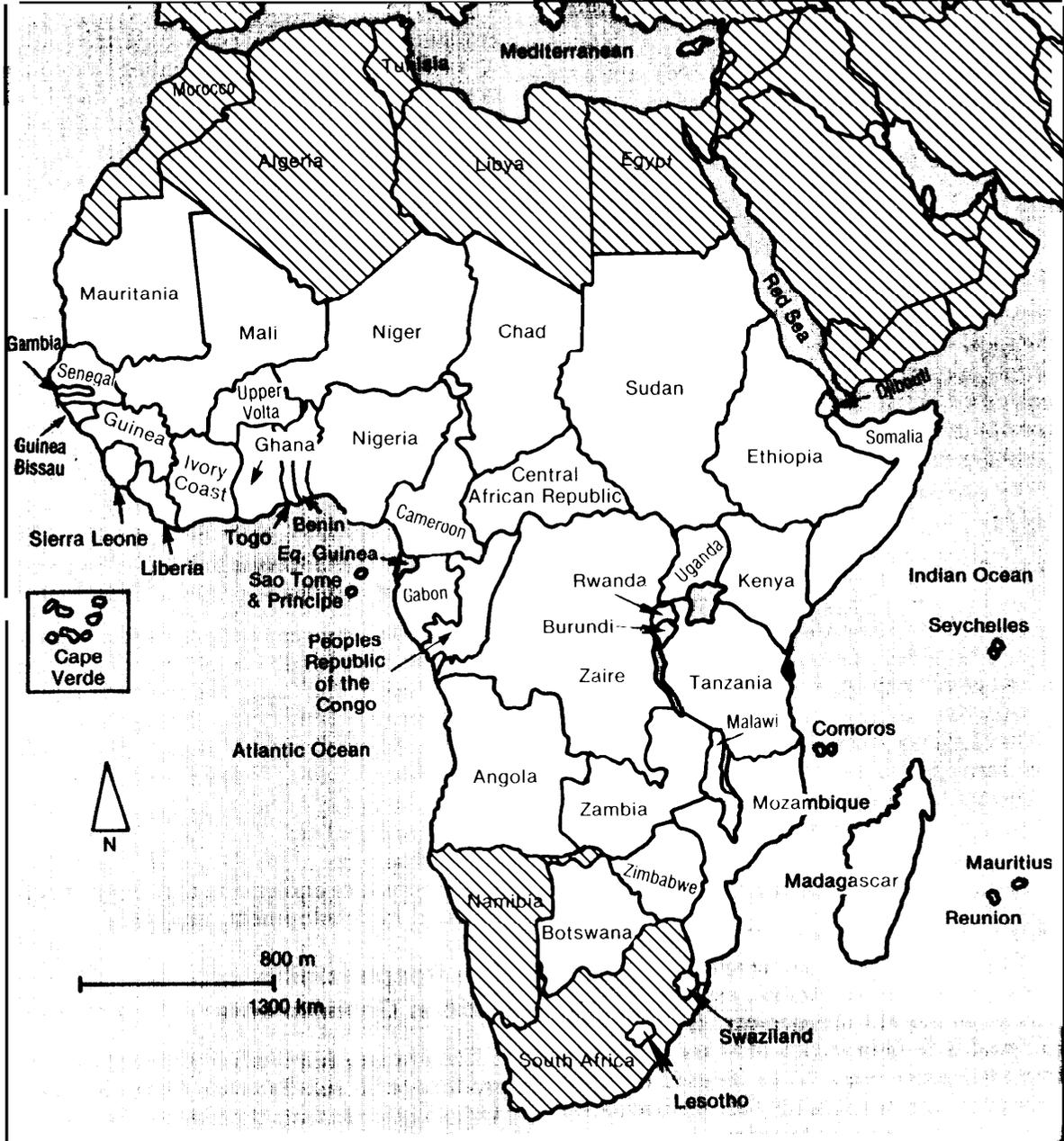
Sometimes foreign assistance donors lose sight of these vast cultural and environmental differences. U.S. assistance, for example, can result in major failures if it is based largely on western traditions: a high-technology, capital-intensive, prof-



Photo credit: U.S. Agency for International Development

Low-resource producers raise the overwhelming majority of food in Africa. These producers are those who face major constraints in their access to economic, natural, and technological resources. Low-resource farmers, such as these from Senegal, generally use hand tools and family labor, till 2 to 10 acres of land, and have little capital.

