

May 2008

# INTERNATIONAL FOOD SECURITY

## Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in Sub-Saharan Africa by 2015



# Report Documentation Page

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**GAO**  
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**Highlights**

Highlights of [GAO-08-680](#), a report to congressional requesters

**Why GAO Did This Study**

In 1996, the United States and more than 180 world leaders pledged to halve the number of undernourished people globally by 2015 from the 1990 level. The global number has not decreased significantly—remaining at about 850 million in 2001-2003—and the number in sub-Saharan Africa has increased from about 170 million in 1990-1992 to over 200 million in 2001-2003. On the basis of analyses of U.S. and international agency documents, structured panel discussions with experts and practitioners, and fieldwork in four African countries, GAO was asked to examine (1) factors that contribute to persistent food insecurity in sub-Saharan Africa and (2) the extent to which host governments and donors, including the United States, are working toward halving hunger in the region by 2015.

**What GAO Recommends**

GAO recommends that the Administrator of USAID, in collaboration with the Secretaries of Agriculture, State, and the Treasury, (1) develop an integrated governmentwide U.S. strategy that defines actions and resources, enhances collaboration with host governments and donors, and improves measures to monitor progress and (2) report annually to Congress on the implementation of the first recommendation. USAID concurred with the first recommendation but expressed concerns about the vehicle of the annual reporting. The Departments of Agriculture and the Treasury generally concurred with the findings, while State identified additional issues for consideration.

To view the full product, including the scope and methodology, click on [GAO-08-680](#). For more information, contact Thomas Melito at (202) 512-9601 or [melitot@gao.gov](mailto:melitot@gao.gov).

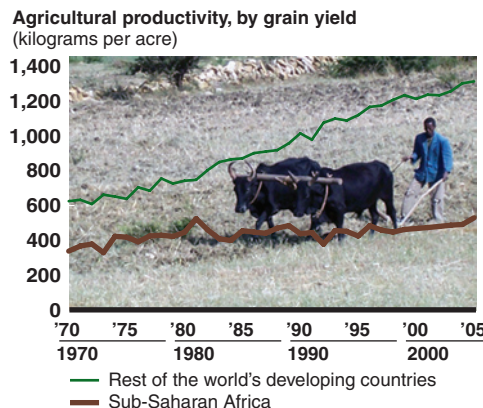
**INTERNATIONAL FOOD SECURITY**

**Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in Sub-Saharan Africa by 2015**

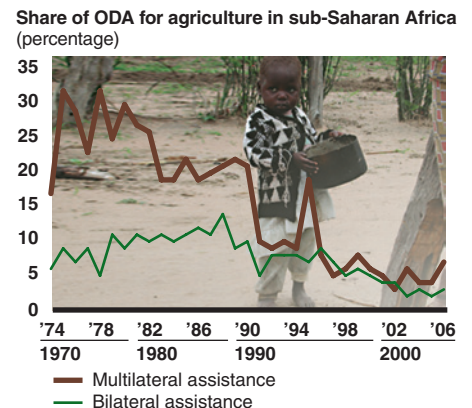
**What GAO Found**

Chronic undernourishment (food insecurity) in sub-Saharan Africa persists primarily due to low agricultural productivity, limited rural development, government policy disincentives, and the impact of poor health on the agricultural workforce. Additional factors, including rising global commodity prices and climate change, will likely further exacerbate food insecurity in the region. Agricultural productivity in sub-Saharan Africa, as measured by grain yield, is only about 40 percent of that of the rest of the world's developing countries, and the gap has widened over the years (see left figure). Low agricultural productivity in sub-Saharan Africa is due, in part, to the limited use of agricultural inputs, such as fertilizer and improved seed varieties, and the lack of modern farming practices.

**Sub-Saharan Africa Has Lagged behind the Rest of the World's Developing Countries in Agricultural Productivity**



**Share of Official Development Assistance (ODA) of Agriculture for Sub-Saharan Africa Has Declined**



Source: GAO analysis of Food and Agriculture Organization and Organization for Economic Cooperation and Development data.

The efforts of host governments and donors, including the United States, to achieve the goal of halving hunger in sub-Saharan Africa by 2015 have thus far been insufficient. First, some host governments have not prioritized food security as a development goal, and, according to a 2008 report of the International Food Policy Research Institute, as of 2005, only a few countries had fulfilled a 2003 pledge to direct 10 percent of government spending to agriculture. Second, donors have reduced the priority given to agriculture (see right figure), and their efforts have been further hampered by difficulties in coordination and deficiencies in measuring and monitoring progress. Third, limited agricultural development resources and a fragmented approach have impaired U.S. efforts to reduce hunger in Africa. The U.S. Agency for International Development (USAID) funding to address food insecurity in Africa has been primarily for emergency food aid, which has been crucial in helping to alleviate food crises but has not addressed the underlying factors that contributed to the recurrence and severity of these crises. Also, the United States' principal strategy for meeting its commitment to halve hunger in Africa is limited to some of USAID's agricultural development activities and does not integrate other U.S. agencies' agricultural development assistance to the region.

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## Abbreviations

AGRA	Alliance for a Green Revolution in Africa
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Program
C3P	Crop Crisis Control Project
CGIAR	Consultative Group for International Agricultural Research
DAC	Development Assistance Committee
FAO	Food and Agriculture Organization
G8	Group of Eight
HIPC	Heavily Indebted Poor Countries
HIV/AIDS	human immunodeficiency virus/acquired immune deficiency syndrome
IEHA	Initiative to End Hunger in Africa (A U.S. Presidential Initiative)
IFAD	International Fund for Agricultural Development

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IFAR	<i>International Food Assistance Report</i>
IFPRI	International Food Policy Research Institute
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
MDG	Millennium Development Goal
MCC	Millennium Challenge Corporation
NEPAD	New Partnership for Africa's Development
NGO	nongovernmental organization
ODA	official development assistance
OECD	Organization for Economic Cooperation and Development
PRSP	Poverty Reduction Strategy Paper
PSNP	Productive Safety Net Program (Ethiopia)
SOFI	<i>The State of Food Insecurity in the World</i>
UN	United Nations
UNDP	United Nations Development Program
UNFCCC	United Nations Framework on Climate Change
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
WFP	World Food Program
WFS	World Food Summit
WHO	World Health Organization

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United States Government Accountability Office  
Washington, DC 20548

May 29, 2008

The Honorable Russell D. Feingold  
Chairman  
Subcommittee on African Affairs  
Committee on Foreign Relations  
United States Senate

The Honorable George V. Voinovich  
Ranking Member  
Subcommittee on Oversight of Government  
Management, the Federal Workforce, and the  
District of Columbia  
Committee on Homeland Security and  
Governmental Affairs  
United States Senate

The Honorable Donald M. Payne  
Chairman  
Subcommittee on Africa and Global Health  
Committee on Foreign Affairs  
House of Representatives

At the 1996 World Food Summit (WFS) in Rome,<sup>1</sup> the United States and more than 180 world leaders pledged to halve the *total number* of undernourished<sup>2</sup> people worldwide from the 1990 level—a commitment that they reaffirmed in 2000 when they established the Millennium Development Goals (MDG), which included a target to halve the *proportion* or the percentage of the world’s population that is undernourished by 2015. More than a decade later, however, the number of undernourished people has not decreased significantly, and about 850 million people, including 170 million children, remain undernourished,

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<sup>1</sup>GAO, *Food Security: Factors That Could Affect Progress Toward Meeting World Food Summit Goals*, [GAO/NSIAD-99-15](#) (Washington, D.C.: Mar. 22, 1999).

<sup>2</sup>FAO defines “undernourishment” as the condition of people whose food consumption is continuously below a minimum dietary energy requirement for maintaining an acceptable minimum body size, living a healthy life, and carrying out light physical activity. While we recognize that there are different technical definitions for “chronic undernourishment,” “food insecurity,” and “hunger,” we use these terms interchangeably in this report.



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according to the United Nations (UN) Food and Agriculture Organization (FAO). Furthermore, the number of undernourished people in sub-Saharan Africa has increased from about 170 million in the period of 1990 to 1992 to over 200 million in the period of 2001 to 2003.<sup>3</sup>

Since early 2007, food-related riots have occurred in 15 countries, including 7 in sub-Saharan Africa,<sup>4</sup> leading both the UN Secretary-General and the head of the World Food Program (WFP) to express concern about the impact of chronic undernourishment, or food insecurity, on world peace and security. In January 2008, world leaders meeting in Davos, Switzerland, for the World Economic Forum predicted that food insecurity would be among the top potential threats to the world economy this year and for decades to come. In April 2008, the president of the World Bank called for a *New Deal for a Global Food Policy* that would involve a combination of long-term efforts to boost agricultural productivity in developing countries and short-term emergency aid to address immediate food crises.

You asked us to examine (1) factors that contribute to persistent food insecurity in sub-Saharan Africa and (2) the extent to which host governments and donors, including the United States, are working toward halving hunger in the region by 2015.

To address these objectives, we reviewed economic literature on the factors that influence food security and recent reports, studies, and papers issued by U.S. agencies, multilateral organizations, and bilateral donors. In the four African countries that we selected for fieldwork—Kenya and Tanzania in East Africa, and Mozambique and Zambia in southern

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<sup>3</sup>In its report on *The State of Food and Agriculture* (2006), FAO reported undernourishment estimates for 39 countries in sub-Saharan Africa: 6 countries in Central Africa, 8 in East Africa, 11 in southern Africa, and 14 in West Africa. FAO makes a composite estimate for countries for which it lacks country-level data and uses that estimate in developing its overall undernourishment estimates for sub-Saharan Africa. FAO uses the average of the period of 1990 to 1992 as the baseline in measuring progress toward the WFS goal, and its most recent official statistics available for undernourishment are for the period of 2001 to 2003.

<sup>4</sup>Between January 2007 and April 2008, 15 countries reported food riots and protests, according to WFP. These countries are Burkina Faso, Cameroon, Côte d'Ivoire, Egypt, Guinea, Haiti, India, Indonesia, Italy, Mauritania, Mexico, Morocco, Mozambique, Senegal, and Yemen.

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Africa<sup>5</sup>—we conducted structured discussions with groups of nongovernmental organizations (NGO) and donors. We conducted 9 panels with about 80 participants representing more than 60 entities, to obtain the panels' views on recommendations and lessons learned for accelerating progress toward achieving food security in these countries. In Washington, D.C., we interviewed officials from several U.S. agencies, including the U.S. Agency for International Development (USAID); the U.S. Departments of Agriculture (USDA), State, and the Treasury; and the Millennium Challenge Corporation (MCC). In addition, we met with the Rome-based UN food and agriculture agencies—namely, FAO, WFP, and the International Fund for Agricultural Development (IFAD)—as well as the U.S. Mission to the UN and several other bilateral donors' permanent representatives.<sup>6</sup> We also met with representatives of private foundations that actively fund agriculture<sup>7</sup> and food security projects in sub-Saharan Africa. Lastly, we convened a roundtable of 12 experts and practitioners—including representatives from academia, research organizations, multilateral organizations, and NGOs—to further delineate, on the basis of our initial work, some of the factors that have contributed to continued food insecurity in sub-Saharan Africa and efforts to address these factors.

We conducted this performance audit from April 2007 to May 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions

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<sup>5</sup>We selected East Africa and southern Africa for fieldwork because these are the regions where food insecurity is most severe and widespread. All four countries that we selected had undernourishment rates of more than 30 percent. We also selected countries that could serve as illustrative examples of regional USAID activities (e.g., Kenya), U.S. Presidential Initiative to End Hunger in Africa priority countries (e.g., Mozambique and Zambia), Millennium Challenge Corporation compact countries (e.g., Tanzania), and UN Millennium Villages (e.g., Kenya).

<sup>6</sup>These included representatives from the missions of Canada, France, Germany, Italy, Japan, The Netherlands, and the United Kingdom.

<sup>7</sup>In this report, we use the Organization for Economic Cooperation and Development's Development Assistance Committee statistical definition of aid to agriculture. This definition includes agricultural sector policy, planning, and programs; agricultural land and water resources; agricultural development and supply of inputs, crops, and livestock production; agricultural services; agricultural education, training, and research; and institution capacity building and advice.

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based on our audit objectives. (App. I provides a more detailed discussion of our objectives, scope, and methodology.)

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## Results in Brief

Persistent food insecurity in sub-Saharan Africa is primarily due to several factors, including low agricultural productivity, limited rural development, government policy disincentives, and the impact of poor health on the agricultural workforce. Additional factors, including rising global commodity prices and climate change, will likely further exacerbate food insecurity in the region. The gap between the average grain yield in sub-Saharan Africa compared with the rest of the world's developing countries has widened over the years, and, by 2006, the yield in sub-Saharan Africa was only about 40 percent of that of the rest of the world's developing countries. Low agricultural productivity is due, in part, to the limited use of agricultural inputs, such as fertilizer and improved seed varieties, and the lack of modern farming practices. Poor roads and lack of access to credit make it difficult for farmers to effectively participate in local and regional markets to increase their income. Moreover, some government policies, such as high taxation on agriculture, have a negative impact on agricultural production and food security. For example, Tanzanian farmers must pay about 55 taxes, levies, and fees to sell their agricultural products, equivalent to 50 percent of the price the farmers receive. Poor health also exacerbates food insecurity in sub-Saharan Africa through its adverse impact on the agricultural workforce, according to panels in the four countries we visited. For example, the human immunodeficiency virus (HIV) has taken a heavy toll on the population and agricultural production of sub-Saharan Africa, because two thirds of those in the world who have HIV live in that region. In addition, rising global commodity prices and climate change will likely further exacerbate food insecurity in sub-Saharan Africa. Higher fuel and food prices are reducing the capacity of low-income consumers and import-dependent countries to purchase food, as well as raising delivery costs for emergency food aid programs providing assistance to the most food-insecure. Experts predict that climate change, such as global warming, will also reduce grain yields and increase hunger in sub-Saharan Africa.

The efforts of host governments and donors, including the United States, toward achieving the goal of halving hunger in sub-Saharan Africa by 2015 have thus far been insufficient, as discussed below:

- *Host governments:* Despite their commitment in the 1996 *Rome Declaration on World Food Security* to achieve food security for all, some host governments have not prioritized food security as a development

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goal, and agricultural spending levels fall below their stated commitment. Of 10 African Poverty Reduction Strategy Papers (PRSP) reviewed in an FAO-commissioned study, only half included policies to address food insecurity and fewer than half included interventions to address food insecurity. Furthermore, by the end of 2008, only 13 of 40 countries are expected to have completed the roundtable process for the Comprehensive Africa Agriculture Development Program, which defines programs that are to be financed by host governments and donors. Although host governments pledged in 2003 to direct 10 percent of government spending to agriculture, only a few countries had achieved this commitment as of 2005. In addition, weak institutional capacity makes it difficult for host governments to sustain interventions after donor assistance has ended and to report on progress toward meeting the 2015 hunger goals.

- *Multilateral and bilateral donors:* Donors have reduced the priority given to agriculture, and their efforts have been hampered by difficulties in coordination and deficiencies in estimates of undernourishment used to measure progress toward attaining the goals to halve hunger. The share of official development assistance (ODA) from both multilateral and bilateral donors to agriculture for Africa has significantly declined, from about 15 percent in the 1980s to about 4 percent in 2006. Difficulties in coordination have also posed challenges in aligning donor efforts. Consequently, the UN has established new initiatives to facilitate donor coordination, such as the UN MDG Africa Steering Group and country-level Food Security Theme Groups. Furthermore, FAO's estimates of undernourishment have been criticized for weaknesses in methodology and poor country data quality and reliability. Its estimates are also outdated, with FAO's most recent published estimates covering the 3-year period of 2001 to 2003.<sup>8</sup>
- *The United States:* Limited agricultural development resources and a fragmented approach impair U.S. efforts to end hunger in sub-Saharan Africa. In recent years, USAID's food aid funding for emergencies has increased substantially, while its funding for development has not changed significantly. While emergency food aid has been crucial in helping to alleviate the growing number of emergency food crises, it does not address the underlying factors that contributed to the recurrence and severity of these crises. USAID's efforts since 2003 to shift its focus from emergency food aid to long-term agricultural development have not been successful. The United States' Presidential Initiative to End Hunger in Africa (IEHA)—

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<sup>8</sup>FAO's estimates on undernourishment are the only global-level estimates currently available.

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the principal U.S. strategy to meet its commitment toward halving hunger in sub-Saharan Africa—is limited to only some of the agricultural development activities of USAID. Other U.S. agencies, such as MCC and USDA, provide substantial assistance that includes efforts intended to address agriculture and food security in sub-Saharan Africa, but these efforts are not integrated into IEHA. Given this fragmented approach to food security, the U.S. government is likely missing opportunities to leverage each agency’s expertise and to minimize duplication.

In this report, we recommend that the Administrator of USAID (1) work in collaboration with the Secretaries of State, Agriculture, and the Treasury to develop an integrated governmentwide U.S. strategy that defines each agency’s actions and resource commitments toward achieving food security in sub-Saharan Africa, including improving collaboration with host governments and other donors and developing improved measures to monitor and evaluate progress toward the implementation of this strategy, and (2) report on progress toward the implementation of this recommendation as part of the annual *U.S. International Food Assistance Report*<sup>9</sup> submitted to Congress.

USAID, USDA, and State provided written comments on a draft of our report. We have reprinted these agencies’ comments in appendixes VII, VIII, and IX, respectively, along with our responses to specific points. In addition to these agencies, several other entities—including MCC, Treasury, FAO, IFAD, the International Food Policy Research Institute (IFPRI), the United Nations Development Program (UNDP), and WFP—provided technical comments on a draft of our report, which we have incorporated as appropriate.

USAID concurred with our first recommendation—noting that the responsibility for halving hunger by 2015 lies with the respective countries, while mentioning activities that the United States, through efforts such as IEHA, and the international community are undertaking to address the issue of food insecurity. However, USAID expressed concern with our conclusion that the shift in its focus from emergency food aid to long-term agricultural development has not been successful. We recognize the

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<sup>9</sup>Pub. L. No. 480, section 407(f), states that “the President shall prepare an annual report concerning the programs and activities implemented under this law for the preceding fiscal year.” The *U.S. International Food Assistance Report*, which USAID prepares and submits to Congress annually, provides a report on USAID and USDA international food assistance programs that are aimed at reducing food insecurity.

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challenges of addressing an increasing number of emergencies within tight resource constraints. However, addressing emergencies does not break the cycle of low agricultural productivity, high poverty, and food insecurity that has persisted in many sub-Saharan African countries. Regarding our second recommendation, USAID asserted that the *International Food Assistance Report* (IFAR) is not the appropriate vehicle for reporting on the progress of the implementation of our first recommendation. USAID suggested that a report such as the annual progress report on IEHA (which is not congressionally required) would be more appropriate. We disagree. We believe that the congressionally required annual IFAR, in fact, would be an appropriate vehicle for reporting on USAID's and other U.S. agencies' implementation of our first recommendation. Public Law 480, section 407(f) (codified at 7 U.S.C. 1736a(f)) requires that the President prepare an annual report that "shall include. . .an assessment of the progress toward achieving food security in each country receiving food assistance from the United States Government." This report is intended to contain a discussion of food security efforts by U.S. agencies.

In addition, USDA stated that our report was timely and provided useful information and recommendations. Noting its participation in an interagency food aid policy coordinating process, USDA reaffirmed its commitment to using its full range of authorities and programs to address the need for and improve the effectiveness of global food assistance and development. State identified additional issues for consideration, which we have addressed as appropriate. Specifically, State disagreed with our statement that U.S. agencies had made no significant effort to coordinate their food security programs, citing its ongoing coordination with USAID and USDA on food security issues. For example, State indicated that several of its bureaus work closely with USAID and USDA to coordinate food security issues. However, it is our understanding that to date, these efforts have been focused primarily on food aid, as opposed to food security, and there is no comprehensive U.S. governmentwide strategy for addressing food insecurity in sub-Saharan Africa. Treasury generally concurred with our findings and provided additional comments for consideration, which we have addressed in this report as appropriate.

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## Background

### Definition and Elements of Food Security

**Definition:** When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.

#### Elements:

Food availability—achieved when sufficient quantities of food (supplied through household production, other domestic output, commercial imports, or food assistance) are consistently available to all individuals within a country.

Food access—ensured when households and all individuals within them have adequate resources to obtain appropriate foods for a nutritious diet.

Food utilization—attained with the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation.

Source: Food and Agriculture Organization.

Food insecurity—the lack of access of all people at all times to sufficient, nutritionally adequate, and safe food, without undue risk of losing such access—results in hunger and malnutrition, according to FAO. FAO estimates that 90 percent of the hungry suffer from chronic malnutrition. About 80 percent of the hungry worldwide live in rural areas—about half of them are smallholder peasants; 22 percent are landless laborers; and 8 percent live by using natural resources, such as pastoralists.<sup>10</sup> Inadequate food and nutrition have profound impacts. Undernourished children have a smaller chance of survival and suffer lasting damage to their mental and physical development. In addition, work productivity is often impaired among undernourished adults. Food aid has helped to address the immediate nutritional requirements of some vulnerable people in the short term, but food aid has not addressed the underlying causes of persistent food insecurity.

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<sup>10</sup>The term “pastoralists” refers to nomadic communities—including an estimated 15 to 20 million people in East Africa—who depend on raising and herding livestock for a living and who move with rainy and dry seasons in search of water and grazing land. In some instances, nomadic families become agropastoralists, with some family members raising agricultural crops to meet a portion of their household food needs and others moving with their herds of livestock in search of water and grazing land.

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## World Leaders Have Established Goals to Halve World Hunger by 2015

World leaders have agreed upon two different goals to halve world hunger by 2015: the first, established at the 1996 WFS in Rome, is to halve the *total number* of undernourished people worldwide; while the second, the first of eight UN MDGs set in 2000, also referred to as MDG-1, aims to eradicate extreme poverty and hunger by halving the *proportion* of undernourished people from the 1990 level by 2015.<sup>11</sup> Both of these goals apply not only globally but also at the country and regional levels. Although both the WFS and MDG targets to cut hunger are based on FAO's estimates of the number of undernourished people, because the MDG target is defined as the ratio of the number of undernourished people to the total population, it may appear that progress is being made when population increases even though there may have been no reduction in the number of undernourished people, according to FAO. Figure 1 is a timeline of some of the key events related to food security and the WFS and MDG targets.

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<sup>11</sup>MDG-1 has two targets: first, between 1990 and 2015, to halve the proportion of people whose income is less than \$1 a day; and second, between 1990 and 2015, to halve the proportion of people who suffer from hunger. The second target is measured by two progress indicators: (1) the prevalence of underweight children under 5 years of age on the basis of United Nations Children's Fund and World Health Organization data and (2) the proportion of the population below the minimum level of dietary energy consumption. In this report, we focus on the latter indicator, which is based on FAO's WFS goal estimates.



