# REPORT TO CONGRESS ON TITLE XII:

# FAMINE PREVENTION AND FREEDOM FROM HUNGER

United States Agency for
International Development

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Remarks at a dinner, "Agricultural Innovation at Home and Abroad: Partnerships for Success", to celebrate the partnership of USAID, the US universities and the agriculture community and their efforts to prevent famine and establish freedom from hunger around the world. *September 22, 1998*

*"The percentage of malnourished people has fallen, and the lives and livelihoods of countless millions of rural families have dramatically improved. Food is more available -- at lower cost -- in many developing countries, both because of more productive seed varieties and because of policy reforms USAID has fostered actively.*

*"Title XII legislation played a major role in making these accomplishments possible. Title XII helped create a new means of marshalling the strength of the U.S. research establishment to help meet the global hunger challenge. Title XII legislation also broke new ground by recognizing the value that agricultural development abroad brings to the American farm economy.*

*"We have met Title XII's first stated mandate -- to increase world food production many times over. We have not met Title XII's second stated mandate, 'solving food and nutrition problems in the developing countries.'*

*"Ending hunger is in everybody's best interests ... It serves the security needs of every nation, every enlightened leader, every person that walks the earth."*

**J. Brian Atwood**
**USAID Administrator**

*"... BIFAD laid down the intellectual foundations for training, institutional building, and research.*

*... Information technology and biotechnology are enormously powerful tools and bring significant additional agriculture production in the developing world... This is an environment where great progress can be made."*

**Peter McPherson,**
**President**
**Michigan State University**

*"Farmers are key to maintaining the environment, maintaining culture and tradition, as well as being producers. This latter view is the one that is more realistic, and we both (USAID and land-grants) need to aggressively 'redefine' agriculture beyond its productive functions."*

**C. Peter Magrath, President**
**National Association of State Universities and Land Grant Colleges**

# Report to Congress on Title XII: Famine Prevention and Freedom from Hunger December 1998

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# Report to Congress on Title XII: Famine Prevention and Freedom from Hunger Fiscal Years 1992 - 1997

## Executive Summary

This report summarizes USAID implementation of the Title XII legislation between 1992 and 1997. Over the years, USAID's agricultural programs have most directly reflected the mandate of Title XII, complementing other USAID efforts in support of economic growth and private sector development, child survival, education, and other social and political development goals. *Country* agricultural programs have focused on local institution-building in the agricultural sector as well as establishment of an appropriate policy environment for all productive sectors. *Regional* programs have emphasized trade policies and regulations as well as agricultural production technology-sharing and transfer. *Global* programs have focused on the genetic improvement of crops, issues related to the conservation of biodiversity and management of natural resources, food and agricultural policy, the involvement of U.S. universities in multi-regional research and training, and collaboration and coordination with other donors.

In the 1992-97 period, the Agency revisited its strategy, introducing new priorities in democracy, governance, and human capacity development and reshaping other objectives -- including those involving broad-based economic growth, agriculture, food, and nutrition. Both the end of the Cold War and the new era of expanding global markets contributed to changing trends in USAID assistance. Beginning in 1992, USAID expanded its programs into the former Soviet Union and Eastern Europe, providing support for economic and political transitions on a significant scale. At the same time, however, budget agreements between the Administration and the Congress resulted in a gradual reduction in overall appropriations for USAID programs.

While $7.5 billion was approved for USAID programming in FY 92, USAID's appropriation in FY 97 was $6.7 billion, a decline of just over 10 percent. Operating Expense (OE) constraints resulted in severe restrictions on new hiring and, in 1996, in a major reduction-in-force. Combined with retirements, Agency staff was downsized by 30 percent. USAID's obligations for agricultural activities declined by 59 percent between 1992 and 1997 (from $594 million to $244 million) as Administration priorities shifted and new programs opened in the former Soviet Union.

Agriculture also claimed a reduced share of the total budget, going from 10 percent of total USAID obligations in FY 92 to less than five percent of obligations in FY 97. Within overall budget trends, agricultural obligations in the Asia/Near East region dropped most sharply -- by almost 75 percent. Other reductions were less drastic. For example, agricultural investments in the sub-Saharan Africa region were reduced by 57 percent, but settled at $80 million in FY 97 (thus making it the largest agricultural program among all

the regions) contributing over 11 percent of the total Africa assistance program.