Figure1.—Sub-Saharan Africa



SOURCE: General Accounting Office, "Africa's Agricultural Policies: A More Concerted Effort Will Be Needed If Reform Is Expected," GAO/NSIAD-83-36, Sept. 8, 1983 (Adapted from map by Martin Greenwald Associates, Inc.)

it-maximizing orientation. A consensus is emerging that the technology most needed in sub-Saharan Africa should be:

- low-risk,
- resource-conserving,
- small-scale,
- affordable (not capital intensive),
- locally produced and repaired,
- adapted to local labor availability, and
- consistent with traditional agricultural methods.

In essence, technologies\* must be appropriate for the local setting. To be appropriate, the natural limitations of the African environment must be considered in the design of the technology. To be appropriate, livestock, cropping, and forestry technologies must be integrated with each other and with nonagricultural sectors. In addition, local producers need increased involvement in the agricultural development process. Foreign assistance agencies need to solicit the input of local producers when identifying agricultural problems, planning, and implementing projects or research. Local people have an intimate knowledge of their needs and environment, and they are likely to be more receptive to projects that are partly their own. The challenge, then, is to devise systems that involve local people and that integrate on-farm work into the larger framework of established national programs and international assistance.

### **The Recipients of Foreign Assistance**

It seems an easy question: “Who needs assistance?” But identifying, let alone reaching, appropriate recipients can be difficult, especially if the objectives of the aid are unclear. If America’s overall goal is to help Africa increase food production, assistance needs to be focused on low-resource producers because they are the backbone of Africa’s food system. If America’s goal is meeting the basic needs of the poorest, assistance should take a different bent because the poorest people include not only farmers but also landless and urban populations.

\*Technologies include implements, management systems, and other processes for applying knowledge.

In the past, assistance strategies largely have neglected the important role played by women in African agriculture. Women in Africa contribute up to 80 percent of all farm labor, they manage one-third of the region’s farms, and they tend virtually all the kitchen gardens. Yet, directly and indirectly, women are excluded from community meetings, extension services, and access to credit. Few women have entered the ranks of agricultural professionals working for donor agencies or developing country ministries.

Directing special attention toward women may seem to be one solution to this problem. Disregarding the crucial role of African women in agriculture is unwise, yet specifically aiming projects at women’s needs also may be inappropriate. A more realistic approach is to recognize that women need to be integrated into development planning as partners. Extension services, in particular, need improvement in this area. To date, the track record for attempts to integrate women into agricultural assistance programs has been poor.

Targeting any specific group—e.g., the poorest—can be difficult. First, can the group be defined explicitly—who are they—and how can they be reached effectively through donor assistance? Is key information about the group available? Does the group remain constant from year to year? How can sustainable, replicable programs be designed that will reach that group? Realistic approaches account for the special constraints certain groups face and ensure that these groups are included in development assistance.

### **The Responsibility of African Governments**

The primary responsibility for improving food production in sub-Saharan Africa lies with the African governments themselves. Foreign assistance is just that—assistance. But in most of Africa, a variety of obstacles inhibit the design and management of sound national agricultural strategies. Some government institutions face unmanageable tasks trying to coordinate large numbers of donors. When levels of support are erratic, the problem is compounded and host countries have few incentives to plan comprehensive programs to meet their actual needs.

Despite limitations, African governments have significant opportunities to improve food production. One way is to increase incentives for rural producers. Another task is to provide more adequate reward and support for government extension workers in rural areas. They can also encourage integration of women producers into agricultural planning. In all, what is needed is a more active and long-term commitment to food production. But it must be remembered that food production is only one part of the agricultural sector and that agriculture is only one part of an overall development strategy. While changes must be made by African governments, donors will have a special responsibility to provide appropriate support.

## Africa Tomorrow

Despite the magnitude of its problems, Africa has reasons for optimism. Ten years ago, India faced a similar plight and many feared that the enormity of the problems could not be overcome. Yet today India feeds itself. Africa's problems, of course, are unique and require unique solutions. But evidence exists that Africans and donors are beginning to address key questions and find some answers. Since the problems are severe and complex, their solution will require greater commitment than now exists.