**Figure 1: Selected Events Related to Achieving Food Security and to the WFS and MDG Targets, 1996 to 2015**

1996	<ul style="list-style-type: none"> <li>At the World Food Summit (WFS), the United States and 185 other countries set a target to halve the number of undernourished people in the world by 2015.</li> </ul>	
1997	<ul style="list-style-type: none"> <li>The President of the United States announced the Partnership for Economic Growth and Opportunity in Africa to expand U.S.-African trade and investment and to assist African leaders in making needed economic reforms.</li> </ul>	
1998	<ul style="list-style-type: none"> <li>The U.S. Congress passed the Africa Seeds of Hope Act authorizing the Africa Food Security Initiative to provide agricultural assistance to 5 target countries.</li> </ul>	
1999	<ul style="list-style-type: none"> <li>The Food and Agriculture Organization published the first <i>State of Food Insecurity in the World</i> report.</li> </ul>	
2000	<ul style="list-style-type: none"> <li>The U.S. Congress passed the African Growth and Opportunity Act to promote stable and sustainable economic growth and development in sub-Saharan Africa.</li> <li>The United Nations (UN) established the Millennium Development Goals (MDG). MDG-1 set a target to halve the proportion of undernourished people in the world by 2015.</li> </ul>	
2001	<ul style="list-style-type: none"> <li>The African Union established the New Partnership for Africa's Development (NEPAD), a strategic policy framework for the revival and development of Africa.</li> </ul>	
2002	<ul style="list-style-type: none"> <li>Approximately 15.3 million people in 6 countries in southern Africa experienced severe food shortages and the threat of famine.</li> <li>The United States launched the Presidential Initiative to End Hunger in Africa (IEHA).</li> </ul>	
2003	<ul style="list-style-type: none"> <li>The African Union endorsed the implementation of NEPAD's Comprehensive Africa Agriculture Development Program (CAADP), a framework to guide countries' agricultural development efforts, and agreed to allocate 10 percent of national budgetary resources to agriculture by 2008.</li> </ul>	
2004	<ul style="list-style-type: none"> <li>The United States established the Millennium Challenge Corporation to reduce poverty by supporting sustainable economic growth in partnership with developing countries.</li> <li>The UN established the first of 12 Millennium Villages in Sauri, Kenya, as part of the UN Millennium Project.</li> </ul>	
2005	<ul style="list-style-type: none"> <li>The U.S. Agency for International Development committed to provide an estimated \$200 million per year for 5 years through IEHA to support CAADP.</li> <li>Leaders of government ministries responsible for development and heads of multilateral and bilateral donors agreed upon the <i>Paris Declaration on Aid Effectiveness</i> to reform the delivery and management of donor assistance in preparation for the 5-year review of MDGs.</li> </ul>	
2006	<ul style="list-style-type: none"> <li>The Alliance for a Green Revolution in Africa was launched, chaired by the former Secretary-General of the United Nations, Kofi Annan, as an African-led partnership to help millions of small-scale farmers and their families lift themselves out of poverty and hunger.</li> <li>The African Union called for an increase in fertilizer use from 8 to 50 kilograms per hectare by 2015 and an increase in intra-African trade and other appropriate strategies to address food security in the <i>Abuja Declaration</i>.</li> </ul>	
2007	<ul style="list-style-type: none"> <li>The UN Secretary-General established the UN MDG Africa Steering Group.</li> </ul>	
2008	<ul style="list-style-type: none"> <li>The World Bank <i>2008 World Development Report</i> featured agriculture.</li> <li>The World Economic Forum predicted food security to be among the top threats to global economy in 2008 and for decades to come.</li> <li>The World Bank announced its <i>New Deal for Global Food Policy</i> to focus on hunger, malnutrition, access to food, and interconnections with climate change, investment, and other issues.</li> </ul>	
2015	<ul style="list-style-type: none"> <li>Target year to achieve both the WFS and MDG targets to halve hunger.</li> </ul>	

Source: GAO.

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To reach the goal set at the 1996 WFS, world leaders approved a Plan of Action,<sup>12</sup> the focus of which is to assist developing countries in becoming more self-reliant in meeting their food needs by promoting broad-based economic, political, and social reforms at the local, national, regional, and international levels. The WFS participants endorsed various actions but did not enter into any binding commitments. They agreed to review and revise their national plans, programs, and strategies, where appropriate, to achieve food security that is consistent with the WFS Plan of Action. Participants also agreed to submit periodic reports to FAO's Committee on World Food Security (CFS) on the implementation of the Plan of Action to track progress on food security.

To monitor progress toward the target of halving the number of undernourished people worldwide, FAO periodically updates its estimates of the undernourished population at the global level as well as at the country level. FAO publishes these estimates in its annual report on *The State of Food Insecurity in the World* (SOFI), which was first issued in 1999. The same estimates are used by the UN to track progress toward the MDG hunger goal.

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### Sub-Saharan Africa Has Made Little or No Progress in Achieving WFS and MDG Goals

As shown in figure 2, food insecurity in sub-Saharan Africa is severe and widespread. According to FAO's estimates, one out of every four undernourished people in the developing countries lives in sub-Saharan Africa. This region also has the highest prevalence of food insecurity, with one out of every three people considered undernourished. In April 2008, FAO reported that 21 countries in sub-Saharan Africa, out of 37 countries worldwide, were critically food-insecure and required external assistance.

Sub-Saharan Africa has not made much progress toward the WFS and MDG hunger goals to halve, respectively, the total number of and the proportion (or the percentage) of undernourished people by 2015. Between the periods of 1990 to 1992 and 2001 to 2003, the number of undernourished people in the region increased from 169 million to 206 million,<sup>13</sup> and decreased in only 15 of the 39 countries for which data were

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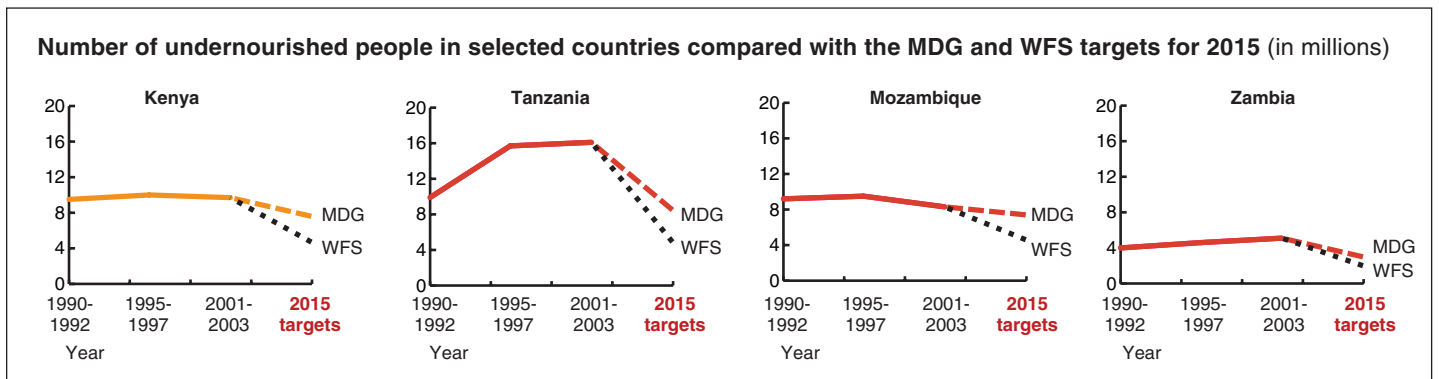
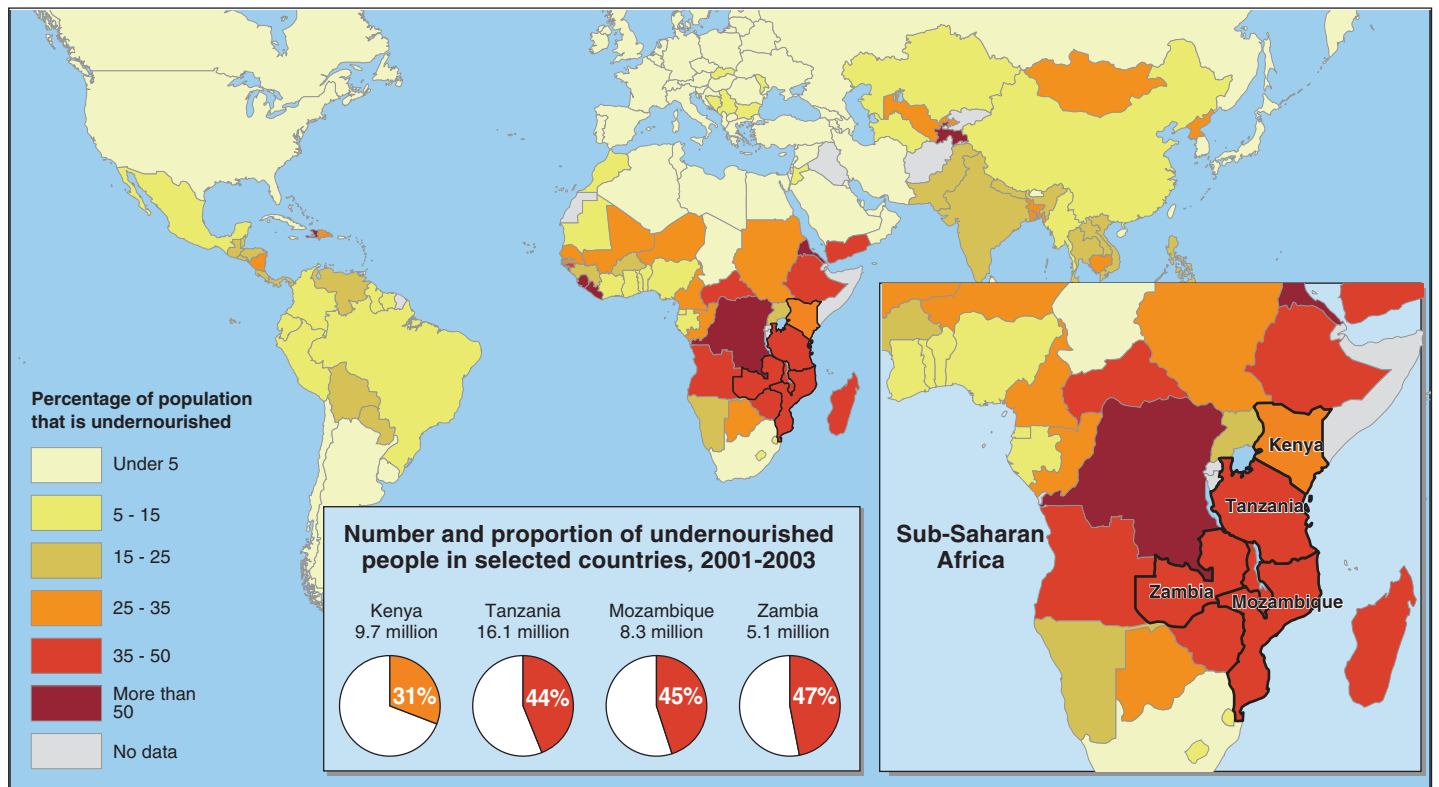
<sup>12</sup>FAO, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, World Food Summit (Rome: Nov. 13-17, 1996).

<sup>13</sup>Instability caused by conflict is one of the major contributors to the increase in the undernourished population in sub-Saharan Africa. According to FAO, the increase in undernourished people since 1990 was mainly driven by five war-torn countries (Burundi, Democratic Republic of Congo, Eritrea, Liberia, and Sierra Leone).

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reported. The prevalence of hunger, or the proportion of undernourished people in the population, has declined slightly, from 35 percent in 1990 to 1992 to 32 percent in 2001 to 2003—but this change is due to population growth. According to FAO’s projections, the prevalence of hunger in sub-Saharan Africa will decline by 2015, but the number of hungry people will not fall below the 1990 to 1992 levels. By 2015, FAO estimates that sub-Saharan Africa will have 30 percent of the undernourished population in developing countries, compared with 20 percent in 1990 to 1992. These data suggest that sub-Saharan Africa needs to substantially accelerate progress if it is to meet the WFS and MDG targets by 2015. Figure 2 shows the prevalence of undernourishment around the world and also shows, for each of the four selected countries in East Africa and southern Africa that we focused on in our review, the progress needed to reduce the number of undernourished people to meet the WFS and MDG targets by 2015.

**Figure 2: Prevalence of Undernourishment in the World (as of 2001-2003), and Progress Needed to Halve Hunger in Four Selected Sub-Saharan African Countries by 2015**



Sources: GAO analysis of Food and Agriculture Organization data; Map Resources (map).

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## Multiple Development Partners Implement Programs to Advance Agriculture and Food Security in Sub-Saharan Africa

The principal development partners that implement programs to advance agriculture and food security in sub-Saharan Africa are as follows:

- *Regional organizations and host governments:* At the regional level, the primary vehicle for addressing agricultural development in sub-Saharan Africa is the New Partnership for Africa's Development (NEPAD)<sup>14</sup> and its Comprehensive Africa Agriculture Development Program (CAADP).<sup>15</sup> The African Union (AU) established NEPAD in July 2001 as a strategic policy framework for the revitalization and development of Africa. In 2003, AU members endorsed the implementation of CAADP, a framework that is aimed to guide agricultural development efforts in African countries, and agreed to allocate 10 percent of government spending to agriculture by 2008. Subsequently, member states established a regionally supported, country-driven CAADP roundtable process, which defines the programs and policies that require increased investment and support by host governments; multilateral organizations, including international financial institutions; bilateral donors; and private foundations. According to USAID officials, the CAADP roundtable process is designed to increase productivity and market access for large numbers of smallholders and promote broad-based economic growth. At the country level, host governments are expected to lead the development of a strategy for the agricultural sector, the coordination of donor assistance, and the implementation of projects and programs, as appropriate.
- *Multilateral organizations:* Several multilateral organizations and international financial institutions implement programs that contribute to agricultural development and food security—providing about half of the donor assistance to African agriculture in 2006. These entities include the following Rome-based UN food and agriculture agencies: FAO, whose stated mandate is to achieve food security for all and lead international efforts to defeat hunger;<sup>16</sup> WFP, which is the food aid arm of the UN;<sup>17</sup> and

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<sup>14</sup>The New Partnership for Africa's Development, formerly known as the New African Initiative, was established by the AU in July 2001.

<sup>15</sup>According to officials from USAID's East Africa Mission, support to CAADP is coordinated by a partnership platform, a group of senior representatives of multilateral and bilateral donors.

<sup>16</sup>FAO was one of the first international organizations established at the end of World War II in recognition of the importance of ensuring food for all as a precondition to security and peace. Among its varied functions, FAO also sets international standards and provides technical assistance to developing countries.

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IFAD, which finances (through loans and grants) efforts in developing countries to reduce rural poverty, primarily through increased agricultural productivity, with an emphasis on food production. IFAD and other international financial institutions, such as the World Bank and the African Development Bank, play a large role in providing funding support for agriculture. For example, the World Bank also provides Secretariat support for the Consultative Group on International Agricultural Research (CGIAR), a partnership of countries, international and regional organizations, and private foundations supporting the work of 15 international agricultural research centers, whose work has played an important role in improving agricultural productivity and reducing hunger in the developing countries. Together, the World Bank, IFAD, and the African Development Bank account for about 73 percent of multilateral ODA to agriculture for Africa from 1974 to 2006. In addition, the New York-based UNDP is responsible for supporting the implementation of the MDG targets and houses the UN MDG Support Team.

- *Bilateral donors, including the United States:* The major bilateral donors have focused on issues of importance to Africa at every Group of Eight (G8) summit since the late 1990s.<sup>18</sup> In 2005, these donors reiterated their commitment to focus on Africa as the only continent not on track to meet the MDG targets by 2015 and further committed themselves to supporting a comprehensive set of actions to raise agricultural productivity, strengthen urban-rural linkages, and empower the poor, based on national initiatives and in cooperation with NEPAD, CAADP, and other African initiatives. At that time, the commitments of the G8 and other donors were expected to lead to an increase in ODA to Africa of \$25 billion a year by 2010, more than twice the amount provided in 2004.<sup>19</sup> (See app. V for a

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<sup>17</sup>Although the majority of WFP's funding goes toward relief food aid to address emergencies, a small proportion of its funding is geared toward development projects, such as community-based food-for-work and food-for-assets programs, to help communities build or rebuild food security and enhance their resilience to shocks. Funding for WFP's nonemergency development projects worldwide has gradually declined over the last 15 years, from about 30 percent of WFP's operational budget in the early 1990s to about 10 percent in recent years. Some of WFP's work in the agriculture and infrastructure development sectors contribute to long-term food security.

<sup>18</sup>Members of the G8 are Canada, the European Commission, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States.

<sup>19</sup>To meet its commitment to double aid to sub-Saharan Africa between 2004 and 2010, the United States launched MCC, with the aim of providing up to \$5 billion a year; the \$15 billion President's Emergency Plan for AIDS Relief; an initiative to address humanitarian emergencies in Africa that cost more than \$2 billion in 2005; and a new \$1.2 billion malaria initiative.

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summary discussion of the role of other development partners, such as NGOs and private foundations.)

In the wake of the 1996 WFS, the United States adopted a number of development initiatives for Africa. These initiatives—including the Africa Food Security Initiative in 1998, the Africa Seeds of Hope Act in 1998, and the African Growth and Opportunity Act of 2000—reflect U.S. efforts to improve the deteriorating food security situation in sub-Saharan Africa. The consistent U.S. positions at the summit were that the primary responsibility for reducing food insecurity rests with the host governments, and that it is critical that all countries promote self-reliance and facilitate food security at all levels. (See app. II for a summary of U.S. participation in the 1996 summit.)

In 2002, the United States launched IEHA, which represents the U.S. strategy to help fulfill the MDG of halving hunger in Africa by 2015. In 2005, USAID, the primary agency that implements IEHA, committed to providing an estimated \$200 million per year for 5 years through the initiative, using existing funds from Title II of Public Law 480<sup>20</sup> food for development and assorted USAID Development Assistance and other accounts. IEHA is intended to build an African-led partnership to cut hunger and poverty by investing in efforts to promote agricultural growth that is market-oriented and focused on small-scale farmers. IEHA is currently implemented in three regional missions in Africa as well as in eight bilateral missions: Kenya, Tanzania, and Uganda in East Africa; Malawi, Mozambique, and Zambia in southern Africa; and Ghana and Mali in West Africa.<sup>21</sup>

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<sup>20</sup>Title II of Pub. L. No. 480 (the Agricultural Trade Development and Assistance Act of 1954, as amended, 7 U.S.C. § 1701 et seq) is the largest U.S. food aid program, representing approximately 74 percent of total in-kind food aid allocations from fiscal years 2002 through 2006. This program is managed by USAID.

<sup>21</sup>In addition, Nigeria and South Africa receive biotechnology funding through IEHA but do not have a comprehensive IEHA agenda.

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**Food Insecurity  
Persists in Sub-  
Saharan Africa Due to  
Several Factors,  
Including Low  
Agricultural  
Productivity**

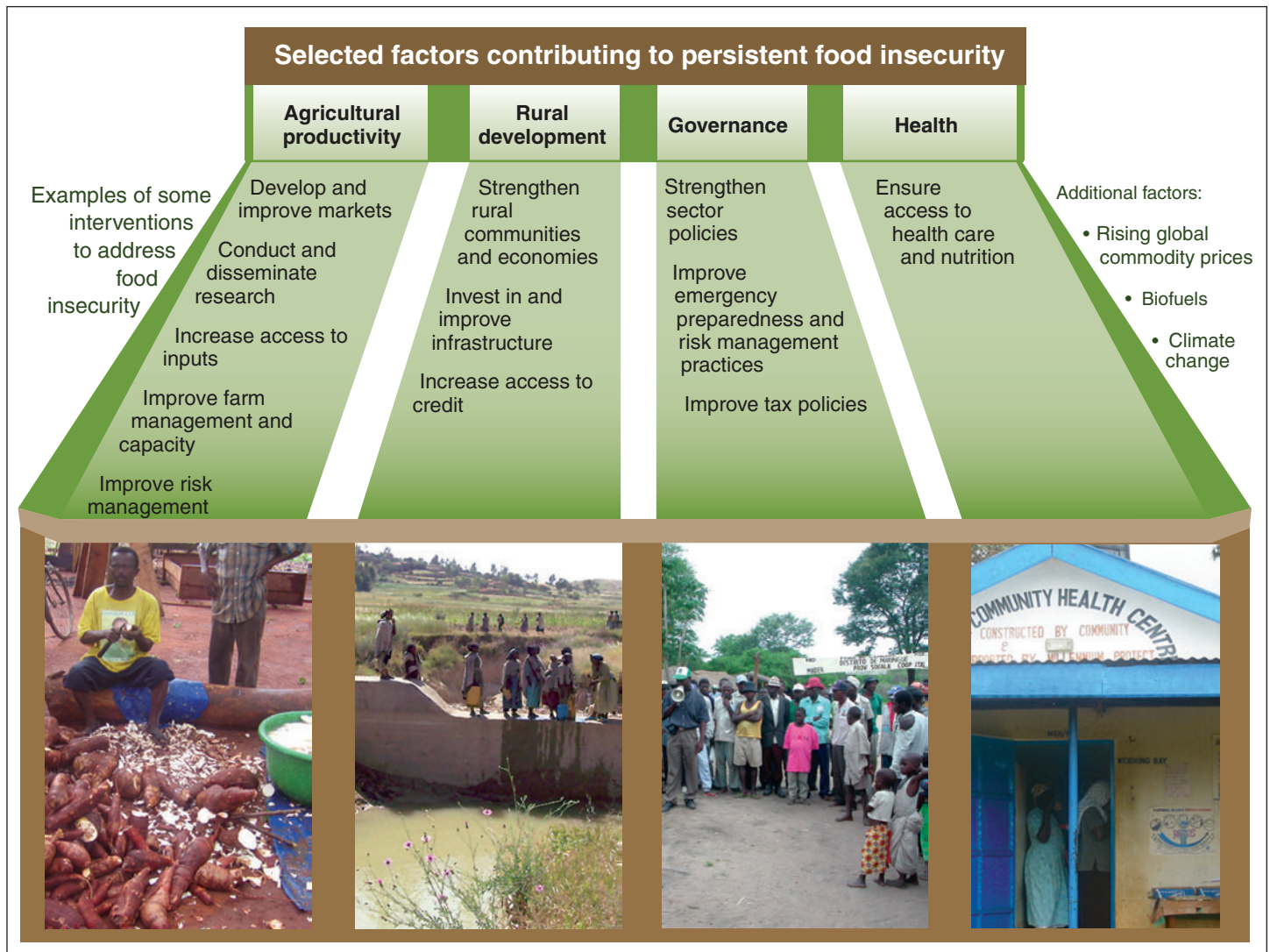
Low agricultural productivity, limited rural development, government policy disincentives, and poor health are among the main factors contributing to persistent food insecurity in sub-Saharan Africa.<sup>22</sup> Additional factors, including rising global commodity prices and climate change, will likely further exacerbate food insecurity in the region (see fig. 3).

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<sup>22</sup>Although trade reform was beyond the scope of our review, we recognize that it is an important factor to both food security and the goal of halving hunger. However, its relative importance to sub-Saharan Africa is considerably lower.



**Figure 3: Selected Factors Contributing to Persistent Food Insecurity in Sub-Saharan Africa**



Source: GAO analysis of literature review and structured discussions.

(For further discussions of factors and interventions affecting food security, including a framework for addressing food security issues, see table 2 in app. III. Additional examples of the interventions, as well as the summary results of our structured panel discussions with donors and NGOs during fieldwork, are discussed in app. IV.)

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## Low Agricultural Productivity

### Agricultural Productivity

Use of a treadle pump improves a Zambian farmer's access to water



Source: GAO.

Markets are not developed in many countries in East Africa and southern Africa



Source: GAO.

One of the most important factors that contribute to food insecurity in sub-Saharan Africa is its low agricultural productivity. Raising agricultural productivity is vital to all elements of food security: food availability, food access, and food utilization. Although imports can be used to supplement domestic agricultural production in some countries, importing staple foods may not be practical because some main staples, such as cassava,<sup>23</sup> are generally not traded in the international market. In addition, poor infrastructure in many African countries makes it extremely costly to transport imported foods to remote areas. Furthermore, because the income of the majority of people in developing countries depends directly or indirectly on agriculture, growth in this sector would have widespread poverty-reducing benefits and improve food access for the poor. The World Bank pointed out in its *2008 World Development Report*<sup>24</sup> that agriculture's ability to generate income for the poor, particularly for women, is more important for food security than its ability to increase local food supplies. According to FAO, poverty is a main immediate cause of food insecurity in sub-Saharan Africa. Agriculture can also help enhance diet quality and diversity through new and improved crop varieties, thereby improving food utilization and nutritional status.

Sub-Saharan Africa has lagged behind other developing countries in improving agricultural productivity. Since the early 1960s, grain yield<sup>25</sup> in the rest of the world has increased almost 2.5 percent annually (see fig. 4). In contrast, grain yield in sub-Saharan Africa has stagnated, with an annual increase of only approximately 1 percent. As a result, yield of basic food staples in sub-Saharan Africa, such as maize, is much lower than that of other countries. For example, Zambia produces about 1,800 kilograms of maize on a hectare of land, while China produces almost 3 times as much on the same amount of land. Overall, the gap between the average grain yield in sub-Saharan Africa compared with the rest of the world's developing countries has widened over the years. By 2006, the average grain yield in sub-Saharan Africa was only about 40 percent of the rest of

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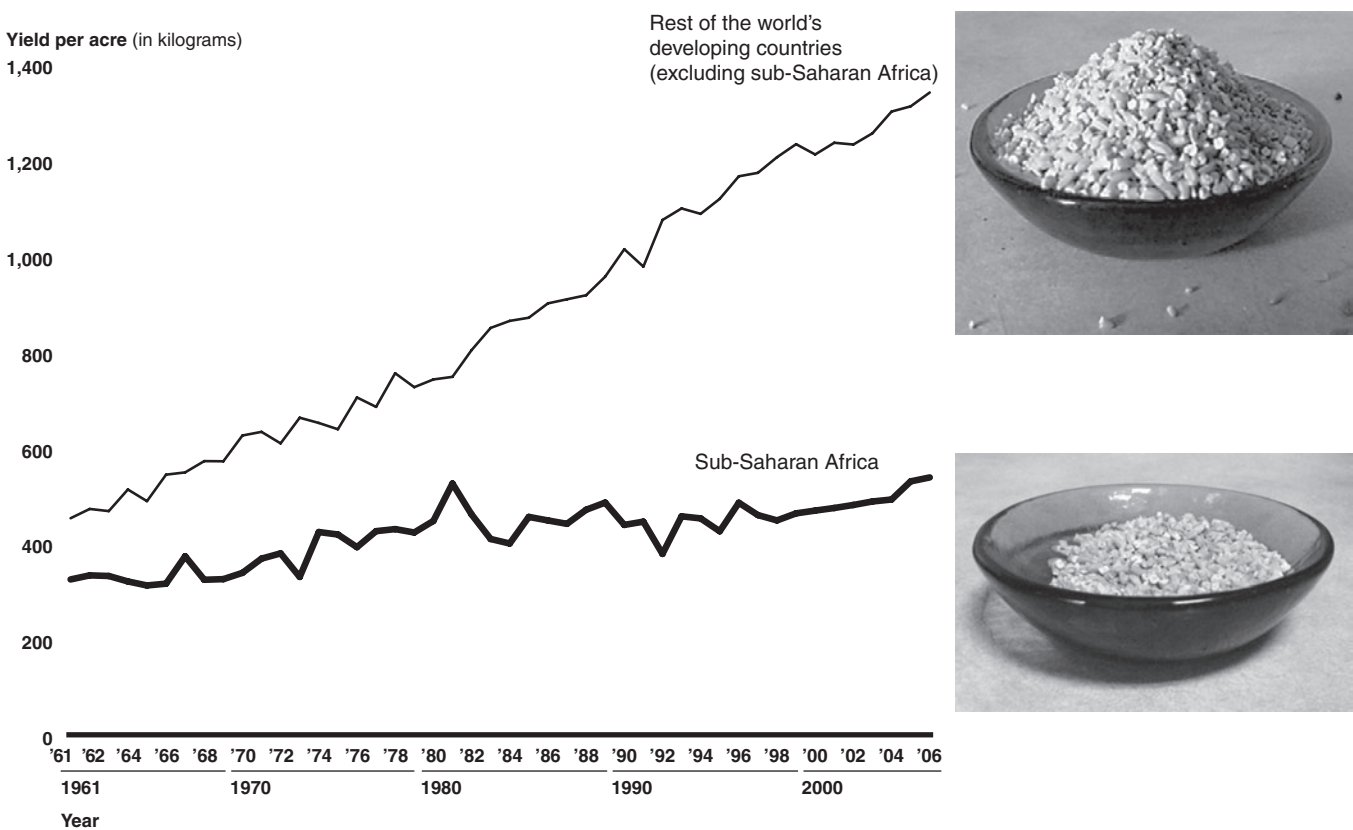
<sup>23</sup>Cassava plants provide an essential part of the diet of more than half a billion people. Cassava roots are high in calories, and their leaves are a source of protein and vitamins A and B. Cassava plants grow in poor soils with minimum amounts of fertilizer, pesticides, and water. Because cassava roots can be harvested from 8 months to 24 months after planting, they are an important safeguard against unexpected food shortages.

<sup>24</sup>World Bank, *World Development Report 2008: Agriculture for Development* (Washington, D.C.: 2007).

<sup>25</sup>Grain yield, which is measured by kilograms of cereal production per acre, is a commonly used measure for agricultural productivity.

the world's developing countries. Research has also shown that the expansion of food production has taken a very different course in Asia than in sub-Saharan Africa, where increases in food staples were achieved largely by expanding the area cultivated, not by increasing the yield on existing acreage.

**Figure 4: Grain Yield Growth in Sub-Saharan Africa Compared With the Rest of the World's Developing Countries, 1961 to 2006**



Sources: GAO analysis of Food and Agriculture Organization data; GAO (photos).

Low agricultural productivity growth in sub-Saharan Africa is partially due to inadequate investment and the limited use of modern inputs and farming practice. Panelists in all four countries we visited reported difficulty in accessing critical inputs, such as land, seed, fertilizer, and water, due to their high costs and limited availability. The panelists also noted that farm management practices were weak in all four countries. FAO data show that the investment per hectare of land in sub-Saharan Africa is about one third of the world's average. Less than 1 percent of the agricultural land in sub-Saharan Africa is irrigated, thereby making

agricultural production prone to natural disasters, such as droughts. Sub-Saharan Africa uses far less inputs, such as fertilizer and pesticide, than other parts of the world. For example, its pesticide use is only about 5 percent of the world's average, which was 0.39 kilograms per hectare in 1998 to 2000 (see table 1). The World Bank reports that while scientific plant breeding has improved agricultural production throughout much of the world, sub-Saharan Africa lags behind in adoption of these new varieties. For example, while at least 80 percent of the crop area in Asia was planted with improved varieties of rice, maize, sorghum, and potatoes, only about 20 percent to 40 percent of the crop area in sub-Saharan Africa used new varieties in these categories. According to several USAID officials, agricultural productivity has also lagged in sub-Saharan Africa, in part because innovations in science and technologies, such as improved seed and soil fertility systems, have not been transferred and adapted to each country's unique agro-ecosystem.

**Table 1: Sub-Saharan African Farmers' Use of Agricultural Inputs Compared with Other Farmers Worldwide, 1998 to 2000**

Category	Unit	Sub-Saharan Africa	Worldwide
Number of live animals per hectare of agricultural land	Livestock units per hectare	0.18	0.33
Fertilizer consumption per hectare of agricultural land	Kilograms per hectare	1.4	27.6
Pesticide consumption per hectare of agricultural land	Kilograms per hectare	0.02	0.39
Share of irrigated land in total agricultural land	Percentage	0.6%	5.4%
Number of tractors used per hectare of arable land	Number per 1,000 hectare	1.1	19.1
Investment per hectare of agricultural land	U.S. dollars per hectare	\$247	\$788

Source: GAO analysis of Food and Agriculture Organization data.

## Limited Rural Development

### Rural Development

Opportunities to increase nonfarm income include beekeeping training in Kenya



Source: GAO.

Weak infrastructure, such as poor roads, impedes economic growth in East Africa and southern Africa



Source: GAO.

Limited rural development has also been a primary factor aggravating food insecurity in sub-Saharan Africa. The majority of the population, as well as the majority of the poor, lives in the rural areas of the region. Weak rural infrastructure and lack of rural investment, among other factors, limit the potential for agricultural development and opportunities for nonfarm income. Panels in all four countries we visited cited poor infrastructure and farmers' lack of access to microcredit<sup>26</sup> as challenges.

Rural development in sub-Saharan Africa has suffered from weak infrastructure, such as lack of rural telecommunications, electricity, and roads. Although the development community has recognized the importance of improving rural infrastructure for poverty reduction and agricultural growth, infrastructure in the region is generally in a frail condition. For example, IFPRI reported that progress in paved roads is almost nonexistent in sub-Saharan Africa, and the World Bank reported that less than half of the rural population in this region lives next to an all-season road. The lack of adequate rural roads increases distribution costs, adds to postharvest food spoilage, and inhibits the development of local and regional markets as well as access to those markets. Many rural households also do not have access to safe drinking water, electricity, modern communication services, or good transportation. For example, in Burkina Faso, Uganda, and Zambia, walking is the principal means of transportation for 87 percent of rural residents. IFPRI concluded that it is the poor households within the rural areas that have the least access to infrastructure.

Farmers' lack of access to credit also hinders rural development. The World Bank noted that almost all countries in Africa have a large unmet demand for agricultural credit and rural finance. With inadequate financing in the short term, farmers find it difficult to buy inputs and seeds. In the long term, they are unable to invest in land improvement, better technology, or irrigation development. The International Monetary Fund (IMF) noted that rural credit in sub-Saharan Africa is hampered by land tenure systems that prevent the use of land as collateral, the absence of physical collateral, the high risk associated with rain-fed agriculture and sharp commodity price fluctuations, and poor transport and communication facilities. Banks that specialize in agricultural lending have become insolvent in many sub-Saharan African countries, or have had to

<sup>26</sup>Microcredit involves giving small, low-interest start-up loans to poor entrepreneurs to assist them in developing small business enterprises.

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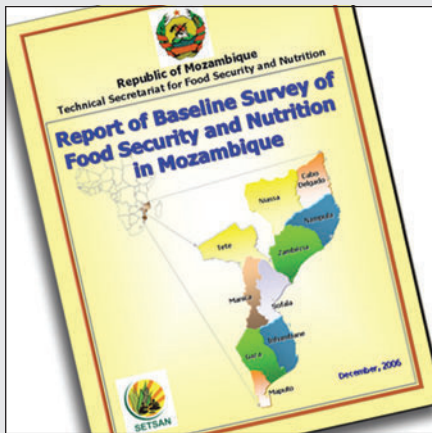
be rescued at large public cost, with many of these banks collapsing through the 1980s.

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## Government Policy Disincentives

### Governance

Mozambique took action to improve emergency preparedness and disaster management capacity to help deal with cycles of droughts and floods in the region



Source: Government of Mozambique.

Each of the panels we conducted in the four countries we visited cited weak governance or deficient agricultural policies as challenges, with one panelist noting that government policies can be a disincentive to agricultural growth. These policies can have a detrimental impact on the rural poor. While Asia has fostered growth in agriculture by providing credit to support prices and input subsidies to farmers, sub-Saharan African governments have taxed agriculture more than the governments of other regions. For example, according to the government of Tanzania's *2007/2008 Agricultural Sector Review*,<sup>27</sup> Tanzanian farmers must pay about 55 taxes, levies, and fees to sell their agricultural products, which is equivalent to 50 percent of the products' price. The World Bank noted that efforts by local governments to raise local revenue in Tanzania have occasionally added a significant tax burden to agriculture, with little benefit. A World Bank study found that of the 18 countries studied, the 3 with the highest tax rates on the agricultural sector were all in sub-Saharan Africa—Côte d'Ivoire (49 percent), Ghana (60 percent), and Zambia (46 percent).

While progress has been made over the past two decades by numerous developing countries in reducing these policy biases, many welfare- and trade-reducing price distortions remain. These policies continue to provide disincentives for agricultural development and investment. Other government policies, such as subsidies to agriculture, if used improperly, can also negatively affect agriculture and food security. For example, a World Bank report notes that the government of Zambia's policy of subsidizing smallholders' maize production has had a number of long-term effects, including a loss of farmers' skills and knowledge and increased dietary concentration on subsidized maize meal among Zambian people. We met with officials in Zambia who also expressed concern that Zambian maize subsidies led to overreliance on maize meal for nutrition and underreliance on other sources of food, such as vegetables.

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<sup>27</sup>United Republic of Tanzania, Ministry of Agriculture, Food Security and Cooperatives, *Agriculture Sector Review and Public Expenditure Review for 2007/2008*.

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## Poor Health

### Poor Health

HIV/AIDS, malaria, and other diseases affect population and agricultural productivity



Source: GAO.

Poor health also exacerbates food insecurity in sub-Saharan Africa, according to panels in the four countries we visited, through its adverse impact on the agricultural workforce. For example, HIV has taken a heavy toll on the population and agricultural production of sub-Saharan Africa, because two thirds of those in the world who have HIV live in that region. HIV is concentrated in the most economically productive groups, those aged 15 to 45 years, with slightly more women infected than men. UNDP noted that more than one quarter of Africans are directly affected by the HIV epidemic. HIV/acquired immunodeficiency syndrome (AIDS) has a profound impact on poverty by reducing adults' capability to work and raising mortality among young adults. In addition, malaria kills over 1 million people each year, according to the World Health Organization (WHO), mostly in Africa. The World Bank notes that there is a two-way relationship between malaria and agriculture. Specifically, on one hand, when farmers become ill or die from malaria, agricultural production decreases because of lost labor, knowledge, and assets. On the other hand, some methods that farmers use to increase agricultural production, such as increased irrigation, can increase the risk of malaria by increasing the population of mosquitoes. Furthermore, WHO estimates that there were 14.4 million cases of tuberculosis worldwide in 2006, and that Africa has the highest incidence of the disease—363 cases per 100,000 people. Tuberculosis spreads particularly rapidly in areas with high concentrations of livestock.

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## Rising Global Commodity Prices

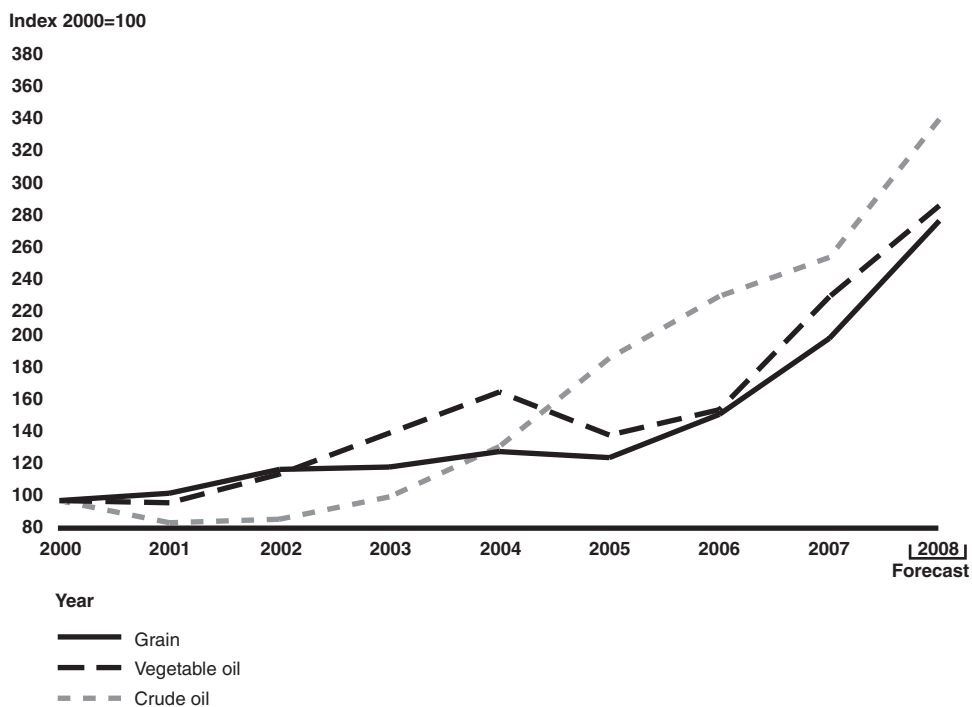
Global prices for fuel and agricultural commodities have been rising significantly due to various factors, further exacerbating food insecurity. From 2000 to 2008, oil prices are estimated to increase by 238 percent, grain prices by 175 percent, and vegetable oil prices by 184 percent (see fig. 5). The growing use of agricultural products, such as soybeans and corn, for biofuels has raised the price of these commodities and reduced the amount of land available for production of other food commodities.<sup>28</sup> (See app. VI for further discussion of biofuels and their impacts on food security.) Economic growth in large countries, such as China and India, has also raised demand for food—through both increased incomes and

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<sup>28</sup>Biofuels are combustible fuels produced from biomass. Current biofuel technology uses agricultural feed stocks, such as maize and sugar, to produce ethanol and rapeseed, and uses soybean and palm oil to produce biodiesel.

shifting dietary patterns.<sup>29</sup> Droughts in major grain-producing countries, such as Australia, and record-low grain reserves have further constrained world supplies and increased the prices of agricultural goods.

**Figure 5: Changes in Commodity Prices, 2000 to 2008**



Source: GAO analysis of International Monetary Fund World Economic Outlook Database (April 2008) data.

Note: Index numbers are used to compare changes in prices over time. An index-based comparison involves measuring the relative value of a price in a given time period (e.g., in 2004) compared with a price in another time period, which has been designated as the base (e.g., in 2000). The value of the base period is set at 100 and prices for other periods are expressed as percentages of the value of the base period. Therefore, if the index of 2004 is 140, prices in 2004 were 40 percent higher than prices in 2000.

Experts suggest that rising fuel and commodity prices are negatively impacting African food security efforts through several channels, as follows:

<sup>29</sup>Economic development has diversified diets away from starchy foods to meat and dairy products, with increased demand for feed grains. FAO reports that it takes about 7 to 8 kilos of grain to produce 1 kilo of beef.



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- Higher fuel prices increase the prices of fertilizer and other inputs for farmers and make harvesting, storage, and transportation of agricultural production more expensive. Higher fuel import costs also limit available foreign exchange for imports of food. USDA reports that official development assistance has fallen well short of rising energy import bills. Twenty-two countries—15 of which are in sub-Saharan Africa—depend on imported fuel, import grain, and report a prevalence of undernourishment exceeding 30 percent, according to FAO.
  - Higher agricultural prices hurt many of Africa's food-insecure, including low-income consumers who spend a large share of their income on grains and farmers who buy more food than they produce. Food-insecure populations are likely to be net buyers of food, and many sub-Saharan African countries are, in fact, net importers of food.<sup>30</sup> In February 2008, FAO announced that 21 African countries are in crisis as a result, in part, of higher food prices, while nutritional studies estimate that 16 million additional people would be affected by food insecurity for every 1 percent increase in staple food prices, with many of these people being in Africa. In the long term, while higher grain prices provide incentives to expand agricultural production, complementary policies and investments in technology and market development may be required.
  - Higher fuel and commodity prices increase delivery costs for emergency food aid programs to Africa's most food-insecure. For the largest U.S. emergency food aid program, USAID has reported that commodity costs increased by 41 percent and transportation costs increased by 26 percent in the first half of fiscal year 2008. As a result, USAID projects a \$265 million shortfall in this year's food aid budget. According to our estimates, that \$265 million could provide enough food aid to reach about 4.5 million vulnerable people in sub-Saharan Africa during a typical peak hungry season lasting 3 months. Similarly, in March 2008, WFP appealed to the

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<sup>30</sup>USDA, for example, ranked 70 low-income countries by grain import dependence and daily calorie consumption. Several agriculture-producing countries, including Eritrea and Zimbabwe, depend on grain imports for more than 40 percent of calories consumed.

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international community, including the United States, to compensate for the growing shortfall in its food aid budget.<sup>31</sup>

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## Climate Change

Climate change is also an important emerging challenge that is expected to worsen African food insecurity.<sup>32</sup> Key climate change models conclude that global warming has occurred and, since the mid-twentieth century, has been largely attributable to human activities, such as the burning of fossil fuels and deforestation.<sup>33</sup> Several models predict further global warming, changed precipitation patterns, and increased frequency and severity of damaging weather-related events for this century. IFPRI reports that sub-Saharan Africa may be hardest hit by climate change, with one estimate predicting that temperature increases for certain areas may double those of the global average. Since sub-Saharan African countries have a lower capacity to adapt to variable weather, models also predict that climate change will further reduce African agricultural yields and will increase the number of people at risk of hunger. Climate change affects agriculture in several ways: higher temperatures shorten the growing season and adversely affect grain formation; reduced precipitation levels limit the availability of water to grow rain-fed crops; variable climates shift production to marginal lands and intensify soil erosion; rising sea levels threaten coastal agricultural land; and climate extremes, such as floods and droughts, result in crop failure and livestock deaths. Accounting for these effects, numerous studies seek to estimate the impact of climate change on African agricultural yields. By 2060, for example, the United Nations Environment Program projects a 33 percent reduction in grain yield in sub-Saharan Africa, while FAO predicts that the number of

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<sup>31</sup>WFP's food aid budget shortfall increased from \$500 million in February 2008 to \$755 million as of April 2008. However, on May 23, 2008, WFP announced a \$500 million donation from Saudi Arabia, which effectively closed the shortfall when combined with \$460 million in donations from 31 other countries. WFP now estimates having an additional \$214 million for other urgent hunger needs. According to our earlier estimates, if WFP's shortfall had not been met, the agency would have been required to cut rations or reduce the number of beneficiaries, and may have had to reduce the amount of food aid it planned to deliver by as much as 35 percent.