## OPTIONS

### On the Right Track

In recent years, Congress has taken a number of actions that have confirmed America's commitment to increasing Africa's food production in equitable and sustainable ways. Legislation has resulted in initiatives that address many of the findings of this report. OTA finds that each of the initiatives remains relevant and important. Their direction is, for the most part, consistent with recent information on technology and food production in Africa.

This section reviews some of this report's major conclusions and the existing legislation that OTA feels is both relevant and appropriate to re-

The United States can continue to play an important role in improving food production and alleviating hunger and malnutrition in sub-Saharan Africa. The best hope of increasing food production lies with improving opportunities for the low-resource producers—they provide an overwhelming proportion of the region's food supplies and yet they have been largely ignored. The United States can contribute appropriate assistance with agricultural education, research, and technologies.

Today, Africa is a continent in trouble. The United States could make certain choices that increase the likelihood that Africa's future will be a hungry one—facing the possibility of social and environmental problems of global dimensions. Or the United States could strengthen its leadership in foreign assistance, examining the part that this country can play in alleviating Africa's dilemma and coordinating with other nations to help Africa reach a future chosen by its people.

For some substantial number of the world's poor, the United States still holds out the future to which they aspire. What they require from us is not advice . . . but action alongside them in the task of hastening their economic development. Belonging to the same world population, we have as large a stake in the outcome as they do.

—Gerard Pie], 1984 President-elect, AAAS  
Chairman of the Board, *Scientific American*

solving some of the problems presented. Unless otherwise noted, the provisions cited refer to the Foreign Assistance Act of 1961, as amended (U.S. Congress, Feb. 1984).

- ***Emphasis should be placed on low-resource producers:*** The Congress finds that the greatest potential for significantly expanding food production lies in increasing the productivity of small farmers who constitute a majority of agricultural producers in developing countries [sec. 103(c)].
- ***Greater emphasis is needed on research for low-resource producers:*** Agricultural research shall: 1) consider the special needs of small

farmers; 2) include research on the interrelationships among technology, institutions, and economic, social, environmental, and cultural factors affecting small-farm agriculture; and 3) make extensive use of field testing to adapt basic research to local conditions [sec. 103A].

- *Technologies should account for the particular needs and constraints of the low-resource producer:* Emphasis shall be placed on use of relatively smaller, cost-saving, labor-using technologies most appropriate for small farms, small businesses, and small incomes of the poor [sec. 107].
- *Greater emphasis is needed on the role of women in development:* U.S. assistance should promote the participation of women in national economies of developing countries and the improvement of women's status as an important means of promoting the total development effort [sec. 102(b)(6) and sec. 113(a) cf.].
- The Congress declares that the principal purpose of U.S. bilateral development assistance is to help the poor majority of people in developing countries to participate in a process of equitable growth through productive work and to influence decisions that shape their lives, with the goal of increasing their incomes and their access to public services which will enable them to satisfy their basic needs and lead lives of decency, dignity, and hope [sec. 102].
- *Assistance efforts are more efficient and effective if donors coordinate:* U.S. assistance efforts shall be planned in coordination and cooperation with assistance efforts of other countries, including the planning and implementation of programs and projects on a multilateral and multidonor basis [sec. 102(b)(11)].
- *More effective evaluation is needed for projects and programs undertaken by AID:* The International Development Cooperation Agency (IDCA) is directed to improve the assessment and evaluation of the programs and projects carried out [sec. 125].
- *Private and voluntary organizations have a major role to play in assisting the poor in meeting their basic needs and in increasing*

*public awareness of hunger and poverty in developing countries:* Congress finds that development can be assisted and accelerated through an increase in activities planned and carried out by private and voluntary organizations and cooperatives. Their financial resources should be supplemented by contributions of public funds without compromising their private and independent nature [sec. 123],

To increase public awareness of the political, economic, technical, and social factors relating to hunger and poverty and to ensure the effectiveness of private and voluntary organizations in dealing with world hunger abroad, AID is urged to assist private and voluntary organizations [International Security and Development Cooperation Act of 1980, Title III, sec. 316].