<sup>32</sup>For the purposes of this report, climate change refers to any change in the climate over time, whether due to natural variability or as a result of human activity.

<sup>33</sup>For a discussion of models from the National Academy of Sciences and the Intergovernmental Panel on Climate Change, see GAO, *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades Are Potentially Significant*, [GAO-07-285](#) (Washington, D.C.: Mar. 16, 2007).

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Africans at risk of hunger will increase to 415 million.<sup>34</sup> (For further discussion of climate change, see app. VI, which also includes a compendium of the results of several studies that project adverse impacts from climate change on African agriculture.)

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## Efforts of Host Governments and Donors, Including the United States, Toward Halving Hunger in Sub-Saharan Africa by 2015 Have Been Insufficient

Despite their commitment to halve hunger in sub-Saharan Africa by 2015, efforts of host governments and donors, including the United States, to accelerate progress toward that goal have been insufficient. First, host governments have not prioritized food security as a development goal, and few have met their 2003 pledge to direct 10 percent of government spending to agriculture. Second, donors reduced the priority given to agriculture, and their efforts have been hampered by difficulties in coordination and deficiencies in estimates of undernourishment used to measure progress toward attaining the goals to halve hunger by 2015. Third, limited agricultural development resources, increased demand for emergency food aid, and a fragmented approach impair U.S. efforts to end hunger in sub-Saharan Africa.

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## Limited Prioritization, Low Agricultural Spending, and Weak Capacity of Government Institutions Hamper Host Government Efforts

Host government efforts in sub-Saharan Africa have been hampered by limited prioritization of food security in poverty reduction strategies and slow follow-through on CAADP goals, low agricultural spending levels, and weak capacity of government institutions to sustain food security interventions and to report on progress toward goals to halve hunger by 2015.

## Achieving Food Security Has Not Been Prioritized by Some Host Governments

Despite their commitment in the November 1996 *Rome Declaration on World Food Security and the World Food Summit Plan of Action* to achieve food security for all, some host governments have not prioritized food security in their strategies and use of resources. An FAO-commissioned review of the PRSP process found a lack of consistency among policies, strategies, and interventions for alleviating food insecurity and poverty. Developing countries prepare a PRSP every 3 to 5 years through a participatory process with civil society and donors. As

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<sup>34</sup>FAO is planning a high-level conference in June 2008 entitled "World Food Security: Challenges of Climate Change and Bioenergy on Food Security." For information on the conference, see the following Web site: <http://www.fao.org/foodclimate>.

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country-owned documents that establish development priorities and serve as the basis for assistance from the World Bank and other donors, PRSPs are to include a country poverty assessment and clearly present the priorities for macroeconomic, structural, and social policies. Of 10 African PRSPs reviewed in the FAO-commissioned review, only half included policies to address food insecurity and less than half included interventions to address food insecurity. Furthermore, several delegates who attended the 2004 Committee on World Food Security meeting expressed concern that food security and rural development issues were not adequately reflected in PRSPs of many countries. Similarly, our analysis of World Bank and IMF joint assessments of current PRSPs for eight countries in East Africa and southern Africa found that food security and agricultural development require greater prioritization in more than half of the strategies examined.<sup>35</sup>

Although African leaders pledged their commitment to prioritize agricultural development in the CAADP framework,<sup>36</sup> both the initial planning process and the actual implementation of the CAADP framework at the country level have been slow. According to a World Bank official, CAADP's initial planning process<sup>37</sup> did not begin until 2005, 2 years after the framework was developed, because it involved (1) forming stakeholder groups at the regional and continental levels and (2) establishing credibility within the development community. Thus, country-level implementation did not start until 2007. Regional entities representing 40 countries in East Africa, West Africa, and southern Africa have continued to encourage the implementation and acceleration of CAADP. However, by the end of 2008, only 13 of the 40 countries<sup>38</sup> are

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<sup>35</sup>We reviewed eight joint assessments of PRSPs for eight countries in East Africa and southern Africa, including Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia.

<sup>36</sup>In recognition of the lack of political and financial leadership for agricultural development by African governments, and the importance of agriculture to poverty reduction and food security, CAADP was designed to (1) guide country strategies and investment, (2) allow regional peer learning and review, and (3) facilitate greater alignment and harmonization of development efforts.

<sup>37</sup>The CAADP process requires (1) a country assessment of progress and performance toward CAADP targets and principles; (2) establishment of a country CAADP compact that includes needed actions and commitments by national governments, the private sector, the farming community, and development partners; and (3) a policy dialogue and arrangement to monitor commitments and progress.

<sup>38</sup>The 13 countries are Benin, Burkina Faso, Ghana, Kenya, Malawi, Mali, Niger, Nigeria, Rwanda, Senegal, Togo, Uganda, and Zambia.

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## Low Agriculture Spending Levels Remain a Significant Challenge

expected to have completed the initial planning process and organized a roundtable to formally adopt a CAADP compact. The remaining 27 countries are scheduled to complete the entire process by the summer of 2009. However, for those countries that will formally adopt a CAADP compact, it is unclear whether concrete results will follow. According to an IFPRI official, because CAADP is still in the early stages of implementation, it is difficult to demonstrate the impact of CAADP efforts to date.

Although African leaders in 2003 pledged to devote 10 percent of government spending on agriculture, according to an IFPRI study issued in 2008, most countries in Africa—with the exception of four countries: Ethiopia, Malawi, Mali, and Burkina Faso—had not reached this goal as of 2005. Of the four countries we reviewed—Kenya, Mozambique, Tanzania, and Zambia—none had met the goal as of 2005. Mozambique was close to reaching the goal, and government spending for agriculture in Zambia has shown an upward trend since 2002. However, as shown in figure 6, government spending for agriculture in Kenya and Tanzania from 2002 to 2005 was well below the CAADP goal.

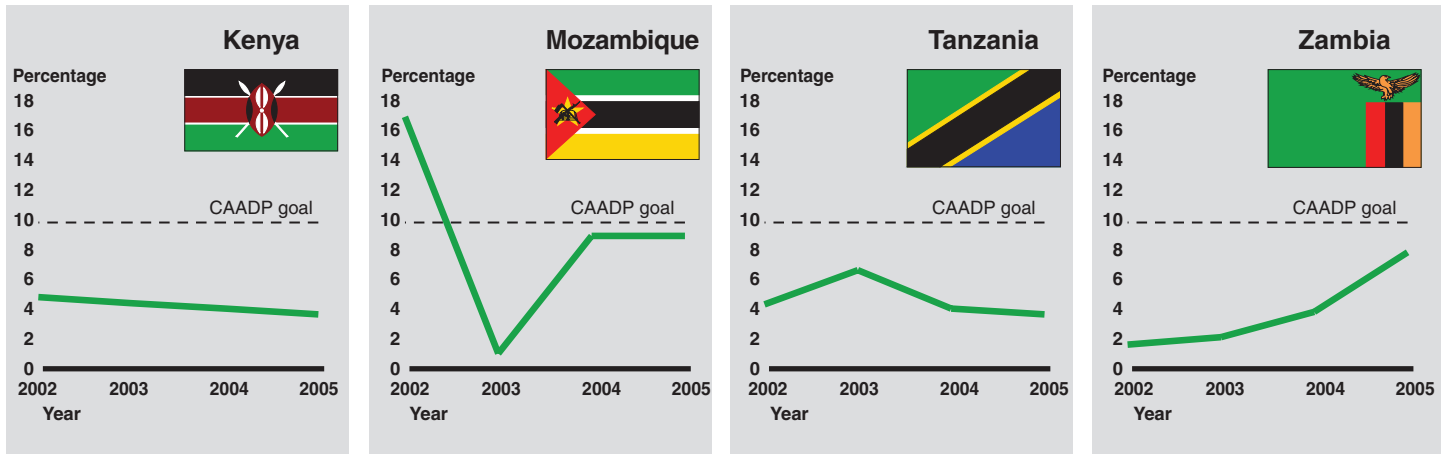
According to estimates by several research organizations, the total financial investment required for agricultural development and to halve hunger in sub-Saharan Africa by 2015 is significant, and experts conclude that the majority of African countries will need to substantially scale up spending for their agricultural sectors.<sup>39</sup> IFPRI estimated that annual investments of \$32 billion to \$39 billion per year would be required for agriculture in sub-Saharan Africa, more than 3 to 4 times the level in 2004. Specifically, Kenya's spending would need to increase by up to 12 times its 2004 levels; Mozambique spending would need to double; Tanzania would need to triple its 2004 spending levels; and Zambia would need to spend up to 9 times its 2004 total. (See fig. 6 for a comparison of actual 2004 agricultural sector spending and the annual agricultural sector spending required under different scenarios to halve hunger by 2015 in Kenya, Mozambique, Tanzania, and Zambia.)

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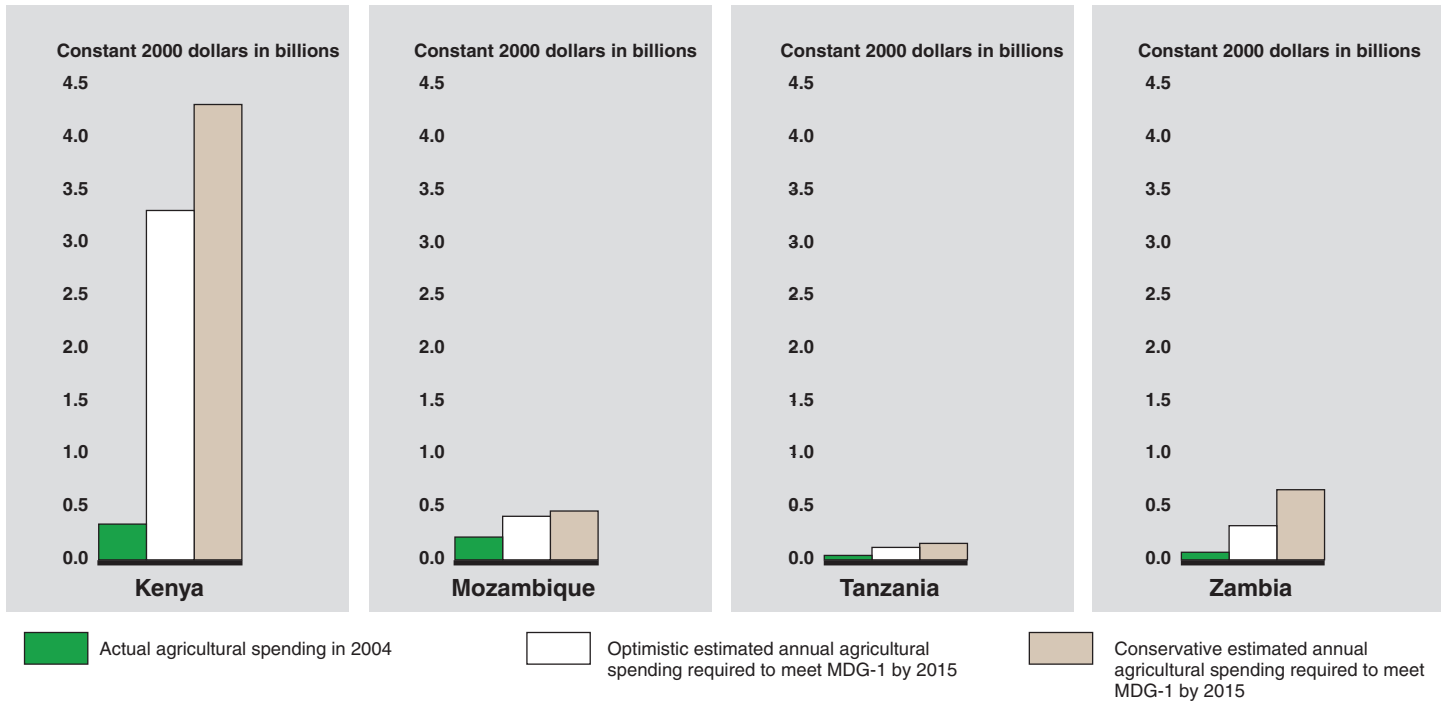
<sup>39</sup>For example, the World Bank estimated that \$54 to \$62 billion per year is needed worldwide to meet MDG-1. UNDP estimated that \$46 billion per year is required among Heavily Indebted Poor Countries (HIPC)—which is an initiative that was established in 1996 as a bilateral and multilateral effort to provide debt relief to poor countries to help them achieve economic growth and debt sustainability. HIPC currently identifies 41 countries, of which 32 countries are in sub-Saharan Africa, as potentially eligible to receive debt relief.

**Figure 6: Actual Annual Agricultural Sector Spending of Kenya, Mozambique, Tanzania, and Zambia Compared With CAADP Goal (2002 to 2005), and Annual Agricultural Sector Spending Required to Halve Hunger by 2015**

Actual annual agricultural spending (2002-2005) as a percentage of total government spending compared with CAADP goal



2004 agricultural spending compared with annual spending required to halve hunger by 2015



Sources: GAO analysis of International Food Policy Research Institute data; Nova Development (Art Explosion).

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## Weak Capacity of Host Government Institutions Hinders Long-term Sustainability of Interventions and Reporting on Progress

### Some Food Security Interventions Are Unsustainable Due to a Lack of Host Government Capacity

Host governments' institutional capacity affects whether they can eventually take over development activities at the conclusion of donor assistance, and some lack the capacity to sustain donor-assisted food security interventions over time. In a 2007 review of World Bank assistance to the agricultural sector in Africa, the World Bank Independent Evaluation Group reported that only 40 percent of the bank's agriculture-related projects in sub-Saharan Africa had been sustainable, compared with 53 percent for its projects in other sectors. For example, the World Bank found the expected sustainability of two agriculture projects in Tanzania to be unrealistic, given the government's limited capacity to generate the projected public sector resources. Similarly, IFAD maintains that sustainability remains one of the most challenging areas that require priority attention. An annual report, issued by IFAD's independent Office of Evaluation, on the results and impact of IFAD operations between 2002 and 2006 rated 45 percent of its agricultural development projects satisfactory for sustainability.<sup>40</sup>

Donors' exit strategies vary depending on host governments' capacity to continue their assistance activities. For some sub-Saharan African countries, the handover may be progressive—that is, a relevant government ministry gradually takes over the responsibilities of certain food security interventions in specific geographic regions as the government's capacity improves. For example, because the government of Lesotho currently lacks the capacity to run the WFP-funded school-feeding program throughout the country, WFP has targeted schools in remote, inaccessible mountainous areas and expects to hand over full responsibility to the government by 2010. Political instability can also impact the sustainability of food security, even when the handover is expected to be successful. For example, although the director of the UN Millennium Village in Sauri, Kenya, has been relying on effective coordination with several Kenyan government ministries to enable the

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<sup>40</sup>In 2006, 53 percent of the projects were rated satisfactory in sustainability.

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Weak Reporting on Progress  
Toward Hunger Goals

village to continue its operations after the UN's departure, recent postelection turmoil in the country has raised uncertainties about the project's long-term sustainability.<sup>41</sup>

All participating governments and international organizations agreed to submit a biannual national progress report to FAO's Committee on World Food Security on the implementation of the WFS Plan of Action. However, many governments have not submitted reports, and the quality of the reports that have been submitted has varied. Successful reporting requires a lengthy consultation process with government officials and other stakeholders to answer several questions about indicators of progress that cover 7 commitments and 27 objectives. To make the process easier, FAO revised its reporting requirements in 2004, but the reporting rate has remained low. In 2006, the last time that the reports were due, only 79 member states and organizations, such as the World Bank and WFP, had submitted progress reports on the WFS Plan of Action to FAO's Committee on World Food Security, according to FAO. Of these 79 member states and organizations, only 17 were from sub-Saharan Africa.<sup>42</sup>

FAO cited the limited capacity of government institutions as one of the main reasons for low reporting rates on progress toward hunger targets. According to FAO, government officials working within ministries of agriculture are responsible for reporting on their country's national food security action plan. However, some government ministries that are responsible for reporting lack the capacity to prepare a comprehensive report on all seven commitments because they do not have the support they require from other domestic institutions and agencies.

According to FAO, the poor quality and inconsistency of the national progress reports have not allowed FAO to draw general substantive conclusions. While most national progress reports provide information on policies, programs, and actions being taken to reduce undernourishment,

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<sup>41</sup>Despite adverse conditions during the postelection turmoil, according to a UN official, as of May 2008, the Millennium Villages in Kenya have been able to continue activities as planned due to community ownership and holistic development strategies that ensure the villages' long-term sustainability.

<sup>42</sup>In 2006, 132 countries were members of the Committee on World Food Security. The 17 sub-Saharan African countries that submitted progress reports in 2006 were Angola, Burkina Faso, Cameroon, Democratic Republic of Congo, Ghana, Guinea, Kenya, Mali, Mauritania, Mauritius, Namibia, Nigeria, Senegal, South Africa, Sudan, Tanzania, and Uganda.



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few of the reports provide information on the actual results of actions taken to reduce the number of undernourished people. In addition, the content of the reports varies. Specifically, some countries either (1) provide only selective information on certain aspects of food security that they consider most relevant, such as food stocks or reserve policies; (2) provide variable emphasis on past, ongoing, and future food security plans and programs; (3) focus on irrelevant issues; or (4) provide more description than analysis. Despite these concerns, providing feedback or critical assessments on the submitted reports is beyond the mandate and the staff capacity of the Committee on World Food Security Secretariat, according to FAO officials. As a result, the usefulness of the information submitted and the potential to improve the quality of reporting are limited. FAO officials acknowledged these limitations and the usefulness of the information submitted for monitoring and is investigating ways to improve the WFS monitoring process.

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## Declining Resources, Difficulties in Coordination, and Deficiencies in Undernourishment Estimates Limit Donor Efforts

### Multilateral and Bilateral Aid to African Agriculture Has Declined

For some sub-Saharan Africa countries, a large portion of food security assistance comes from multilateral and bilateral donors through ODA provided to the country's agriculture sector. However, the share of multilateral and bilateral ODA provided to agriculture for Africa has declined steadily since peaking in the 1980s. Specifically, ODA data show that the worldwide share of ODA to the agricultural sector for Africa has significantly declined, from about 15 percent in the early 1980s to about 4 percent in 2006.<sup>43</sup> According to a World Bank official, in the 1980s, the bank directed considerable funding toward agricultural development programs in sub-Saharan Africa that ultimately proved unsustainable. In the 1990s, the

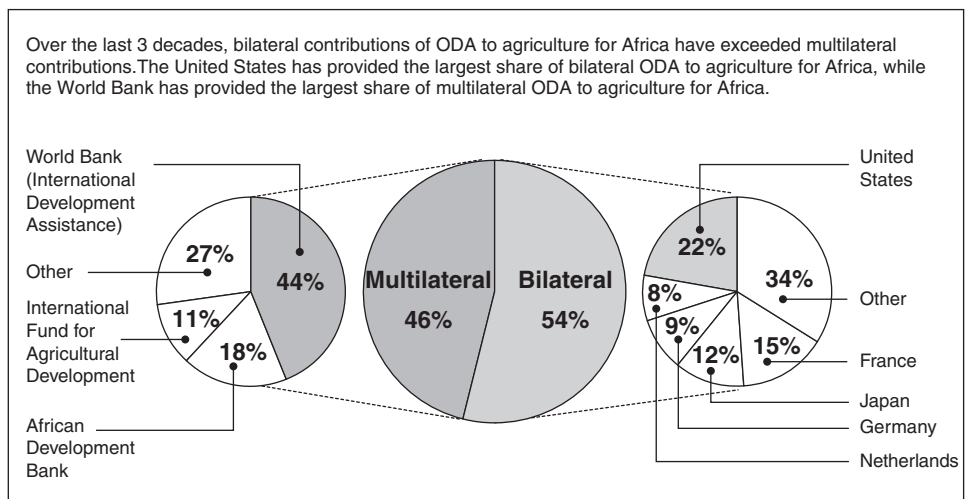
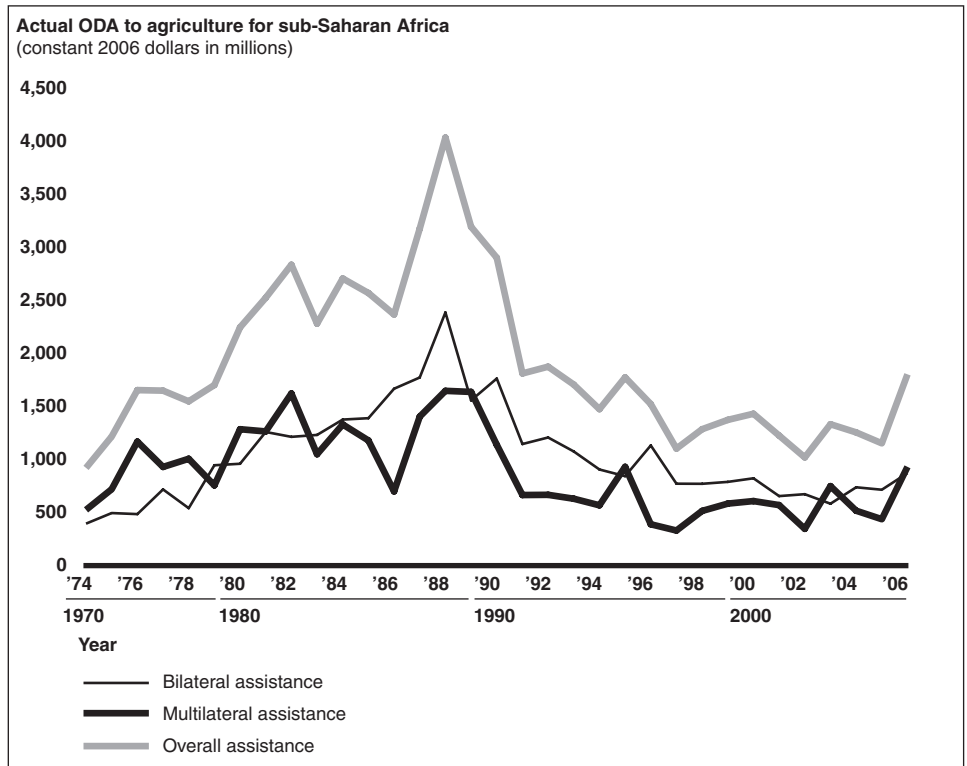
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<sup>43</sup>Although ODA may be limited relative to the size of a recipient country's economy, foreign assistance is important to agricultural development for some African countries. According to the *2008 World Development Report*, for 24 countries in sub-Saharan Africa, ODA averages 28 percent of total agricultural spending, and for Mozambique, Niger, and Rwanda, ODA averages more than 80 percent.

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World Bank prioritized health and sanitation programs in the region over agricultural development programs. By 2005, the bank had started shifting its priorities back to African agricultural development, investing approximately \$500 million per year in the sector. Bank officials expect that total to increase by 30 percent by the end of 2008. According to the UN, the international community needs to increase external financing for African agriculture from the current \$1 to \$2 billion per year to about \$8 billion by 2010. Figure 7 shows the overall declining trend of multilateral and bilateral ODA to agriculture for Africa and the percentages of bilateral and multilateral donor contributions from 1974 to 2006.

**Figure 7: Trends in Multilateral and Bilateral Official Development Assistance to Agriculture for Africa, 1974 to 2006**

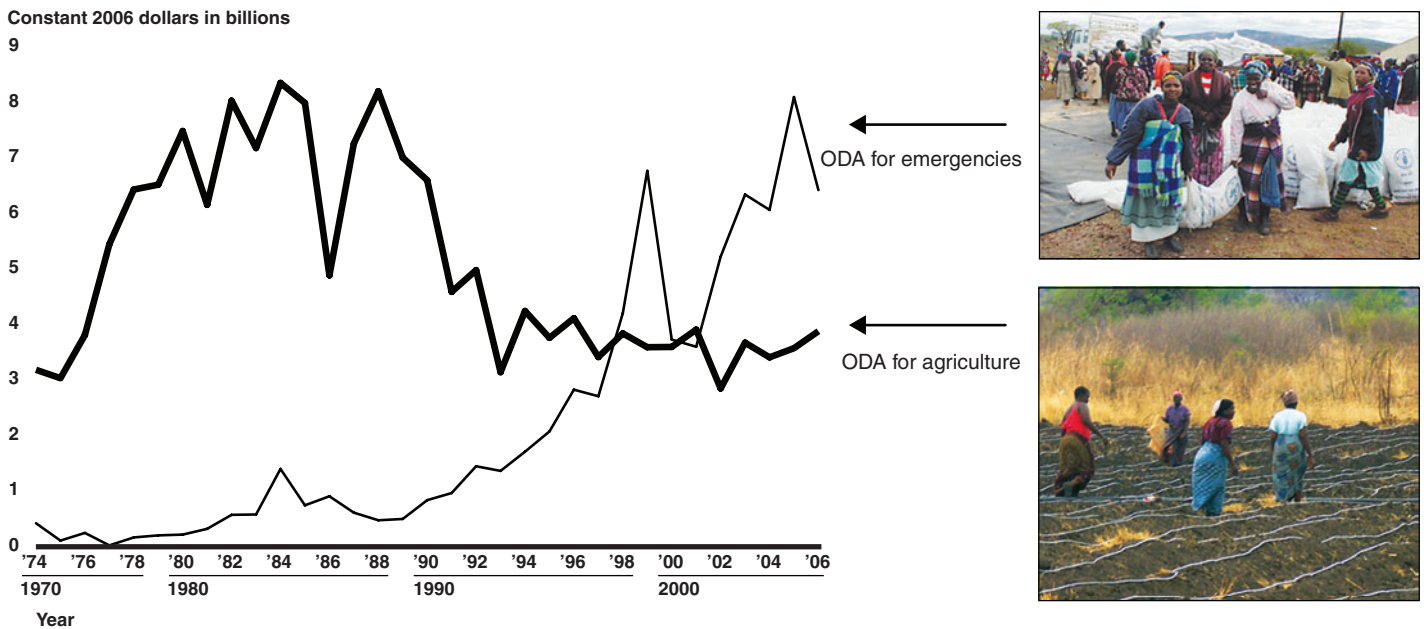


Source: GAO analysis of Organization for Economic Cooperation and Development (Development Assistance Committee) data.

Note: As discussed in appendix I, OECD's classification of ODA to agriculture may underreport funding to agriculture. For example, OECD's ODA to agriculture excludes developmental food aid.

The decline of donor support to agriculture in Africa is due to competing priorities for funding and a lack of results from past unsuccessful interventions. According to the *2008 World Development Report*, many of the large-scale integrated rural development interventions promoted heavily by the World Bank suffered from mismanagement and weak governance and did not produce the claimed benefits. In the 1990s, donors started prioritizing social sectors, such as health and education, over agriculture. For example, one of the United States' top priorities for development assistance is the treatment, prevention, and care of HIV/AIDS through the President's Emergency Plan for AIDS Relief, which is receiving billions of dollars every year. The increasing number of emergencies and response required from international donors has also diverted ODA that could have been spent on agricultural development. (See fig. 8 for the increasing trend of ODA to Africa for emergencies compared with ODA to agriculture for Africa.)

**Figure 8: Worldwide ODA to Africa for Emergencies Compared with ODA to Africa for Agriculture, 1974 to 2006**



Sources: GAO analysis of Organization for Economic Cooperation and Development (Development Assistance Committee) data; GAO (photos).

Note: As discussed in appendix I, OECD's classification of ODA to agriculture may underreport funding to agriculture. For example, OECD's ODA to agriculture excludes developmental food aid.

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Donors and Other Development Partners Have Experienced Difficulties in Coordination

Donor and NGO panels that we convened in the four countries we visited—Kenya, Mozambique, Tanzania, and Zambia—reported a general lack of donor coordination as a challenge, despite efforts to better align donor support with national development priorities, such as those that the international community agreed upon in the Paris Declaration on Aid Effectiveness in March 2005.<sup>44</sup> Improved donor coordination was recommended seven times in four panels that we convened during our fieldwork.

Coordination of agricultural development programs has been difficult at the country level due, in part, to the large number of simultaneous agricultural development projects that have not been adequately aligned. According to the *2008 World Development Report*, in Ethiopia, almost 20 donors were supporting more than 100 agriculture projects in 2005. Similarly, government efforts in Tanzania have been fragmented among some 17 multilateral and bilateral donors in agriculture.<sup>45</sup> A study of the United Kingdom National Audit Office reported that British country teams are not sure about specific activities, geographical focus, and donors' comparative advantage due, in part, to the large number of donors and projects ongoing at the country level. In addition, bilateral donor assistance is often not adequately aligned with the strategies and programs of international financial institutions and private foundations. Specifically, according to the UN Millennium Project, UN agencies are frequently not well-linked to the local activities of the large financial institutions and regional development banks that tend to have the most access in advising a government, since they provide the greatest resources. The World Bank in its *2008 World Development Report* was critical of the lack of complementary investments made by other donors at different stages of the food production and supply process.

In an attempt to address inadequate division of labor among donors, the UN agencies have established new coordination mechanisms. In September 2007, the UN Secretary-General first convened the UN MDG Africa Steering Group to identify strategic ways in which the international

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<sup>44</sup>This high-level forum of aid effectiveness was composed of leaders of government ministries responsible for development and heads of multilateral and bilateral development institutions. The forum met to reform the delivery and management of aid in preparation for the 5-year review of the Millennium Declaration and MDGs in late 2005.

<sup>45</sup>According to the *2008 World Development Report*, the government of Tanzania has been overcoming this challenge by pooling donor resources.

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community could better coordinate and support national governments' implementation of MDG programs, including the implementation of agriculture and food security. The steering group met again in March 2008, where it identified the unpredictability of aid, poor alignment with country systems, and inadequate division of labor among donors as major challenges to African food security. The group expects to publish its recommendations for achieving MDGs in Africa by the end of May 2008. In addition, the UN has recently established the *One UN* initiative at the country level to facilitate coordination. The purpose of this initiative is to shift from several individual agency programs to a single UN program in each country with specific focus areas, one of which could be food security. Two countries we visited—Tanzania and Mozambique—were among the eight countries<sup>46</sup> worldwide to pilot the *One UN* initiative in 2007 and 2008. In addition, to accelerate progress toward MDGs—particularly MDG-1—WFP, FAO, and IFAD recently agreed to establish joint Food Security Theme Groups at the country level. The main purpose of these groups is to enhance interagency collaboration and coordination to support countries' development efforts in the areas of food security, agriculture, and rural development. Between June 2007 and August 2007, a review of the status of the Food Security Theme Groups showed that they are present in 55 countries (29 in sub-Saharan Africa). However, according to the UN Millennium Project, efforts through UN country teams are more of a forum for dialogue, rather than a vehicle for real coordination.

### FAO Estimates of Undernourishment Have Deficiencies

It is difficult to accurately assess progress toward the hunger goals because of deficiencies in FAO's estimates of undernourishment, which are considered the authoritative statistics on food security. These deficiencies stem from methodological weaknesses and poor data quality and reliability, as follows:

- *Weaknesses in methodology:* FAO's methodology has been criticized on several grounds. First, FAO relies on total calories available from food supplies and ignores dietary deficiencies that can occur due to the lack of adequate amounts of protein and essential micronutrients. Second, FAO underestimates per capita food availability in Africa, and, according to several FAO officials in Rome, coverage of noncereal crops, such as cassava—a main staple food for sub-Saharan Africa—has been inadequate. Third, FAO estimates are more subject to changes in the availability of food and less so to changes in the distribution of food, which leads to the

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<sup>46</sup>The other pilot countries were Albania, Cape Verde, Pakistan, Rwanda, Uruguay, and Vietnam.

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underestimation of undernourishment in regions with relatively better food availability but relatively worse distribution of food, such as South Asia. Even when food is available, poor people may not have access to it, which leads to undernourishment. Lastly, FAO relies on food consumption data from outdated household surveys to measure inequality in food distribution. According to FAO, some of these surveys are over 10 years old.

- *Poor data quality and reliability:* According to FAO officials, the quality and reliability of food production, trade, and population data, which FAO relies on for its estimates of undernourishment, vary from country to country. For many developing countries, the data are either inaccurate or incomplete, which directly impacts FAO's final estimate of undernourishment. For example, FAO officials told us that the estimated prevalence of undernourishment in Myanmar was 5 percent, but the officials questioned the reliability and accuracy of the data reported by the government of Myanmar. In addition, FAO lacks estimates of undernourishment for some countries to which a substantial amount of food aid has been delivered, such as Afghanistan, Iraq, and Somalia. Since data on production, trade, and consumption of food in some countries are not available, FAO makes one undernourishment estimate for these countries as a group and takes this estimate into account to determine total undernourishment worldwide.

Furthermore, FAO's undernourishment estimates are outdated, with its most recent published estimates covering the 3-year period of 2001 to 2003. In 2007, FAO suspended publication of *The State of Food Insecurity in the World* (SOFI) report, which it had been issuing annually since 1999. FAO also did not submit hunger data for the *UN Millennium Development Report* in 2006, and, according to an official from the UN Statistics Division, FAO is unlikely to do so for 2007 as well. FAO did not publish the 2007 SOFI report or contribute data for the *Millennium Development Report* because it is presently revising the minimum caloric requirements, a key component in FAO's methodology for estimating undernourishment to measure progress toward the 2015 hunger goals.

FAO has acknowledged that it needs to improve its methodology and consider other indicators to accurately portray progress toward hunger targets. As part of this effort, FAO sponsored an "International Scientific Symposium" in 2002 for scientists and practitioners to discuss various measures and assessment methods on food deprivation and undernourishment. According to FAO, efforts to improve food security and nutrition measures are a continuous activity of the agency, which has also been involved in strengthening data collection and reporting capacity

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at the regional and country levels. FAO is also developing a new set of indicators for measuring food security and nutrition status.

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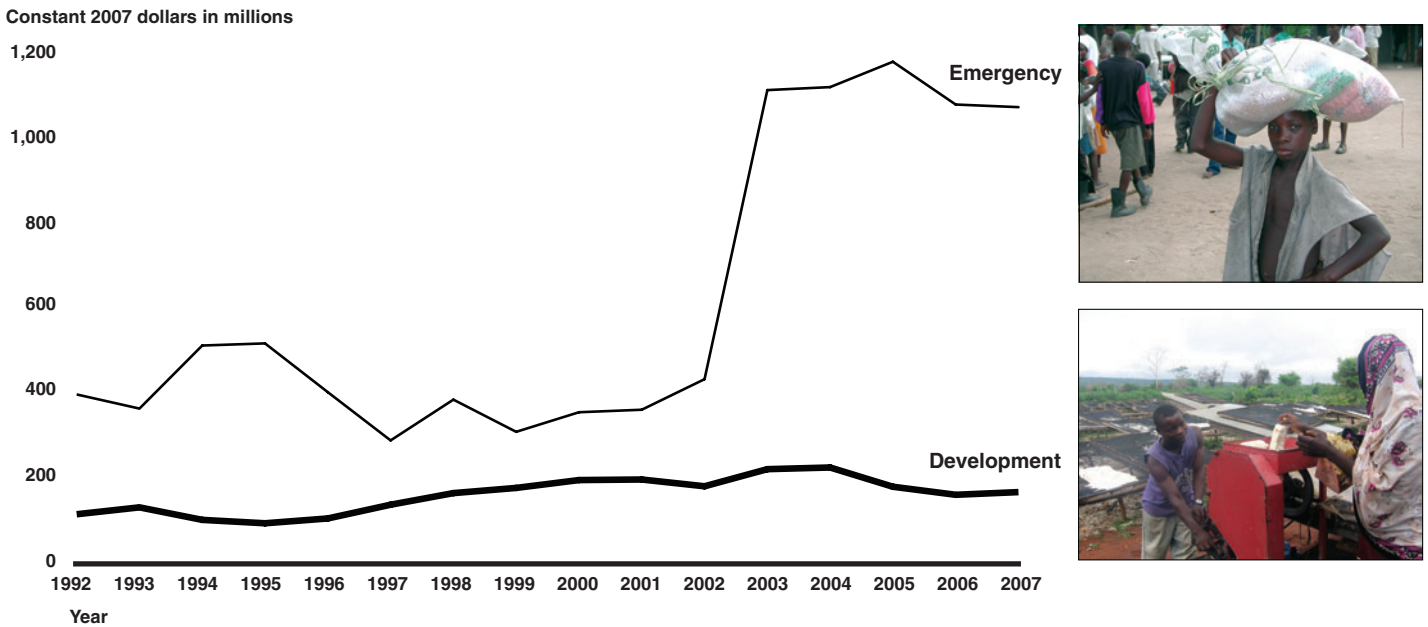
### Limited Agricultural Development Resources and a Fragmented Approach Impair U.S. Efforts to End Hunger in Sub-Saharan Africa

USAID's Food Aid Funding for Emergencies Has Increased Substantially, While Its Food Aid Funding for Development Has Not Changed Significantly

In recent years, the levels of USAID funding for development in sub-Saharan Africa have not changed significantly compared with the substantial increase in funding for emergencies (see fig. 9). Funding for the emergency portion of Title II of Public Law 480—the largest U.S. food aid program—has increased from about 70 percent a decade ago to over 85 percent in recent years. After rising slightly from 2003 to 2005, the development portion of USAID'S food aid funding fell below the 2003 level in 2006 and 2007.



**Figure 9: Comparison of USAID Funding for Emergencies and Food Aid Funding for Development Activities in Sub-Saharan Africa under Title II of Public Law 480, Fiscal Years 1992 to 2007**

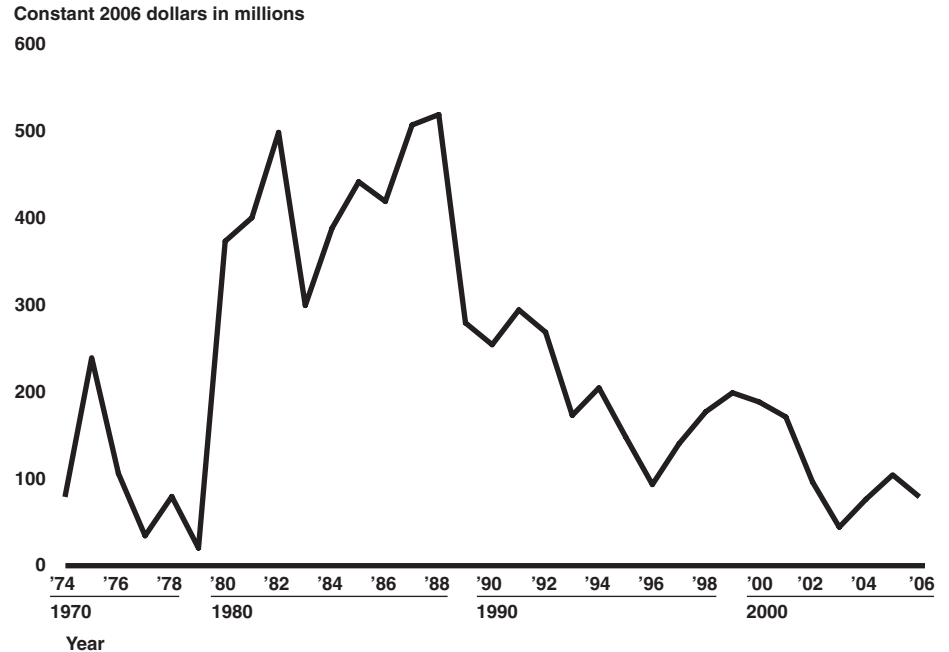


Sources: GAO analysis of U.S. Agency for International Development data; GAO (photos).

While emergency food aid has been crucial in helping to alleviate the growing number of food crises, it does not address the underlying factors that contributed to the recurrence and severity of these crises. Despite repeated attempts from 2003 to 2005, the former Administrator of USAID was unsuccessful in significantly increasing long-term agricultural development funding in the face of increased emergency needs and other priorities. Specifically, USAID and several other officials noted that budget restrictions and other priorities, such as health and education, have limited the U.S. government’s ability to fund long-term agricultural development programs in sub-Saharan Africa. The United States, consistent with other multilateral and bilateral donors, has steadily reduced its ODA to agriculture for Africa since the late 1980s, from about \$500 million in 1988 to less than \$100 million in 2006 (see fig. 10).<sup>47</sup>

<sup>47</sup>This ODA funding includes the U.S. Presidential Initiative to End Hunger in Africa.

**Figure 10: Trends in U.S. Official Development Assistance to Agriculture for Africa, 1974 to 2006**



Source: GAO analysis of Organization for Economic Cooperation and Development (Development Assistance Committee) data.

Note: The figure shows U.S. bilateral ODA and does not include U.S. contributions to multilateral organizations, such as the World Bank, African Development Bank, and International Fund for Agricultural Development, which also provide ODA to agriculture. As discussed in appendix I, OECD's classification of ODA to agriculture may underreport funding to agriculture. For example, OECD's ODA to agriculture excludes developmental food aid.

**Despite Other Agency Efforts, U.S. Presidential Initiative to End Hunger in Africa Is Limited to USAID**

The U.S. Presidential Initiative to End Hunger in Africa (IEHA)—the principal U.S. strategy to meet its commitment toward halving hunger in sub-Saharan Africa—has undertaken a variety of efforts that, according to USAID officials, aim to increase rural income by improving agricultural productivity, increasing agricultural trade, and advancing a favorable policy environment, including building partnerships with donors and African leaders. However, USAID officials acknowledged that IEHA lacks a political mandate to align the U.S. government food aid, emergency, and development agendas to address the root causes of food insecurity. Despite purporting to be a governmentwide presidential strategy, IEHA is limited to only some of USAID's agricultural development activities and does not integrate with other agencies in terms of plans, programs, resources, and activities to address food insecurity in Africa. For example, because only eight USAID missions have fully committed to IEHA and the rest of the missions have not attributed funding to the initiative, USAID

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has been unable to leverage all of the agricultural development funding it provides to end hunger in Africa. This lack of a comprehensive strategy has likely led to missed opportunities to leverage expertise and minimize overlap and duplication. Our meetings with officials of other agencies demonstrated that there was no significant effort to coordinate their food security programs. A U.S. interagency working group that had attempted to address food security issues since the mid-1990s disbanded in 2003. In April 2008, USAID established a new Food Security and Food Price Increase Task Force, but it is not a governmentwide interagency working group.

Although both MCC and USDA are making efforts to address agriculture and food insecurity in sub-Saharan Africa, IEHA's decision-making process does not take these efforts into consideration. In addition, IEHA does not leverage the full extent of the United States' assistance to African agriculture through its contributions to multilateral organizations and international financial institutions, which are managed by State and Treasury. Some of the U.S. agencies' plans and programs for addressing food insecurity in Africa involve significant amounts of assistance. For example, as of June 2007, MCC had committed \$1.5 billion for multiyear compacts in sub-Saharan Africa, of which \$605 million (39 percent) was for agriculture and rural development programs and another \$575 million (37 percent) was for transportation and other infrastructure. Only recently, USAID has provided MCC with assistance in the development and implementation of country compacts. USDA, which administers several food aid programs,<sup>48</sup> also administers a wide range of agricultural technical assistance, training, and research programs in sub-Saharan Africa to support the African Growth and Opportunity Act, NEPAD/CAADP, and the regional economic organizations. However, according to USAID Mission officials in Zambia, coordination difficulties arise when U.S.-based officials from other government agencies, such as USDA, plan and implement food security projects at the country level with little or no consultation with the U.S. Mission staff.

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<sup>48</sup>These programs include, for example, Food for Progress, which involves donations or credit sales of commodities to developing countries and emerging democracies, and the McGovern-Dole Food for Education and Child Nutrition, which involves the donation of commodities and provision of financial and technical assistance in foreign countries. In fiscal year 2007, USDA assistance totaled \$130 million and \$99 million to these two programs, respectively.

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## Conclusions

Most donors, including the United States, have committed to halving global hunger by 2015, but meeting this goal in sub-Saharan Africa is increasingly unlikely. Although host governments and donors share responsibility for this failure, especially with regard to devoting resources to support sub-Saharan Africa's agricultural sector, host governments play a primary role in reducing hunger in their own countries. Without adequate efforts by the host governments coupled with sufficient donor support, it is difficult to break the cycle of low agricultural productivity, high poverty, and food insecurity that has contributed to an increase in emergency needs. The United States' approach to addressing food insecurity has traditionally relied on the U.S. food aid programs. However, in recent years, the resources of these programs have focused on the rising number of acute food and humanitarian emergencies, to the detriment of actions designed to address the fundamental causes of these emergencies, such as low agricultural productivity. Moreover, IEHA does not comprehensively address the underlying causes of food insecurity, nor does it leverage the full extent of U.S. assistance to sub-Saharan Africa. Consequently, the U.S. approach does not constitute an integrated governmentwide food security strategy. In implementing its food security efforts, the United States has not adequately collaborated with host governments and other donors, which has contributed to further fragmentation of these efforts. Finally, without reliable data on the nature and extent of hunger, it is difficult to target appropriate interventions to the most vulnerable populations and to monitor and evaluate their effectiveness. Sustained progress in reducing sub-Saharan Africa's persistent food insecurity will require concerted efforts by host governments and donors, including the United States, in all of these areas.