- *To help increase food production in Africa, the Federal Government should support and encourage appropriate research by U.S. universities, national and regional research facilities in Africa, and international agricultural research centers:* This support should be provided on a long-term and continuing basis. The United States should improve U.S. land grant and other eligible universities' participation in international efforts to apply more effective agricultural sciences to the goal of increasing world food production, and should provide increased and longer term support to the application of science to solving food and nutrition problems of the developing countries [sec. 296(a)].
- To prevent famine and establish freedom from hunger, various components must be brought together in order to increase food production including:
1. strengthening the capabilities of universities to assist in increasing agricultural production in developing countries,
  2. institution-building programs for development of national and regional agricultural research and extension capacities in developing countries that need assistance,
  3. international agricultural research centers [sec. 296(b)].
- *Development is primarily the responsibility of African governments:* Development plan-

ning must be the responsibility of each sovereign country. U.S. assistance should be administered in a collaborative style to support the development goals **chosen** by each country receiving assistance [sec. 102(b)(2)].

- *Further efforts to prevent degradation of natural resources are vital to sustained agricultural development:* The President is authorized to furnish assistance for developing and strengthening the capacity of developing countries to protect and manage their environment and natural resources. Special efforts shall be made to maintain and restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and human well being, especially of the poor [sec. 118(b)].

While this legislation is consistent with the findings of this report and suggests that the United States has taken steps in the right direction, Congress has a continuing role to play in monitoring the progress of these efforts and correcting any unexpected adverse effects of its original legislation or amendments. OTA's preliminary analysis suggests that Congress could continue to encourage the executive branch to demonstrate that specific legislative instructions are being carried out. Requests for reports from the executive branch and holding congressional hearings are two methods for doing this.

## New Initiatives

Another way the Congress could enhance the effectiveness of U.S. assistance to Africa is by undertaking certain new initiatives. OTA finds that important changes in the U.S. approach could substantially improve food production.

### A Commitment Measured in Decades

**Finding:** U.S. assistance needs to be long-term and consistent over time if the United States is committed to increasing food production in Africa. Currently, the United States supports hundreds of short-term projects designed to encourage long-term development. The goals and objectives of these activities are often unclear and inconsistent and their effectiveness is hampered by political considerations.

Many experts *are coming to agree that* long-term improvements in food production require commitments—for projects and agricultural research—of at least 10 to 20 years. AID-sponsored projects seldom last this long, although AID contends that the trend in project length is upward. Most programs face annual scrutiny, and political and fiscal considerations determine their continuation. While monitoring project effectiveness is appropriate, certain types of projects, particularly research efforts, are not likely to show immediate results and will require long-term continued support.

The inclusion of political factors in designating recipients of U.S. assistance is always controversial. Evidence exists that frequent shifts in both development approaches and countries designated as acceptable recipients reduce the effectiveness of U.S. assistance. Much U.S. assistance is channeled through private and voluntary organizations. Some of these groups, especially those with long-term programs in Africa, are particularly affected by U.S. policy changes.

In addition, the United States sponsors some programs that have seemingly conflicting goals—e.g., attempts to increase local food production while simultaneously providing aid to dispose of U.S. agricultural surpluses or expand markets for U.S. food products. The Food for Peace Program (Public Law 480) is often cited as an example of America's unclear and conflicting foreign assistance goals.

These factors—the short-term, political, and unclear nature of U.S. foreign aid—are major limits to its effectiveness. Congress could begin to resolve these issues by several means.

**Option:** Congress could examine the soundness of AID's major operational method—the design and support of individual local projects—as a means of providing long-term, well coordinated assistance. Alternatives that might provide less fragmentary aid with fewer administrative burdens could be examined—e.g., supplying funds in lump sums for large program areas such as institutional development, training, and university, post-graduate program development. The need for such “program” assistance in research funding could be evaluated in detail. Other alternatives might include adopting the most effective provi-

sions used by other bilateral donors or integrating all types of aid into individual country programs.

**Option:** Congress could reemphasize its commitment to coordination among public and private donors by exploring new ways to encourage this coordination, such as: a) hear testimony from donors on their needs, b) investigate the need to bring additional donors into existing donor coordination groups, and c) explore other means to strengthen coalitions of public and private donors.

**Option:** Congress could evaluate whether AID's cooperation with private and voluntary organizations is meeting the congressional intent in Section 123 of the Foreign Assistance Act. This evaluation could include: thoroughly examining the effectiveness of these organizations' work versus government funding; clarifying whether Congress intended that their programs be confined to certain countries designated by AID as acceptable recipients of U.S. assistance; and assessing whether AID should model the scale of its programs after some private and voluntary organizations' small-scale efforts, which many experts regard as a particularly effective approach.