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## Recommendations for Executive Action

To enhance efforts to address global food insecurity and accelerate progress toward halving world hunger by 2015, particularly in sub-Saharan Africa, we recommend that the Administrator of USAID take the following two actions:

- work in collaboration with the Secretaries of State, Agriculture, and the Treasury to develop an integrated governmentwide U.S. strategy that defines each agency's actions and resource commitments toward achieving food security in sub-Saharan Africa, including improving collaboration with host governments and other donors and developing improved measures to monitor and evaluate progress toward the implementation of this strategy, and

- 
- prepare and submit, as part of the annual *U.S. International Food Assistance Report*, an annual report to Congress on progress toward the implementation of the first recommendation.

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## Agency Comments and Our Evaluation

USAID and the Departments of Agriculture and State provided written comments on a draft of our report. We have reprinted these agencies' comments in appendixes VII, VIII, and IX, respectively, along with our responses to specific points. In addition to these agencies, several other entities—including MCC, Treasury, FAO, IFAD, IFPRI, UNDP, and WFP—provided technical comments on a draft of our report, which we have incorporated as appropriate.

USAID concurred with our first recommendation—noting that the responsibility for halving hunger by 2015 lies with the respective countries while mentioning activities that the United States, through efforts such as IEHA, and the international community are undertaking to address the issue of food security. However, USAID expressed concern with our conclusion that the shift in its focus from emergency food aid to long-term agricultural development has not been successful. We recognize the challenges of addressing an increasing number of emergencies within tight resource constraints. However, it is equally important to recognize that addressing emergencies—to the detriment of long-term agricultural development—does not break the cycle of low agricultural productivity, high poverty, and food insecurity that has persisted in many sub-Saharan African countries. Regarding our second recommendation, USAID asserted that the *International Food Assistance Report* (IFAR) is not the appropriate vehicle for reporting on progress on the implementation of our first recommendation. USAID suggested that a report such as the annual progress report on IEHA (which is not congressionally required) would be more appropriate. We disagree. We believe that the congressionally required annual IFAR, in fact, would be an appropriate vehicle for reporting on USAID's and other U.S. agencies' implementation of our first recommendation. Public Law 480, section 407(f) (codified at 7 U.S.C. 1736a(f)) requires that the President prepare an annual report that "shall include. . .an assessment of the progress toward achieving food security in each country receiving food assistance from the United States Government." This report is intended to contain a discussion of food security efforts by U.S. agencies.

In addition, USDA stated that our report was timely and provided useful information and recommendations. Noting its participation in an interagency food aid policy coordinating process, USDA reaffirmed its

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commitment to using its full range of authorities and programs to address the need for and improve the effectiveness of global food assistance and development. Although we recognize that an interagency Food Assistance Policy Council provides a forum for the discussion and coordination of U.S. food aid programs, a similar forum to address food security issues had not been established until May 2008 following the release of a draft of this report. Finally, although USDA administers food assistance programs, including food aid programs for development, we note that these are not included in IEHA.

State identified additional issues for consideration, which we have addressed as appropriate. Specifically, State disagreed with our statement that U.S. agencies had made no significant effort to coordinate their food security programs, citing its ongoing coordination with USAID and USDA on food security issues. For example, State indicated that several of its offices and bureaus—such as the Office of the Director of Foreign Assistance; the Bureaus of Population, Refugees, and Migration; Economic, Energy, and Business Affairs; African Affairs; International Organization Affairs, and others—work closely with USAID and USDA to coordinate food security issues. However, as we noted in this report, these efforts, to date, have been focused primarily on food aid, as opposed to food security, and there is no comprehensive U.S. governmentwide strategy for addressing food insecurity in sub-Saharan Africa.


Treasury generally concurred with our findings and provided additional comments for consideration, which we have addressed as appropriate.

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We are sending copies of this report to interested Members of Congress; the Administrator of USAID; and the Secretaries of Agriculture, State, and the Treasury. We will also make copies available to others upon request. In addition, this report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staffs have any questions about this report, please contact me at (202) 512-9601 or [melitot@gao.gov](mailto:melitot@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix X.

A handwritten signature in black ink that reads "Thomas Melito". The signature is written in a cursive, flowing style.

Thomas Melito  
Director, International Affairs and Trade

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# Appendix I: Objectives, Scope, and Methodology

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Our objectives were to examine (1) factors that contributed to persistent food insecurity in sub-Saharan Africa and (2) the extent to which host governments and donors, including the United States, are working toward halving hunger in the region by 2015.

To examine factors that have contributed to continued food insecurity in sub-Saharan Africa, we relied on the United Nations (UN) Food and Agriculture Organization's (FAO) estimates on the number of undernourished people, and the prevalence of undernourishment, which is one of two progress indicators in the Millennium Development Goals (MDG) target of halving hunger, to illustrate the lack of progress in reducing hunger in sub-Saharan Africa as compared with other parts of the developing world. Although we recognize the limitations of FAO's estimates (such as the lack of up-to-date information), they are the official basis of the World Food Summit (WFS) and MDG targets and are largely consistent with the trends reported by other sources, such as the U.S. Department of Agriculture's (USDA) estimates on global hunger. We discussed the reliability of FAO's undernourishment data with several cognizant FAO officials and various U.S. government officials in Washington and in sub-Saharan Africa. We determined that these estimates are sufficiently reliable for our purpose, which is to show overall trends over time at the aggregate level. We also analyzed FAO's data on input use, grain production, and grain planting areas to compare agricultural input use and productivity in sub-Saharan Africa with that of other parts of the world. We determined that these data are sufficiently reliable for our purposes. To assess the reliability of the International Monetary Fund (IMF) data on commodity prices, we reviewed (1) existing documentation related to the data sources and (2) documents from other agencies reporting on commodity prices and found corroborating support. Accordingly, we determined that the data were sufficiently reliable for the purposes of this report.

We selected four countries for fieldwork—Kenya and Tanzania in East Africa, and Mozambique and Zambia in southern Africa—on the basis of geographic region, data on undernourished people, and U.S. Agency for International Development (USAID) programs in-country. We selected countries in east and southern Africa because those regions have high prevalence rates of undernourishment and excluded countries with current conflict. While this selection is not representative in any statistical sense, it ensured that we had variation in the key factors we considered. We do not generalize the results of our fieldwork beyond that selection, using fieldwork primarily to provide illustrative examples.



In addition, we reviewed economic literature on the factors that influence food security and recent reports, studies, and papers issued by U.S. agencies, multilateral organizations, and bilateral donors. We reviewed the *Rome Declaration on World Food Security and the World Food Summit Plan of Action*, which included 7 commitments, 27 objectives, and 181 specific actions. We recognize the multifaceted nature of factors affecting food security, but some of them, such as conflict and trade reforms, were beyond the scope of our study. We reviewed economic studies and recent reports on the factors that influence food security. These included articles from leading authors published in established journals, such as *World Development*. We also included studies by such organizations as the International Food Policy and Research Institute (IFPRI), FAO, IMF, USDA's Economic Research Service, World Food Program (WFP), and the World Bank. These sources were chosen because they represent a wide cross section of the discussion on food security and are written by the leading authorities and institutions working in the field. To summarize and organize meaningfully the many factors and interventions that impact and can address global food security, we created a framework. To ensure that the framework was comprehensive and rigorous, we based it on relevant literature and the input of practitioners and experts. Specifically, our first step was to review relevant research on global food security from multilateral institutions and academia and consider key policy documents, such as the *Rome Declaration*. We presented the first draft of the framework to a panel of nongovernmental organizations (NGO) and government representatives in Washington, D.C., and subsequently used the framework during our panels in the four African countries to help stimulate discussion. We refined the framework on the basis of preliminary analysis of the panel results and finalized it on the basis of the input of a roundtable of food security experts in Washington, D.C.

In the four African countries that we selected for fieldwork, we conducted structured discussions with groups of NGOs and donors, organizing them into 9 panels with about 80 participants representing more than 60 entities. To identify the panelists' views on key recommendations for improvement and lessons learned, we posed the same questions to each of the 9 panels and recorded their answers. Subsequently, we coded their recommendations and lessons according to the factors that were further refined and are shown in figure 3. We also coded some recommendations and lessons according to a few additional topics that occurred with some frequency in the panels but that fell outside the scope of our framework, such as donor coordination and the targeting of U.S. food aid. Two staff members performed the initial coding independently and then met to reconcile any differences in their coding. These lessons and

recommendations that we coded represent the most frequently expressed views and perspectives of in-country NGOs, donors, and regional representatives that we met with, and cannot be generalized beyond that population.

To examine the extent to which host governments and donors, including the United States, are working toward halving hunger by 2015, we analyzed data on official development assistance (ODA) to developing countries published by the Organization for Economic Cooperation and Development (OECD), Development Assistance Committee (DAC). Specifically, we analyzed the trends in the share of ODA going to agriculture and to emergencies from multilateral and bilateral donors, from 1974 to 2006. The DAC Secretariat assesses the quality of aid activity data each year by verifying both the coverage (completeness) of each donor's reporting and the conformity of reporting with DAC's definitions to ensure the comparability of data among donors. These data are widely used by researchers and institutions in studying development assistance resource flows. OECD's classification of agriculture may underreport funding to agriculture. OECD's ODA to agriculture excludes rural development and development food aid. For example, the International Fund for Agricultural Development (IFAD) believes that some of its multisectoral lending may not have counted as ODA to agriculture. However, since OECD has consistently used the same classification, we determined that the data are sufficiently reliable for our purpose, which is to track trends over time. To determine whether African governments have fulfilled their pledge to devote 10 percent of their budgets to agriculture, we relied on the government expenditure data provided by IFPRI, which is the same data source on which USAID relies. We determined that these data are sufficiently reliable for the purposes of a broad comparison of countries' agricultural spending to the Comprehensive Africa Agriculture Development Program (CAADP) targets in the aggregate. IFPRI recognizes that data on government sectoral spending are weak in many developing countries and is working with some of these countries to improve data quality. We also analyzed USAID budget for the Presidential Initiative to End Hunger in Africa (IEHA). We determined that these data are sufficiently reliable for our purposes. The information on foreign law in this report does not reflect our independent legal analysis but is based on interviews and secondary sources.

In Washington, D.C., we interviewed officials from U.S. agencies, including USAID, USDA, the Departments of State and the Treasury, and the Millennium Challenge Corporation (MCC). We also met with IFPRI and the World Bank. In New York, we met with UNDP, the Rockefeller

Foundation, the Alliance for a Green Revolution in Africa (AGRA), and Columbia University; and in Seattle, Washington, we met with the Bill and Melinda Gates Foundation. In Rome, we met with FAO, WFP, IFAD, and the Consultative Group on International Agricultural Research (CGIAR). We also met with the U.S. Mission to the United Nations in Rome and several bilateral donors' permanent representatives to the Rome-based UN food and agriculture agencies. In addition, in Washington, D.C., we convened a roundtable of 12 experts and practitioners—including representatives from academia, research organizations, multilateral organizations, NGOs, and others—to further delineate, on the basis of our initial work, some of the factors that have contributed to food insecurity in sub-Saharan Africa and challenges that hamper accelerating progress toward food security.

We conducted this performance audit from April 2007 to May 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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# Appendix II: U.S. Participation in the 1996 World Food Summit

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As a major participant in the 1996 WFS, the United States supported the summit's goal of halving the number of undernourished people in the world by 2015. During the summit and over the last decade, the U.S. position on global food security has been predicated on a strong belief that the primary responsibility for reducing food insecurity rests with each country, and that it is critical that all countries adopt policies that promote self-reliance and facilitate food security at all levels, including food availability, access, and utilization. U.S. policy as represented at the summit advocated the following national policies and actions to improve food security:

- Governments should act as facilitators rather than intervenors. National policies that facilitate the development of markets and expand the individual's freedom of action are the best guarantor of food security. Emphasis is placed on democratic institutions, transparency in government, opposition to graft and corruption, and full participation by the private sector.
- All countries should work to promote liberalized trade to maximize the potential for economic growth (within the context of sustainable development) and realize the benefits of comparative advantage.
- Governments should invest in a public goods infrastructure that includes transportation, communication, education, and social safety nets; and governments should provide basic health and sanitary services, maintain basic levels of nutrition, and facilitate the stabilization of vulnerable populations.
- Governments should ensure a political system that does not discriminate against women. All countries must recognize the essential role of women, who work to produce more than half of the food in developing countries.
- Governments should establish a general development policy that (1) neither discriminates against agricultural or fisheries sectors nor against rural or coastal areas and (2) recognizes that poverty alleviation requires an integrated approach to rural development.
- All countries should promote the critical role of sustainable development in agriculture, forestry, and fisheries sectors, and these policies must be environmentally sound.
- Greater emphasis needs to be placed on agricultural research and extension services. Governments should emphasize investment in agricultural research and technical education.

During negotiations on the summit policy statement and Plan of Action, the United States opposed any agreement that supported additional resource pledges by the developed countries or the creation of new financial mechanisms, institutions, or bureaucracies. Although the United States was not prepared to commit increased resources for food security, U.S. government representatives at the summit indicated that the United States intended to play a major role in promoting food security around the world. According to a U.S. position paper, the United States planned to accomplish this objective by

- enhancing U.S. government support for research and technology development in agriculture and related sectors;
- employing an integrated approach to sustainable development, with a strong emphasis on those countries that show a good-faith willingness to address policy reforms;
- continuing support for food security through the use of agriculture programs, development assistance, and food aid;
- continuing support for international efforts to respond to and prevent humanitarian crises that create a need for emergency food;
- continuing efforts to encourage and facilitate implementations of food security-related actions adopted at international conferences or agreed-to conventions;
- working within the multilateral system to enhance global approaches to food security; and
- working with all countries to achieve freer trade and ensure that the benefits are equitably realized, and urging all countries to open their markets in the interest of achieving greater stability and participation in the world market.

An interagency governmentwide Working Group on Food Security that was established to prepare for the 1996 summit continued to operate until 2003, issuing two annual reports on a U.S. Food Security Plan of Action in 1999 and 2000. This group was assisted by a Food Security Advisory Committee composed of representatives from the private agribusiness sector, NGOs, and educational institutions. (These groups were disbanded in 2003.) These reports indicated some limited progress in addressing food security, primarily through the use of existing U.S. food aid and limited agricultural development and trade initiatives. The establishment of the

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African Food Security Initiative in 1998, the Greater Horn of Africa Initiative, the Africa Seeds of Hope Act in 1998, and the African Growth and Opportunity Act of 2000 all reflected some limited U.S. government initiative to improve a deteriorating food security situation in sub-Saharan Africa.

# Appendix III: Factors and Interventions Affecting Food Security

This appendix provides greater detail and explains the importance of the factors we used to develop a framework to evaluate findings obtained during the in-country interviews in Kenya, Tanzania, Mozambique, and Zambia and the literature on food security, including the *2008 World Bank Development* report and the *Rome Declaration*. The factors listed in the framework shown in table 2 are areas on which development efforts can be focused. They include such areas as agricultural productivity and development; rural development; governance; and health, education, and social welfare. All of these factors contribute to food security. For example, actions to improve agricultural productivity are most effective in conjunction with rural development, good governance, and good health and welfare. The framework also identifies actions or interventions that can be taken to address these development factors. They include such actions or interventions as increasing access to inputs, improving infrastructure, and strengthening rural communities. Successful agricultural development requires coordination of these interventions across a range of activities. For example, farmers cannot buy inputs unless there are functioning credit institutions. Also, farmers cannot access markets if there are no roads. Given that achieving food security is an extremely difficult and complex process and that there are many different ways in which to categorize these factors, this list should not be construed as exhaustive. Nonetheless, this categorization provides a framework with which to identify the issues on which to base discussion on food security and summarize the range of programs implemented in various African countries.

**Table 2: Framework for Addressing Food Security Issues**

Factor	Intervention
Agricultural productivity and development	<i>Develop and improve markets:</i> Encourage private sector investment and support the value chain approach, build private sector capacity, assist and develop markets, establish public/private partnerships, use vouchers, and develop agroprocessing.
	<i>Conduct and disseminate research:</i> Develop disease-resistant, pest-resistant varieties; develop organizations to disseminate information, such as extension programs and farmer groups. Maintain and increase yields through research. Strengthen research capacity at all levels.
	<i>Increase access to inputs:</i> Provide access to fertilizer seed, water, chemicals, machinery, land (via tenure/title), and technologies.
	<i>Improve farm management and capacity:</i> Encourage farmer education, modern farm practices, cash crops, transaction costs, sustainable businesses, and crop diversification.
	<i>Improve risk management for farm and food systems:</i> Promote systems to mitigate risks such as crop insurance, diversification of risks, stock policy, and postharvest conservation, conservation agriculture, and storage of food stocks.

**Appendix III: Factors and Interventions  
Affecting Food Security**

<b>Factor</b>	<b>Intervention</b>
	<i>Institute natural resource management:</i> Strengthen water management, biodiversity, and drought management.
Rural development	<p><i>Strengthen rural communities and economies:</i> Provide opportunities for nonfarm income, farmer’s cooperative associations, empowered rural communities, local processing, decentralized resources to regions, and cash transfers to rural communities.</p> <p><i>Invest in and improve infrastructure:</i> Invest in roads, ports, telecommunications, and power.</p> <p><i>Increase access to credit:</i> Provide access to microcredit and financial training.</p>
Governance	<p><i>Strengthen sectoral policies:</i> Lobby to improve agriculture policies and balance agriculture and nonagriculture subsidies.</p> <p><i>Improve emergency preparedness and disaster management capacities:</i> Improve systems for vulnerability mapping, climate forecasting, and early warning systems.</p> <p><i>Improve tax policies:</i> Rationalize tax policies—such as minimizing agricultural input, output, and land taxes—as a way to enhance agricultural sector development.</p> <p><i>Modernize trade policy:</i> Encourage trade policies that foster agricultural trade.</p> <p><i>Strengthen fiscal and monetary policy:</i> Promote sound fiscal and monetary policies that could allow more funding for the agricultural sector.</p> <p><i>Improve governance:</i> Engage government in rule of law reform, anticorruption efforts, institutional capacity building, and conflict resolution.</p>
Health, education, and social welfare	<p><i>Improve health and nutrition:</i> Provide access to health care and basic sanitation to prevent or minimize the negative effects of HIV/AIDS, malaria, and other diseases. Supply the agricultural workforce with adequate vitamins, minerals, and nutrients.</p> <p><i>Develop and retain qualified staff:</i> Build capacity through training government and NGO personnel and establish pay and conditions to retain needed staff.</p> <p><i>Develop safety nets:</i> Encourage and implement social safety nets for vulnerable populations.</p> <p><i>Address gender inequalities:</i> Promote women’s rights and access to basic education.</p>

Source: GAO analysis of literature reviews and structured discussions.



# Appendix IV: Summary Results of GAO's Structured Panel Discussions with Donors and NGOs, with Examples of Interventions

On the basis of a content analysis of the results from our nine structured panel discussions in Kenya, Mozambique, Tanzania, and Zambia, we identified key recommendations for improving food security (see table 3).<sup>1</sup> For example, the first row of this table indicates that all 9 panels mentioned the recommendation to improve marketing, and that the recommendation was mentioned 35 times across all 9 panels.

**Table 3: Key Recommendations for Improving Food Security**

<b>Recommendation</b>	<b>Total number of panels in which the recommendation was mentioned (maximum = 9)</b>	<b>Total number of times the recommendation was mentioned across all 9 panels</b>
Develop and improve markets	9	35
Strengthen rural communities and economies	9	21
Better target or manage nonemergency food aid	8	14
Invest in and improve infrastructure	7	16
Improve natural resource management systems	7	12
Increase access to inputs	6	10

Source: GAO analysis of structured panel discussions with donors and NGOs in Kenya, Mozambique, Tanzania, and Zambia.

The next several sections of this appendix provides some examples of interventions that governments, research organizations, NGOs, private foundations, and other donors have undertaken to address the factors underlying food insecurity.

## Interventions to Improve Access to Markets

Our panelists noted that improving markets and farmers' access to them is key to improving their food security. Well-functioning markets at all levels of the marketing chain, among other things, provide accurate price information, buyer contacts, distribution channels, and buyer and producer trends. They can be facilitated by encouraging private investment and establishing private/public partnerships and developing the capacity of agrobusiness and processing focused on value-added production. As an early action under CAADP, an Alliance for Commodity

<sup>1</sup>Our analysis applied the following criteria: (1) these recommendations and lessons, both positive and negative, were mentioned in at least 6 of the 9 panels, and were mentioned at least 10 times or more overall, and (2) these criteria were consistent with the natural breaks in the data.

Trade in East and Southern Africa is being developed to open up national and regional market opportunities for staple foods produced by millions of smallholder farmers. Agribusiness, in particular, has an economic interest in a vibrant agricultural sector. For this reason, USAID supports private agribusiness development in Africa, working directly with about 900 public/private partnerships to build capacity and leverage additional resources in 2006. These include producers, exporters, and their associations, such as the East African Fine Coffees Association, which is linking buyers from companies like Starbucks in the United States with producers and exports of high-value coffee, and the African Cotton and Textile Industry Federation, which is improving the links of African farmers to the U.S. market through the African Growth and Opportunity Act. To facilitate market access in arid and semi-arid areas, USAID's Famine Fund<sup>2</sup> has been supporting a pastoral livelihood program.

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## Interventions to Strengthen Rural Communities and Economies

Weak rural development contributes to food insecurity throughout sub-Saharan Africa. Agricultural productivity growth requires fostering linkages between the agricultural and nonagricultural sections. Growth in agriculture is more effective if the proper infrastructure is in place, rural communities are strong and effective and financial systems are able to provide credit to producers to buy, among other things, inputs for production. The experts we interviewed noted that efforts to strengthen rural communities and economies are essential to increasing food security. Interventions that help to increase rural farmers' incomes help to strengthen rural economies. We observed the UN Millennium Villages helping farmers increase their incomes by using the value chain approach to link farmers to markets. For example, in Kenya, a local business called HoneyCare Africa trained farmers in beekeeping. The farmers were financed to start beekeeping, provide honey, and ensure quality control and collection. Beekeepers bring their honey to the company's collection center where the honey is weighed and is prepared for shipment from Nairobi. After being processed and packaged in a Nairobi facility, HoneyCare Africa products are sold in Kenyan and overseas retail outlets.