**Option:** Congress could require that AID increase the average duration of individual assistance projects/programs designed to increase long-term development of African food production. For example, Congress could stipulate that the average length of such projects should increase to 10 to 15 years by a given target date.

**Option:** Congress could request that the General Accounting Office (GAO) conduct a major evaluation of Public Law 480's effects on African food production and synthesize its considerable body of past Public Law 480 work. Such a study would capitalize on GAO's a) ability to conduct local investigations in Africa, b) expertise in accounting, and c) extensive record of Public Law 480 analysis. Important issues include the alleged displacement of local farmers and technologies, shifts in diet, and disincentives for local food production.

## Reaching Those Most in Need

**Finding:** The possibility of successfully directing agricultural assistance to meet the needs of specific target groups remains debatable.

The Foreign Assistance Act, section 128, requires that 40 percent of AID's funding be directed toward the poorest residents. And the spirit of this legislation is important in ensuring that AID meets its responsibilities to assist the poorest people of Africa.

However, many questions have arisen regarding the best method to accomplish this goal, AID's relative success in meeting it, and whether agricultural assistance is the most effective way to meet the poorest people's needs. Some of the poorest people may be those with little or no access to land or livestock, female heads of households, the chronically underemployed in urban areas, or refugees. Projects designed to stimulate employment and other income-generating activities or to meet basic needs may be more appropriate uses of funds for assisting these poor. At the same time, aid to increase food production could be directed toward alleviating the constraints of low-resource producers, who are usually poor themselves but maybe not the "poorest."

Reliable data on the heterogeneous group called "the poor" are scarce. Therefore, much remains to be done to understand the poor who face severe economic, social, technical, or environmental constraints on their attempts to increase food production. More information is needed on the types, proportions, and magnitude of their problems as well as the constraints faced by other poor people such as the landless and unemployed.

Congress could assist in this effort by determining the beneficiaries of agricultural versus income-generating projects and examining the need for special attention to low-resource producers.

**Option:** Congress could reiterate its commitment to Section 128 of the Foreign Assistance Act

by holding hearings to determine strategies and funding levels necessary to meet the needs of the poorest rural residents. Witnesses could include representatives from: a) African governments at the national and regional levels—e.g., national ministers of health, water resources, agriculture, and women's affairs, and representatives of the Organization of African Unity; b) international food agencies such as the United Nations' Food and Agriculture Organization (FAO); c) private and voluntary organizations with expertise in rural land reform and community development; and d) the U.S. Agency for International Development.

**Option:** Congress could consider new legislation and funding that would be specifically aimed at reducing constraints which inhibit the majority of low-resource producers from increasing food production.

**Option:** Congress could require AID to provide information on: a) how the Agency could increase its effectiveness in evaluating its own programs and incorporate this information into future project design and implementation, and b) the level of funding necessary to fulfill this task. Congress could also help make evaluation a project design tool by encouraging AID to: establish an evaluation staff officer for each mission and regional AID office; collect improved baseline demographic data in host countries—e.g., data disaggregated by sex and economic class; and include the proposed beneficiaries (especially women and low-resource producers) in the design and evaluation phases of project development.

**Option:** Congress could investigate the relative merits of the "grass roots" development strategy represented by the African Development Foundation (ADF). Congress could support the ADF by: carrying over the Foundation's unallocated fiscal year 1984 funds into 1985, funding ADF past fiscal year 1986, supporting ADF's forums on "grass roots" development, and strengthening the organization's management and technical capacity.

### Women: **The Invisible Producers**

**Finding:** Women contribute significantly to the production of food crops but have limited access to extension services, credit, and training.

Women contribute up to four-fifths of the labor and management for the production of food crops in Africa. They receive few services to help them increase food production despite the fact that their important role has been recognized internationally for over 10 years. Women represent some of the most overworked and undersupported and, in most cases, some of the poorest of the rural population. Therefore, providing assistance to women farmers and herders is crucial to increasing African food production.

Many ways exist that African women producers can be assisted by donors such as the United States and by African governments. Primarily, women need greater access to extension services, affordable credit, reliable land rights, and training in food production technologies that are generally more available to men. Women development experts and agricultural professionals will be better able to provide these services in many countries due to cultural constraints. Congress could assist African food producers by helping to make more women agricultural experts available.