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<sup>2</sup>This Famine Fund is also known as the International Disaster and Famine Assistance Fund, which provides funding for famine prevention and relief, as well as mitigation of the effects of famine by addressing its root causes. One of the projects USAID has funded is the Regional Enhanced Livelihoods in Pastoral Areas (RELPA), a \$19.8 million program to increase the resiliency of pastoralists in drought-prone areas by stabilizing and improving their livelihoods.

The program trained 44 farmers, who produced an average of 800 kilograms of honey, generating \$1,500 per farmer per year.

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## Interventions to Better Target or Manage Nonemergency Food Aid

The focus of U.S. assistance on commodities creates some problems for NGOs and donors that would like to see U.S. Title II assistance better managed. The panelists noted that this food aid can be better managed by targeting those communities that can absorb the commodities that are provided by the United States, so that the commodities do not distort markets. Despite the inherent inefficiency of monetization,<sup>3</sup> there are some examples of the successful use of monetized Title II funding for food security. An external evaluation of IEHA's use of food aid noted that Title II monetization proceeds have a large realm of possible uses, including financing small business start-ups; paying the costs of training programs; locally purchasing commodities, rather than using imported food in particular situations, where there is a particularly high potential for disincentives for local producers; and providing start-up capital for initiating farmer association-based thrift and savings societies.

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## Interventions to Invest in and Improve Infrastructure

As we have previously noted, improving infrastructure, such as roads and power, is key to helping rural farmers. Investment in infrastructure links the local economy to broader markets. Infrastructure, particularly roads, is important in making technology available to farmers and is key to getting commodities to markets. Good roads and port facilities reduce the costs of moving products to markets. Telecommunications bring consumers and farmers into contact and transmit market signals on prices helping markets operate efficiently. MCC provides funding to African countries to improve their infrastructure. As of February 2008, MCC had signed 16 compacts totaling \$5.5 billion. Nine of the 16 compacts were with African countries, and about 70 percent of MCC compacts (\$3.8 billion) funded projects in Africa. This includes two of the four countries that we reviewed—Tanzania and Mozambique. MCC signed a compact with Tanzania in 2008 that will provide \$698 million in funding for infrastructure investments in energy, water, and transportation, with the largest portion (about half) dedicated to transportation. In Mozambique,

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<sup>3</sup>Monetization is the use of food aid as a means to raise cash to fund development projects. It requires food to be procured, shipped, and eventually sold—incurring costs at each step in the process. For a discussion of this practice, see GAO, *Foreign Assistance: Various Challenges Impede the Efficiency and Effectiveness of U.S. Food Aid*, [GAO-07-560](#) (Washington, D.C.: Apr. 13, 2007).

the MCC compact signed in July 2007 will include funds to improve water systems, sanitation, agribusiness, roads, land tenure, and agriculture. In addition, according to State, while the short-term goal of a WFP road-building operation was to facilitate food aid delivery in southern Sudan, it also helped contribute to the long-term food security by reducing the cost of access to food and markets.

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## Interventions to Improve Natural Resource Management Systems

Sustainable production increases require resource management. Soil fertility, water management, and water use efficiency are important for raising agriculture productivity in a sustainable manner. Natural resource management, particularly water resources, is key to helping farmers maintain productivity, even during times of drought and flood. The Ethiopian government's Productive Safety Net Program (PSNP) provided food and cash assistance to 7.2 million people in 2006, and includes water resources development projects. In Tigray, Ethiopia, we visited a program focusing on the construction of deep hand-dug wells that provide accessible and safe water for rural communities. An irrigation program also focuses on harvesting methods and irrigation development activities. An IFPRI evaluation of PSNP found that while there were some delays in payments made to beneficiaries, the well construction and soil and water conservation projects were valuable.

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## Interventions to Increase Access to Inputs

Increasing access to inputs, such as improved seed and fertilizer, helps farmers boost their productivity, which is essential for food security. A number of research organizations support African agricultural development, including CGIAR, which was established in 1971 to help achieve sustainable worldwide food security by promoting agricultural science and research-related activities. CGIAR has 15 research centers under its umbrella, including IFPRI, the International Livestock Research Institute, and the International Institute for Tropical Agriculture (IITA). IITA and 40 NGO partners, including Catholic Relief Service, worked on a U.S. government-funded \$4.5 million, 19-month project in 6 countries<sup>4</sup> called the Crop Crisis Control Project (C3P). Officials from this program said that they have introduced 1,400 varieties of cassava and provided 5,000 farmers with seeds for growing banana trees. In Kenya, beneficiaries of the C3P project, especially women, said that the project has directly led to more profitable cassava growth and increased banana production. In

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<sup>4</sup>The 6 countries are Burundi, Kenya, Rwanda, Sudan, Tanzania, and Uganda.

addition, USAID, USDA, and other donors have also been providing direct support to African Research Institutions at both the national and regional levels, promoting collective action on problems that cut across borders, like pests and diseases.

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## Participants in GAO's Structured Panel Discussions and Roundtable

The following organizations were among those that participated in structured panel discussions during our fieldwork and our roundtable in Washington, D.C.:

- *Bilateral and multilateral donors*

African Development Bank  
Swedish Agency for International Development Cooperation  
Canadian International Development Agency  
Ministry of Foreign Affairs of Denmark  
European Community  
Food and Agriculture Organization  
Japan International Cooperation Agency  
International Food Policy Research Institute  
Ireland Embassy  
The Netherlands  
United Nations Development Program  
United Nations Children's Fund (UNICEF)  
U.S. Agency for International Development  
The World Bank  
World Food Program

- *NGOs and other organizations*

Agricultural Cooperative Development International and Volunteers in  
Overseas Cooperative Assistance  
Academy for Education Development  
ActionAid  
Adventist Development and Relief Agency  
Africare  
Agricultural Consultative Forum  
The Association for Strengthening Agricultural Research in Eastern and  
Central Africa  
Cooperative for Assistance and Relief Everywhere, Inc. (CARE)  
CARITAS  
Catholic Relief Services  
Christian Council Tanzania

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**Appendix IV: Summary Results of GAO's  
Structured Panel Discussions with Donors and  
NGOs, with Examples of Interventions**

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CIUSA Mozambique  
Famine Early Warning System Network (FEWS NET)—Chemonics, Inc.  
Fintrac, Inc.  
International Livestock Research Institute  
Jesuit Center for Theological Reflection  
Kenya Agricultural Research Institute  
Land O'Lakes International Development  
Michigan State University  
Oxfam Great Britain  
Partnership to End Hunger and Poverty in Africa  
Program Against Malnutrition  
Project Concern International  
TechnoServe  
Tegemeo Institute  
University of Maryland  
Western Seed Company  
World Vision

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# Appendix V: Additional Development Partners That Implement Food Security Interventions in Sub-Saharan Africa

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In addition to the efforts of host governments, multilateral organizations, and bilateral donors, NGOs and private foundations play an active role in advancing food security in sub-Saharan Africa.

- *Nongovernmental organizations.* NGOs or not-for-profit organizations may design and implement development-related projects. They are particularly engaged in community mobilization activities and extension support services. NGOs include community-based self-help groups, research institutes, churches, and professional associations. Examples include implementing partners for USAID and USDA, such as Cooperative for Assistance and Relief Everywhere, Inc.; Catholic Relief Services; and Land O'Lakes International Development. Additional examples also include advocacy groups such as the International Alliance Against Hunger, founded by the Rome-based food and agriculture agencies and international NGOs in 2003 to advocate for the elimination of hunger, malnutrition, and poverty; the National Alliances Against Hunger, including a U.S. alliance, which brings together civil society and governments in developed and developing countries to raise the level of political commitment to end hunger and malnutrition; and the Partnership to Cut Hunger and Poverty in Africa, which is a coalition of U.S. and African organizations formed in 2000 to advocate support for efforts to end hunger and poverty in Africa.
- *Private foundations.* A number of philanthropic private organizations, such as the Rockefeller Foundation and the Bill and Melinda Gates Foundation, provide support for African agricultural development. The Gates Foundation recently became one of the largest funding sources for agriculture in Africa, announcing in January 2008 a \$306 million package of agricultural development grants to boost the productivity and incomes of farmers in Africa and developing countries in other parts of the world. Among the most prominent efforts funded by philanthropic private organizations is AGRA, headquartered in Nairobi (Kenya) and established in 2007 with an initial grant of \$150 million from the Gates Foundation and the Rockefeller Foundation to help small-scale farmers lift themselves out of hunger and poverty through increased farm productivity and incomes.

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# Appendix VI: New Food Security Challenges: Rising Demand for Biofuels and Climate Change

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Rising global commodity prices and climate change are emerging challenges that will likely exacerbate food insecurity in sub-Saharan Africa.<sup>1</sup> Rising commodity prices are in part due to the growing global demand for biofuels, and this appendix provides further information on how biofuels impact food security.<sup>2</sup> This appendix also provides further information on how climate change is predicted to affect food security in sub-Saharan Africa, primarily through its impact on agricultural yields.

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## Growing Biofuel Demand Projected to Increase African Food Insecurity

Driven by environmental concerns and the high price of oil, global demand for biofuels is rapidly rising. Total biofuel production has been recently growing at a rate of about 15 percent per year, such that, between 2000 and 2005, production more than doubled to nearly equal 650,000 barrels per day or about 1 percent of global transportation fuel use. In the United States, ethanol production will consume more than one third of the country's corn crop in 2009, according to USDA. The United States and other key producers of biofuels have pledged to pursue further growth in production. In the Energy Independence and Security Act of 2007, the United States pledged to increase ethanol production nearly five-fold over current levels by 2022. Similarly, the European Commission has announced its intentions to expand biofuel production to 10 percent of its transportation fuel use by 2020. Although potential growth in biofuel production is uncertain, various estimates suggest that global biofuel production could grow to supply over 5 percent of the world's transportation energy needs.<sup>3</sup>

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<sup>1</sup>For the purposes of this report, climate change refers to any change in the climate over time, whether due to natural variability or as a result of human activity.

<sup>2</sup>Biofuels are combustible fuels produced from biomass. Current biofuel technology uses agricultural feed stocks, such as maize and sugar, to produce ethanol and rapeseed, soybean, and palm oil to produce biodiesel. Biofuels reduce world dependence on oil in the transportation sector and are a renewable energy. They generate less smog-producing carbon monoxide and less greenhouse gas emissions than oil.

<sup>3</sup>Most biofuel producers require government subsidies to be commercially viable, and the potential positive environmental impacts from biofuel production have also been questioned. World Resources Institute estimates that it took 13 percent of the U.S. corn harvest in 2005 to displace less than 3 percent of fuel needs. It further reports that, since planting, fertilizing, and harvesting; fermentation; distillation; and transportation of 1 gallon of corn-based ethanol requires between 60 and 75 percent of the energy that is produced by that gallon, global greenhouse gas emissions are only reduced by about 25 to 40 percent relative to oil.



Growth in biofuel demand potentially creates both positive and negative impacts for African agriculture and food security. For example:

- Rural development opportunities could exist for African communities that are able to produce biofuels. Countries with biofuel production could also qualify for emission-reduction credits through the international market for greenhouse gas emission reductions under the Kyoto Protocol. Such credits would allow these countries to attract additional investment through the Clean Development Mechanism that could assist them in further developing their biofuel industries. However, while several African countries are pursuing biofuel production, commercial production is not yet widely developed and experts suggest that such production risks excluding smallholder farmers.
- African biofuel production may compete with food production through competition for land, water, and other agricultural inputs. The UN reports concern that commercial biofuel production in sub-Saharan Africa will target high-quality lands and push food production to less productive lands. The World Bank reports that 75 percent of the farmland in sub-Saharan Africa is already characterized by soils that are degraded and lack nutrients.
- Rapid growth in demand for grains to produce biofuels has contributed to rising agricultural prices. Between 2005 and 2007 alone, world prices of grains rose 43 percent. Biofuel growth has also triggered increases in the prices of other agricultural commodities as the use of land to grow biofuels has decreased land available for other crops. Higher grain prices reduce resources for low-income consumers who spend a large share of their income on food, farmers who buy more food than they produce, and food aid programs. In the long term, while higher grain prices provide incentives to expand agricultural production, complementary policies and investments in technology and market development may be required.

**Volume of Biofuels Commercially  
Produced in Sub-Saharan Africa**

The current volume of biofuels being commercially produced in sub-Saharan Africa (with the exception of South Africa) is small. However, Kenya, Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe are among the countries that have enacted pro-biofuel policies. By 2010, these six countries will be producing over 700 million liters of biofuels if they meet government targets. Implementing successful biofuel programs in sub-Saharan Africa will depend on a host of factors, including access to markets and technology, agricultural and trade policy, and the price difference between biofuels and fossil fuels.

Source: GAO based on literature review.

On a net basis, IFPRI has concluded that current growth in biofuels will result in an increase in African food insecurity. Using their IMPACT model, IFPRI projects that world prices for maize will rise 26 percent and world prices for oilseeds will rise 18 percent by 2020 under the assumption that current biofuel investment plans are realized. In this case, total net calorie availability in sub-Saharan Africa will decline by about 4 percent. Worldwide, FAO projects a 15 percent net increase in the 2007 grain import bills of developing countries, partly as a result of growing biofuel demand. Concern over the negative impacts of biofuels has also been widely noted by organizations such as FAO; the World Bank; and the UN

Special Rapporteur on the Right to Food, who has called for a 5-year moratorium on the production of biofuels.

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## Climate Change Predicted to Increase African Food Insecurity

Although global temperatures have varied throughout history, key scientific studies have found that higher temperatures during the past century are largely attributable to human activities, and that, as such, temperatures are likely to rise further during this century. The National Academy of Sciences has found that global temperatures have been warmer during the last few decades of the twentieth century than during any comparable period of the preceding 400 years.<sup>4</sup> These assessments also predict rising global temperatures for this century, resulting in changed precipitation patterns and increased frequency and severity of damaging weather-related events. The Intergovernmental Panel on Climate Change (IPCC), for example, has predicted a rise in global mean temperatures of between 1.8 and 4.0 degrees Celsius, depending upon human and economic behavior. Assuming no fundamental change in that behavior, a comprehensive review of climate change models finds a 77 to 99 percent likelihood that global average temperatures will rise in excess of 2 degrees Celsius.<sup>5</sup>

Regarding climates in Africa, key studies also conclude that warming has taken place. For example, according to the IPCC, southern Africa has had higher minimum temperatures and more frequent warm spells since the 1960s, as well as increased interannual precipitation variability since the 1970s. The IPCC also reports that both East Africa and southern Africa have had more intense and widespread droughts. In the future, IFPRI reports that Africa may be the continent hardest hit by climate change, with one estimate predicting temperature increases for certain areas in Africa that are double those of the global average. One climate study

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<sup>4</sup>Furthermore, most observed increases in global average temperatures since the mid-twentieth century are likely caused by human activity, principally the burning of fossil fuels and deforestation, which have increased the amount of greenhouse gases in the atmosphere. For a discussion of models from the National Academy of Sciences and the Intergovernmental Panel on Climate Change, see GAO, *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades Are Potentially Significant*, [GAO-07-285](#) (Washington, D.C.: Mar. 16, 2007).

<sup>5</sup>Stern, Sir Nicholas, *Stern Review: Economics of Climate Change*, Report to the Prime Minister, United Kingdom Government Economic Service (October 2006).

predicts future annual warming across the continent ranging from 0.2 to 0.5 degrees Celsius, per decade.<sup>6</sup>

Climate is an important factor affecting agricultural productivity and experts report that Africa's agricultural sector is particularly sensitive to climate change due, in part, to low adaptive capacity.<sup>7</sup> Experts find that climate change will likely significantly limit agricultural production in sub-Saharan Africa in various ways:

- Higher temperatures shorten the growing season and adversely affect grain formation at night. As a result of climate change, FAO states that the quantity of African land with a growing season of less than 120 days could increase by 5 to 8 percent and the World Resources Institute describes projected future declines in the length of the growing season by 50 to 113 days in certain areas in Africa.
- Reduced precipitation limits the availability of water to grow crops. The World Wildlife Fund reports that water constraints have already reduced agricultural productivity, as 95 percent of cropland in sub-Saharan Africa is used for low-input, rain-fed agriculture rather than for irrigated production. Models referenced by the United Nations Framework on Climate Change (UNFCCC) estimate that more than an additional 600,000 square kilometers of agricultural land in sub-Saharan Africa will become severely water-constrained with global climate change.
- Variable climates lead farmers to shift agricultural production sites, often onto marginal lands, exacerbating soil erosion. According to the World Bank's *2008 World Development Report*, soil erosion can result in agricultural productivity losses for the east African highlands of 2 to 3 percent a year.

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<sup>6</sup>Hulme, Mike, Ruth Doherty, Todd Ngara, Mark New, and David Lister, *African Climate Change: 1900-2100*. Revised manuscript for *Climate Research* (April 2000).

<sup>7</sup>Development of adaptive capacity is costly. African agriculture's ability to adapt to climate change could improve through agronomic research (including biotechnology, which may result in drought and pest resistant crops), improved irrigation and water management, expanded access to credit and information, and development of appropriate risk management. However, such efforts are costly. The United Nations Framework for Climate Change, for example, has established several funds to help poor countries adapt to climate change, though the World Bank reports that current adaptation funding, with contributions at \$150 million to \$300 million a year, are insufficient to finance adaptation costs estimated at tens of billions of dollars in developing countries.

- Rising sea levels threaten coastal agricultural land. In its national communication to the UNFCCC, for example, Kenya predicted losses of more than \$470 million for damage to crops from a 1-meter rise in sea levels.
- Climate extremes aggravate crop diseases and result in crop failures and livestock deaths. FAO reports that both floods and droughts have increased the incidence of food emergencies in sub-Saharan Africa.

To quantify expected climate change impacts on African agricultural production and food security, a number of studies employ climate models that estimate changes in temperature, precipitation, and agricultural yields. Results vary widely due to the large degree of uncertainty entailed in climate modeling, as well as differences in assumptions about adaptive capacity.<sup>8</sup> Despite the wide variation in results, these studies generally conclude that climate change will increase African food insecurity in both the short and long term. For example, one study predicts that agricultural revenues in Kenya could decline between 27 and 34 percent by 2030. FAO reports a projected increase in the number of Africans at risk of hunger from 116 million in 1980 to 415 million in 2060. To illustrate potential food security impacts from climate change, results from several studies are shown in table 4. (The full citation of the sources in table 4 follow the table.)

**Table 4: Selected Studies with Negative Projected Impacts of Climate Change on African Agriculture**

Source	Year of estimated impact	Description of estimated impact
Agoumi (2003)	2020	Describes a reduction in rain-fed agricultural yields of up to 50 percent in some African countries, with smallholder farms being impacted relatively more.
Lobell, et al. (2008)	2030	Describes declines in southern African cereal production—maize yields in Zimbabwe, for example, projected to decline between 4 and 7 percent for a 1 degree Celsius increase.
World Bank Policy Research Working Paper 4334	2030	Describes a reduction in Kenyan agricultural revenues of 27 to 34 percent depending upon climate scenario.

<sup>8</sup>Climate change impact modeling entails significant uncertainty due to the complexity of weather systems, limited statistical precision of projections of future precipitation changes, and the potential for changes in adaptive capacity. While regional climate change models are now being developed, global climate models have also been criticized for not adequately accounting for the El Niño effects that are important drivers of African climate variability.

**Appendix VI: New Food Security  
Challenges: Rising Demand for  
Biofuels and Climate Change**

<b>Source</b>	<b>Year of estimated impact</b>	<b>Description of estimated impact</b>
CEEPA (2006) <sup>a</sup> Discussion Paper No. 14	2039	Describes a loss of 15 percent of cropland in East Africa, averaged across scenarios.
CEEPA (2006) Discussion Paper No. 15	2050	Describes a decline in farm productivity: <ul style="list-style-type: none"> <li>• Ethiopia: -1.3 percent</li> <li>• Kenya: -9.8 percent</li> <li>• South Africa: -3.0 percent</li> <li>• Zambia: -6.0 percent</li> <li>• Zimbabwe: -4.9 percent</li> </ul>
UNDP Human Development Report (2007/2008)	2050	Describes a reduction in potential maize yields of over 10 percent in Malawi.
United Nations Environment Program (2006)	2060	Describes a reduction in grain yields of 33 percent in sub-Saharan Africa.
CEEPA (2006) - Discussion Paper No. 8	2060	Describes a decrease in African agricultural revenues from rain-fed production of over \$25 billion under two scenarios.
FAO (1996)	2060	Describes an increase in the number of Africans at risk of hunger from 116 million in 1980 to 291 million in 2020 to 415 million in 2060. For several scenarios, predicts a 20 to 25 percent decline in cereal production by 2060.
FAO (2005)	2080	Describes a decrease in cultivated rain-fed land in Africa with 29 African countries projected to lose a total of 35 million tons in potential cereal production.
Fischer, et al. (2005)	2080	Describes sub-Saharan African cereal yields to decline on average by 12 percent in net terms; expansion of land with severe climate or soil constraints by 30-60 million hectares, and possible disappearance of land suitable for wheat production.
Warren, et al. (2006)	2080	Describes an increase in the number of people at risk of hunger in Africa by over 150 million under two scenarios.
Tubiello and Fischer (2007)	2080	Describes an increase of over 220 million Africans at risk of hunger.
Arnell (2002)	2080	Describes cereal yields to decrease between 2.5 and 5.0 percent, even with CO <sub>2</sub> stabilization, in certain African countries.

Source: GAO.

Note: Full citations of the sources are listed following this table.

<sup>a</sup>The University of Pretoria's Centre for Environmental Economics and Policy in Africa is coordinating a Global Environment Facility-funded project to assess climate change impacts on agroecological systems in 11 African countries. Assisting with the project are the World Bank, FAO, Yale University, University of Colorado, and the International Water Management Institute.

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## Additional Source Information

Agoumi, Ali. *Vulnerability of North African Countries to Climatic Changes: Adaptation and Implementation Strategies for Climate Change*. International Institute for Sustainable Development, 2003.

Arnell, N.W, M.G.R. Cannell, M. Hulme, R.S. Kovats, J.F.B. Mitchell, R.J. Nicholls, M.L. Parry, M.T.J. Livermore, and A. White. "The Consequences of CO<sub>2</sub> Stabilisation for the Impacts of Climate Change." *Climatic Change*, vol. 53, 2002.

FAO. *Global Climate Change and Agricultural Production*. Rome, Italy, 1996.

FAO. *Special Event on Impact of Climate Change, Pests and Diseases on Food Security and Poverty Reduction: Background Document. 31st Session of the Committee on World Food Security*. Rome, Italy, 2005.