**Option:** Congress could direct AID to give priority to hiring women agricultural professionals as project officers. Over the last several years, AID appears to be recruiting more female International Development Interns. Increased emphasis could be placed on increasing women staff in AID Africa missions, given the importance of women in agricultural development in Africa. It is also important that the women recruited have training in agriculture and environmental science as well as health, nutrition, and social science.

**Option:** Congress could direct AID to expand the selection of African women for overseas training courses. Over the past 7 years, only 16 to 18 percent of all the African participants were women. Congress could consider imposing standards on AID for the selection of more women so that equal numbers of men and women are trained.

**Option:** Congress could direct AID to upgrade the Women in Development (WID) position in its African missions to ensure that the WID officer is involved in all phases of project identification, development, implementation, and evaluation and that WID officers are people with technical expertise and developing-country field experience. Congress could request periodic reports on AID

progress on these activities as well as AID's progress in implementing its Women in Development Policy Paper.

Option: Congress could direct AID to encourage host countries to recruit additional female agricultural extension staff. Also, Congress could request that AID develop training courses for African male and female extension agents that would provide methods for them to reach women food producers.

### Technology Types: The Right Stuff

**Finding: Farmers and herders with little access to economic and natural resources hold the key to increasing food production in Africa. Technologies to help these low-resource producers are largely lacking, especially in developed countries such as the United States.**

A consensus exists that low-resource producers are the group most likely to increase food production enough to feed a significantly greater number of Africa's population. A consensus also exists regarding the types of technologies these producers need: low risk, resource-conserving, small-scale, adapted to local labor conditions, consistent with traditional agricultural methods, affordable, and locally produced and repaired. Some of these technologies can be adapted from current traditional practices. A need also exists for new types of technologies, especially given the large projected increases in total and urban African populations.

U.S. agricultural technologies—both equipment and management systems—generally do not exhibit the characteristics most needed by low-resource producers. Therefore, many attempts to use U.S. agricultural technology directly in African food production have been unsuccessful. Many feel that America's considerable agricultural expertise has much to offer Africans, but care will need to be taken if it is to be brought to bear effectively.

The Congress directed that special attention be given to "appropriate technology" in section 107 of the Foreign Assistance Act. OTA finds that such attention is justified and that methods could be devised to make relevant information devel-

oped in the United States more available to African researchers and producers.

Option: Congress could reaffirm its commitment to section 107 of the Foreign Assistance Act by holding hearings on AID's implementation of this legislation and the institution created to do so (ATI—Appropriate Technology International). These hearings could consider whether section 107 should be amended to alter its language calling for "labor-using" technology. Recent recognition exists that low-resource producers face periodic labor shortages; thus sometimes "labor-using" technology can be inappropriate to their needs.

Option: Congress could design a program to link U.S. experts in technology for low-resource producers to the U.S. Department of Agriculture's (USDA) international training activities in order to increase their relevance to African conditions. This would require that USDA involve non-USDA staff such as returned Peace Corps volunteers, field representatives of private and voluntary organizations, and researchers in "alternative" agriculture.

### A Worldwide Network for Agricultural Research

**Finding: The United States is in a unique position to encourage strong national and international agricultural research facilities in Africa. The inclusion of farmers and herders in this work, as well as the widespread dissemination of its results, is vital to making research effective.**

The United States has played a major role in supporting agricultural research in Africa, both via the international agricultural research centers and via programs coordinated by U.S. universities. The United States supplies approximately 20 percent of the core budget for the Consultative Group on International Agricultural Research (CGIAR), which sponsors the international centers, and also supports staff and students. Some universities have a long history of international activity but their programs have shifted according to changing African and American views of the most appropriate U.S. assistance.

Congress is involved directly in determining how U.S. scientists take part in African research. Many U.S. university programs, for example,

were instigated after Title XII of the Foreign Assistance Act made special AID programs available to them. Experts suggest that past approaches to support African research need to be supplemented with new programs. These should give increased attention to developing national research centers in Africa and providing additional training for African agricultural scientists at home, rather than in the United States. Such efforts would benefit agricultural research while building local institutions and management capacity, another vital African need.

A consensus exists that alleviating two key problems could increase the effectiveness of agricultural research. First, low-resource producers need to be incorporated into the process of designing, planning, and evaluating research. And, second, research results should be disseminated widely and effectively.

**Option:** Congress could direct increased resources into national research centers and universities in Africa by: helping to develop expanded African graduate programs in food production; encouraging U.S. universities to increase cooperative programs with national universities; providing funds for USDA and State Agricultural Experiment Stations to work with African national centers on problems of common interest— e.g., sorghum breeding or dairy production; making American researchers available to help African countries develop agricultural training programs for Africans in Africa or other appropriate developing countries.

**Option:** Congress could establish a way for U.S. technology to be used to disseminate agricultural information in Africa. This might include: increasing the availability and interpretation of satellite imagery on natural resources for African governments; encouraging microcomputer manufacturers to provide agricultural services that are suitable for African conditions; ensuring that all U.S. support for international, regional, and national research centers provides adequate funds for international travel, documentation and distribution of findings, and purchase of relevant publications.

**Option:** Congress could highlight the current and potential benefits, both to Africa and the

United States, of farmer/researcher cooperation by holding hearings on farming systems research as it is conducted in the United States and in Africa.

### **Agricultural Extension Services: Delivering the Goods**

**Finding:** Agricultural extension systems in Africa generally are ineffective at either identifying food producers' constraints or disseminating information on technology, credit, or inputs.

Despite having formal extension systems in place, most African countries' extension services generally are ineffective in transferring information and inputs. Most: a) lack clear goals and objectives; b) provide little support for or few incentives to staff working with low-resource producers, especially women; c) coordinate poorly with research institutes in identifying the major constraints of low-resource producers; and d) may promote technologies that primarily benefit the wealthy rural producers.

Numerous attempts have been made to provide alternative extension models, improve infrastructure and supervision for staff, and increase the frequency of in-service training courses. Congress has provided support for development of African extension systems by both AID and USDA. Congress could act to strengthen existing African systems further.

**Option:** Congress could investigate the problems facing African extension systems and the most effective U.S. role to meet the needs of low-resource producers in increasing food production. This could include input from AID, USDA, the World Bank, and others.

**Option:** Congress could direct AID to identify extension problems unique to each country. AID mission staff could interview agriculture officials and local university staff and hold workshops to solicit the views of local leaders and low-resource producers.

### **The Pressure for Reform**

**Finding:** African governments, though facing increasing external pressure for

**change, generally support economic policies that favor urban consumers at the expense of incentives for low-resource food producers.**

During the last two decades, African governments generally have opted for economic policies that favor urban consumers. Prices paid to producers for food crops have been artificially low, while inflated currencies and increased international borrowing allowed relatively inexpensive food and consumer goods to be imported.

Now, African governments face several conflicting forces that threaten their economic independence. The International Monetary Fund (IMF) and the World Bank are increasing the restrictions on foreign assistance and rescheduling loans. Many governments find it difficult to fulfill these strict conditions while simultaneously pursuing their own national priorities.

**Option:** Congress could assist African governments, via U.S. participation in policymaking at the IMF and the World Bank, by encouraging greater cooperation between these organizations and African governments. Congress could examine the feasibility and desirability of monetary policies advocated by African countries such as more gradual currency devaluation, longer loan repayment periods, and appropriate conditions for further loans.

**Option:** Congress could require that AID report on uses of the Economic Support Fund (ESF) to alleviate international debts in African developing nations, including the role of the ESF to absorb the effects of rapid increases in the price of food and consumer goods in urban areas,

## **The Resource Base: Keeping Renewable Resources Renewable**

**Finding:** African governments and international donors exhibit a limited commitment to controlling the degradation of Africa's natural resource base.

Deforestation, loss of soil fertility, and other types of land degradation are major problems in Africa. They are caused by increasing pressure on a finite natural resource base and unsustainable agricultural development.

Sustainable food production requires the integration of sound environmental policies into agricultural programs. Experts in developing countries note the continuing need for increased amounts of information on the environmental impacts of technologies that are part of U.S. development projects. Congress could assist this process in several ways.

**Option:** Congress could require that AID report on efforts agencywide and within the Africa Bureau in particular to fulfill the requirements of section 118 (c)(1) of the Foreign Assistance Act that the environmental consequences of development projects and programs be considered.

**Option:** Congress could investigate the status of AID's environmental profiles for African countries and mandate that the profiles be integrated into the agricultural development strategies.

**Option:** Congress could provide funds for a significant increase in the number of appropriately trained environmental field officers for AID field missions and regional offices.