Fischer, Gunther, Mahendra Shah, Francesco N. Tubiello, and Harrij van Velhuizen. "Socio-economic and Climate Change Impacts on Agriculture: an Integrated Assessment, 1990-2080," *Philosophical Transactions of The Royal Society B*, vol. 360, 2005.

Kabubo-Mariara, Jane and Fredrick K. Karanja. *The Economic Impact of Climate Change on Kenyan Crop Agriculture: A Ricardian Approach*, World Bank Policy Research Working Paper 4334. Washington, D.C., August 2007.

Kurukulasuriya, Pradeep and Robert Mendelsohn. *A Ricardian Analysis of the Impact of Climate Change on African Cropland*. CEEPA Discussion Paper No. 8, Centre for Environmental Economics and Policy in Africa, University of Pretoria, July 2006.

Lobell, David B., Marshall B. Burke, Claudia Tebaldi, Michael D. Mastrandrea, Walter P. Falcon, and Rosamond L. Naylor. "Prioritizing Climate Change Adaptation Needs for Food Security in 2030." *Science*, Vol. 319, February 2008.

Lotsch, Alexander. *Sensitivity of Cropping Patterns in Africa to Transient Climate Change*. CEEPA Discussion Paper No. 14, Centre for Environmental Economics and Policy in Africa, University of Pretoria, July 2006.

Maddison, David, Marita Manley, and Pradeep Kurukulasuriya. *The Impact of Climate Change on African Agriculture: A Ricardian Approach*. CEEPA Discussion Paper No. 15, Centre for Environmental Economics and Policy in Africa, University of Pretoria, July 2006.

Tubiello, Francesco N. and Günther Fischer. "Reducing Climate Change Impacts on Agriculture: Global and Regional Effects of Mitigation, 2000-2080." *Technological Forecasting and Social Change*, vol. 74, 2007.

United Nations Environment Programme. *African Regional Implementation Review for the 14th Session of the Commission on Sustainable Development: Report on Climate Change*. Nairobi, Kenya, 2006.

Warren, Rachel, Nigel Arnell, Robert Nicholls, Peter Levy, and Jeff Price. *Understanding the Regional Impacts of Climate Change: Research Report Prepared for the Stern Review on the Economics of Climate Change*. Tyndall Center for Climate Change Research Working Paper 90, September 2006.

# Appendix VII: Comments from the U.S. Agency for International Development

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



**USAID**  
FROM THE AMERICAN PEOPLE

MAY 16 2008

Mr. Thomas Melito  
Director  
International Affairs and Trade  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Mr. Melito:

I am pleased to provide the U.S. Agency for International Development's (USAID) formal response on the draft GAO report "International Food Assistance: Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015" (GAO-08-680).

We appreciate the GAO's examination of USAID's agriculture investments in sub-Saharan Africa and its recognition of the significant reductions in funding that have occurred over the past decade. Enclosed you will find our detailed comments on the draft report.

Thank you for the opportunity to respond to the GAO draft report and for the courtesies extended by your staff in the conduct of this review.

Sincerely,

A handwritten signature in black ink that reads "Sean Mulvaney".

Sean Mulvaney  
Assistant Administrator Management Bureau

Enclosed: Detailed Comments

U.S. Agency for International Development  
1300 Pennsylvania Avenue, NW  
Washington, DC 20523  
[www.usaid.gov](http://www.usaid.gov)



**USAID Detailed Comments on Draft GAO Report:  
International Food Assistance: Insufficient Efforts by Host Governments and  
Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015  
(GAO-08-680)**

USAID concurs with the first recommendation. The 1996 World Food Summit clearly identified responsibilities for halving hunger by 2015. Primary responsibility resides with the respective nations themselves. In this regard, in sub-Saharan Africa (as the report rightly points out), a key element is getting African countries to direct 10 percent of their national budgets to agriculture and rural development. There has been good progress on this, but clearly more progress is needed.

See comment 1.

In 2006, the economy of all sub-Saharan Africa grew by 5.5 percent. As noted by the African Development Bank, overall economic growth in Africa reached a robust 6 percent in 2007, the highest in the last 20 years. In many of the non-oil producing countries that have experienced growth, agriculture has been a major contributor.

See comment 2.

The emergence of the African Union (AU), which along with regional and sub-regional organizations in Africa, is demonstrating effective leadership in the promotion of good governance, peace, and security, critical components for ensuring sustained economic development and food security. To consolidate our partnership, the United States has appointed an ambassador to the AU and is working closely with the AU to implement its food security strategy which is part of the New Partnership for Africa's Development (NEPAD) Comprehensive Africa Agriculture Development Program (CAADP).

There are additional activities that the USG and the global community are undertaking that address the question of food security, namely:

- In 2006, the USG undertook a major effort in interagency coordination, the U.S. Foreign Assistance Reform.
- In May 2008, a sub-Principals Coordinating Committee (PCC) on Food Price Increases and Global Food Security was established to enhance USG interagency coordination.
- A parallel effort at donor coordination, the Development Assistance Committee (DAC) Paris Declaration on Aid Effectiveness was implemented by USAID in 2005.
- In Africa, donors have formed the AU NEPAD CAADP Donor Partner Platform to coordinate and align investments in African countries under CAADP.
- USAID has made extensive investments to address long-term agriculture production constraints through support of agricultural research by the Consultative Group on International Agricultural Research (CGIAR) (a large portion of which is spent on Africa), U.S. land grant university programs such as the Collaborative Research Support Programs (CRSPs), and research in the area of agricultural biotechnology. These programs undertake research in partnership with African research institutions and work to build African science and technology capacity.

See comment 3.

The President's Initiative to End Hunger in Africa (IEHA) is directly addressing food insecurity in Africa. IEHA has played an important leadership role in improving the capacity of African governments to identify and make the strategic investments necessary to meet the food security needs of their people. Through IEHA, USAID is actively working with the AU, NEPAD, African countries and other donors. For example, the U.S. is collaborating with donors and African partners to design the Alliance for Commodity Trade in East and Southern Africa, a multi-donor effort led by the Common Market for Eastern and Southern Africa (COMESA), to build regional cross-border alliances that will strengthen innovative market institutions and link chronically food insecure smallholder farmers with growing national and regional markets for staple foods.

See comment 4.

The report links the non-food factors of health, rising commodity prices, and climate change to food security. Because the report uses malnutrition as the basis for measuring hunger, it is important to understand the role of additional non-food factors such as water and sanitation investments on the level of hunger in sub-Saharan Africa and the rest of the world.

See comment 5.

We are concerned with the report's conclusion (pp. 5-6) that "USAID's efforts to shift its focus from emergency food aid to long-term agricultural development have not been successful." USAID recognizes that food aid is not the solution to chronic hunger and poverty and, that, in the longer term, the USG needs to help countries and their people achieve food security and reduce the need for emergency food aid. However, given the high levels of acute food insecurity in sub-Saharan Africa, it is important that a shift in focus from relief to development not translate into reduced emergency food aid in the short term. Rather a shift in focus should signal recognition that investment in rural agriculture is the best means of reversing hunger and food security and that these investments will likewise reduce the need for emergency food aid over time.

See comment 6.

Finally, the second recommendation that progress on developing and implementing an integrated government-wide U.S. strategy on achieving food security in sub-Saharan Africa be reported as part of the annual *U.S. International Food Assistance Report*, which is required to be submitted to Congress by P.L. 480, infers (1) that the key means for addressing food insecurity and agricultural and/or economic development is – or should be – food aid, and (2) that USAID is not appropriately managing this resource by using it primarily as an emergency resource. A more appropriate report would capture the various accounts the USG uses to invest in African agricultural and economic development such as the annual report on progress under the IEHA.

Following are GAO's comments on the U.S. Agency for International Development letter dated May 16, 2008.

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## GAO Comments

1. Although some African countries have had robust economic growth in recent years, to achieve the WFS and MDG-1 goals, the growth, especially in agriculture, needs to be sustained. As we note in our report, concerted efforts and sustained growth are needed for many years to overcome the numerous challenges facing host governments and donors to halve hunger in sub-Saharan Africa by 2015.
2. While GAO recognizes the various ongoing coordination efforts at the international and U.S. government level, our work revealed that coordination on improving food security in sub-Saharan Africa has thus far been insufficient. In May 2008, following the release of a draft of this report, USAID initiated the creation of a sub-Principals Coordinating Committee on Food Price Increases and Global Food Security to help facilitate interagency coordination. In addition to USAID, USDA, State, and Treasury, participating agencies include the Central Intelligence Agency, the Department of Commerce, MCC, the National Security Council, the Office of Management and Budget, the Peace Corps, the U.S. Trade and Development Agency, and the U.S. Trade Representative.
3. As we note in our report, while IEHA has undertaken a variety of efforts to address food insecurity in Africa, these efforts have thus far been limited in scale and scope. IEHA does not integrate with other agencies in terms of plans, programs, resources, and activities. In addition, many IEHA projects are limited in their impact because they may not necessarily address the root causes of food insecurity. For example, projects distributing treadle pumps benefit only the farmers who receive them, but do not address the larger issue of the underdevelopment of agricultural input markets.
4. While we recognize that clean water and sanitation are important to nutrition and food utilization, these issues were outside the scope of our study.
5. We recognize the importance of emergency assistance. However, to break the cycle of poverty, food insecurity, and emergencies, agricultural development needs to increase in priority. We agree with USAID that a shift in focus from relief to development should not translate into reduced emergency food aid in the short term.

6. We disagree with USAID's comment that a report such as the annual progress report on IEHA (which is not congressionally required), instead of the congressionally required *International Food Assistance Report* (IFAR), be used to report on USAID's and other agencies' implementation of our first recommendation. Public Law 480, section 407 (f)(codified at 7.U.S.C. 1736a(f) requires that the President prepare an annual report that "shall include...an assessment of the progress toward achieving food security in each country receiving food assistance from the United States Government." Expanding the scope of current reporting to include progress on achieving food security would enhance the usefulness of IFAR, while making it unnecessary to recommend the promulgation of a separate report.

# Appendix VIII: Comments from the U.S. Department of Agriculture

Note: GAO comment supplementing those in the report text appears at the end of this appendix.



United States  
Department of  
Agriculture

Foreign  
Agricultural  
Service

Washington, D.C.  
20250

MAY 14 2008

Mr. Thomas Melito  
Director, International Affairs and Trade  
United States Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Mr. Melito:

Thank you for providing the Department of Agriculture (USDA) with this opportunity to comment on the Government Accountability Office's draft report "INTERNATIONAL FOOD ASSISTANCE: Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015" (GAO-08-680). This timely report is of great interest within and beyond USDA, especially as reduced food stocks and high commodity prices raise the anxiety of millions of people worldwide who are concerned about their health and livelihoods.

The draft report contains useful information and recommendations. The Department is also pleased with the role it plays in meeting the short- and long-term food needs in sub-Saharan Africa. Currently, USDA participates in a food aid policy coordinating process with the U.S. Agency for International Development, the Department of State, the Office of Management and Budget, and other government agencies, to help ensure the effective coordination and distribution of food aid resources.

USDA remains committed to utilize its full range of authorities and programs to address the need for improving the effectiveness of global food assistance and development.

Sincerely,

Michael W. Yost  
Administrator

See comment 1.

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Following is GAO's comment on the U.S. Department of Agriculture letter dated May 14, 2008.

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## GAO Comment

1. We acknowledge the role that USDA plays in meeting short- and long-term food needs in sub-Saharan Africa. Although an interagency Food Assistance Policy Council provides a forum for the discussion and coordination of U.S. food aid programs, a similar forum to address food security issues had not been established until May 2008 after the issuance of a draft of this report. Finally, although USDA administers food assistance programs, including food aid programs for development, we note in this report that these are not included in IEHA.

# Appendix IX: Comments from the Department of State

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



**United States Department of State**

*Assistant Secretary for Resource Management  
and Chief Financial Officer*

*Washington, D.C. 20520*

MAY 16 2008

Ms. Jacquelyn Williams-Bridgers  
Managing Director  
International Affairs and Trade  
Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548-0001

Dear Ms. Williams-Bridgers:

We appreciate the opportunity to review your draft report, "INTERNATIONAL FOOD ASSISTANCE: Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015," GAO Job Code 320503.

The enclosed Department of State comments are provided for incorporation with this letter as an appendix to the final report.

If you have any questions concerning this response, please contact John Menard, Foreign Affairs Officer, Bureau of Economic, Energy and Business Affairs at (202) 663-2505.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Kaplan".

Sid Kaplan (Acting)

cc: GAO – Phil Thomas  
EEB – Dan Sullivan  
State/OIG – Mark Duda

**Department of State Comments on GAO Draft Report**

**INTERNATIONAL FOOD ASSISTANCE: Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015**  
**(GAO-08-680, GAO Code 320503)**

Thank you for the opportunity to comment on your draft report entitled INTERNATIONAL FOOD ASSISTANCE: Insufficient Efforts by Host Governments and Donors Threaten Progress to Halve Hunger in sub-Saharan Africa by 2015. The Department of State, and its interagency partners, have been and continue to be engaged on the important issues of food aid and food security. The report provides timely information on this issue, which has become more critical in recent months with the sharp increase in food prices.

The Department of State acknowledges the main findings of the GAO report. Although there are no recommendations to the Department of State in the report, we would like to provide some formal comments.

On page 43, the report states that, "...Our meetings with officials of other agencies demonstrated that there was no significant effort to coordinate their food security programs." State believes this statement is inaccurate, as we engage in ongoing coordination with USAID and USDA on food security issues. Specifically, various bureaus within State such as the Office of the Director of Foreign Assistance (F), Bureau of Population, Refugees, and Migration (PRM), the Bureau of Economic, Energy, and Business Affairs (EEB), Bureau of African Affairs (AF), Bureau of International Organization Affairs (IO), and others work closely with our colleagues at USAID and USDA to coordinate food security issues.

We would also note the following issues should be addressed:

- The issue of post-harvest food spoilage and market delivery, particularly in developing countries, needs to be examined and incorporated.
- Sanitary and phytosanitary (SPS) issues/access requires attention and further study. The African countries regularly complain about the negative effects EU SPS rules have on their agricultural production. We understand that, technically, such rules would affect production for export, but the effects of the rules usually spill over into the domestic market as well.

See comment 1.

See comment 2.

See comment 3.



See comment 4.

- Despite GAO's acknowledgement that FAO's surveys and studies are methodologically faulty and out of date (pages 39-41), GAO appears to rely on them to come up with its own analyses, noting in Appendix 1 that FAO survey/data is reliable enough to use. (This would seem to produce data that is even less reliable than FAO's original data.)

See comment 5.

- The report relies solely on FAO reports/data regarding undernourishment. Other UN organizations, including UNHCR and WFP, do a good job of tracking malnutrition, etc., however, their data is not referenced in the report, neither is it clear what standard FAO employs for its assessments. Is it using SPHERE standards or standards that it has developed? No mention is made of WFP food assessments/surveys and/or the results of UN Joint Assessment Missions (JAMs).

See comment 6.

- The report fails to fully describe (take into account) WFP's work in the agriculture and infrastructure development sectors (see footnote 14, page 14) and host governments' support of such projects. (For example, the Government of South Sudan (GOSS) contributed \$55M to a WFP infrastructure-road building/improvement operation in 2007; since the operation began in 2004, the GOSS has contributed over \$85M. The operation's short-term goal was to make it easier to deliver food assistance in southern Sudan; the long-term benefits to the region's economy will be its lasting contribution to food security including reducing the cost of access to food and markets in which to sell food/agriculture products. The operation has been so successful that at the GOSS' request WFP has extended it through mid-2009. The USG has contributed over \$72.55M to this operation. (Note: Neither the GOSS or any other government entity in Sudan has ever contributed to a WFP feeding operation.)

See comment 3.

- Although the report's authors acknowledge role of trade policies in a footnote on page 16 of the report, in order for the report to be comprehensive it should take into account the important role trade (access to markets; subsidies, etc.) has on food security and the goal of halving hunger. It is clear that under-investment in agriculture is a global phenomenon that is one of the biggest factors in preventing food security.

See comment 7.

- When discussing the causes of hunger in Africa, the report does not mention such key issues as a prolonged period of warfare and civil strife, and inadequately addresses such important host government issues as good governance, and a commitment to agricultural and rural development.

See comment 8.

- To further address the causes of hunger in Africa, especially in light of rising food prices, the USG is pursuing an integrated policy response.
- On May 1, the President announced his request to the Congress for an additional \$770 million in funding for food aid and agricultural development programs to help address global food insecurity issues. The additional \$770 million will support a three-pillared response to the food crisis: (1) increasing food assistance to meet the immediate needs of the most vulnerable (\$620 million); (2) augmenting agriculture productivity programs, especially in Africa and other key agricultural regions, to boost food staple supplies (\$150 million); and (3) promoting an international policy environment that addresses the systemic causes of the food crisis.
- Emergency assistance funds will target those regions most severely affected by the food shortage crisis, including Ethiopia, Kenya, Mauritania, Niger, Somalia and Zimbabwe. Non-emergency assistance funds to help boost agriculture productivity will also target countries in Africa, including Ghana, Senegal, Nigeria, Mali, Uganda, Ethiopia, Kenya, and Rwanda.
- The President's announcement is in addition to his previous request for an additional \$350 million for emergency food aid in FY 2008, and the \$200 million drawdown of the U.S. Department of Agriculture's Bill Emerson Humanitarian Trust announced two weeks ago. The President stated that, with these additional resources, the U.S. will contribute a total of almost \$5 billion to the fight against global hunger in FY 2008 and FY 2009.
- Critically, the U.S. strategy goes beyond the immediate impacts of the food price crisis to address the underlying causes of commodity market fluctuations. We have outlined steps the U.S., the international community, and the affected governments can take to increase agricultural productivity, as well as the systemic international policy issues that distort the international food market.

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- The second pillar of the U.S. approach is to jump-start a substantial supply response in key developing countries where we can rapidly double production of key food staples. At the same time, we will work to break the transportation chokepoints and bottlenecks that inhibit the efficient flow of food across key points in Africa. Together this will target some of the most fundamental challenges facing agricultural development that are contributing to high food prices.
- Finally, the U.S. will strongly promote an international policy environment that facilitates a truly global market for food. This includes a strong push for the conclusion of the Doha Round this year that contains a strong agreement on agricultural market access. In addition, the U.S. will work with countries to remove harmful export restrictions that result in higher global food prices and deny poor farmers access to global markets. We will also press for countries to abide by global trading rules and accept science based evaluations of food production methods. Advanced crops developed through biotechnology have an important role to play in increasing productivity, and lifting agriculture export restrictions that contribute to higher food prices is essential.

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Following are GAO's comments on the Department of State letter dated May 16, 2008.

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## GAO Comments

1. We maintain that U.S. agencies' efforts to coordinate food security programs have thus far been insufficient. Efforts to date are focused primarily on food aid, as opposed to food security, and there is no comprehensive U.S. governmentwide strategy for addressing food insecurity in sub-Saharan Africa.
2. A major reason for food spoilage and poor market delivery is poor infrastructure, as we note in our discussion of rural development.
3. As we note in our discussion of our objectives, scope, and methodology (see app. I), although we recognize the multifaceted nature of factors affecting food security, we excluded some factors, such as international trade, from the scope of our study. While international trade is important to global food security, its relative importance to sub-Saharan Africa is considerably lower. Many smallholder farmers in sub-Saharan Africa are not in a position to benefit from international trade due to high transaction costs, and they generally produce products, such as cassava, that are not traded internationally.
4. We did not generate data from FAO's original estimates of undernourishment. We relied on FAO's estimates to assess progress toward the WFS and MDG goals. As we note in our previously mentioned objectives, scope, and methodology, we discussed the reliability of FAO's undernourishment estimates with cognizant FAO and U.S. government officials in Washington and in sub-Saharan Africa, and we determined that these estimates are sufficiently reliable for our purpose, which is to show overall trends over time at the aggregate level.
5. FAO's estimates are the official indicators used to track progress toward the WFS and MDG-1 goals. In addition, they are the only estimates available to assess undernourishment at the global level. Other UN agencies, such as WFP, conduct assessments and collect other data on food supply and nutrition for their respective missions. However, they do not do so at the global level, and their data cannot replace FAO's estimates on undernourishment to track long-term progress toward the WFS and MDG-1 goals.

6. We added language in appendix IV to reflect the recent experiences in southern Sudan.
7. As we previously mentioned in our objectives, scope, and methodology, although we recognize the multifaceted nature of factors affecting food security, some factors, such as conflicts, were excluded from the scope of our study. We disagree with State's assertion that we did not adequately address host government issues. Our report points out that host government policy disincentives are a main factor in food insecurity. We also note that the lack of the sufficient investment in agriculture by the host government is one of the challenges hindering progress to halving hunger by 2015.
8. In May 2008, the President announced a \$770 million initiative that aims to (1) increase food assistance to meet the immediate needs of the most vulnerable (\$620 million); (2) augment agricultural productivity programs, especially in Africa and other key agricultural regions, to boost food staple supplies (\$150 million); and (3) promote an international policy environment that addresses the systemic causes of the food crisis. However, as of the time of this report, Congress had not passed legislation implementing this proposal.

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# Appendix X: GAO Contact and Staff Acknowledgments

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## GAO Contact

Thomas Melito, (202) 512-9601 or [melitot@gao.gov](mailto:melitot@gao.gov)

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## Staff Acknowledgments

In addition to the person named above, Phillip J. Thomas (Assistant Director), Carol Bray, Ming Chen, Debbie Chung, Martin De Alteriis, Leah DeWolf, Mark Dowling, Etana Finkler, Melinda Hudson, Joy Labez, Julia A. Roberts, Kendall Schaefer, and Elizabeth Singer made key contributions to this report.

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*Foreign Assistance: Various Challenges Limit the Efficiency and Effectiveness of U.S. Food Aid.* [GAO-07-905T](#). Washington, D.C.: May 24, 2007.

*Foreign Assistance: Various Challenges Impede the Efficiency and Effectiveness of U.S. Food Aid.* [GAO-07-560](#). Washington, D.C.: April 13, 2007.

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*Foreign Assistance: Lack of Strategic Focus and Obstacles to Agricultural Recovery Threaten Afghanistan's Stability.* [GAO-03-607](#). Washington, D.C.: June 30, 2003.

*Foreign Assistance: Sustained Efforts Needed to Help Southern Africa Recover from Food Crisis.* [GAO-03-644](#). Washington, D.C.: June 25, 2003.

*Food Aid: Experience of U.S. Programs Suggest Opportunities for Improvement.* [GAO-02-801T](#). Washington, D.C.: June 4, 2002.

*Foreign Assistance: Global Food for Education Initiative Faces Challenges for Successful Implementation.* [GAO-02-328](#). Washington, D.C.: February 28, 2002.

*Foreign Assistance: U.S. Bilateral Food Assistance to North Korea Had Mixed Results.* [GAO/NSIAD-00-175](#). Washington, D.C.: June 15, 2000.

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