To respond to these changed resource levels, USAID's managers modified agricultural portfolios in several ways.

- In **Sub-Saharan Africa**, the reduced budget levels mainly affected programs that involved work with public agencies, particularly agricultural research. They had relatively less impact on programs with a private sector, cooperative or agribusiness focus. Programming priorities led to closure of agricultural programs in several countries -- Senegal, Tanzania, Guinea and Zimbabwe. At the same time, strong programs that emphasize both food crops and cash crops as a means to increase rural incomes and food security continue in countries such as Kenya, Uganda and Mozambique.

- **In the Asia and Near East region,** activities focused on agribusiness and policy reforms continued in Egypt and, at reduced levels, in Sri Lanka, Nepal, Morocco, the Philippines and Bangladesh. Agriculture sector assistance to Indonesia ended in 1997 with the reduction of economic growth funds available to the Mission.

- The **Bureau for Latin America and the Caribbean** shifted program emphasis from "strengthened markets" to "expanding access and opportunity for the poor." This meant a refocusing of agricultural and rural development efforts as well as a general downsizing of programs across the region.

- The **Europe and the New Independent States region** began operations in the early 90s, and all assistance programs had, from the outset, very limited time horizons and an orientation toward accelerating the transition to market economies. The programs emphasized private sector and commercial agribusiness development, and complemented other ENI programs in commercial law, privatization, enterprise development and financial sector restructuring.

The various global programs through which USAID partners with U.S. universities in mobilizing science to solve agricultural problems and in training and educating the next generation of agricultural scientists from developing countries were also downsized and modified.

In the 1992-97 period, USAID's support for **land-grant university-led research activities** was embodied in nine Collaborative Research Support Programs (CRSPs) and three related programs: the Postharvest Collaborative Agribusiness Support Program (CASP), the Agricultural Biotechnology for Sustainable Productivity (ABSP) activity, and the Food Security Policy project. Fifty universities from 34 states, the District of Columbia and Puerto Rico are participating in these programs.

The CRSPs have continued to produce a large quantity of research results and information even though the overall scale of effort has been trimmed. Over 7000 scientists and support staff from the U.S., host countries, and other developing countries have been better educated through the involvement of the CRSPs. Approximately 60 percent of the financing for the CRSPs came from the centrally-managed USAID grants -- worth a total of $98 million over the period -- and the remainder came from the participating universities, missions, and other organizations involved in the research.

Consistent with larger budget trends, USAID's funding of both research and implementation activities carried out by U.S. land-grant institutions declined during the period. Contract/grant data show that, in FY 92, USAID signed 384 agreements with universities. A third of these agreements (134) were for agricultural sector activities, and the average value of such activities was $3.4 million. In FY 97, USAID negotiated 142 contracts or grants with institutes of higher education (a drop of 63 percent), of which 11 were for agriculturally-related activities. The average value of each grant was $.9 million. In comparison to agriculture sector activities, total funding levels of grants/contracts with universities fell less dramatically, from $221 million in FY 92 to $162 million in FY 97, a drop of 27 percent.

During the 1992-1997 period, USAID's unrestricted core support to the **International Agricultural Research Centers** (IARCs) in the Consultative Group on International Agricultural Research (CGIAR) was cut nearly in half, from $42.9 million in 1992 to $22.4 million in 1996. In 1997, following the World Food Summit, funding was increased to $26 million. Most of this increase was in support of expanded research linkages with U.S. universities.

The increasing interest in, and scope for, collaboration between U.S. universities and the IARCs reflect larger trends in scientific research. As both a greater number of disciplines contribute to integrated research approaches and as budgets have been reduced, it has become increasingly attractive to seek collaborative linkages, especially in areas such as biotechnology and information management. In this context, USAID's initiation of the new CGIAR-U.S. university linkages program in 1997 was effective in fostering more collaboration between U.S. universities and the IARCs, with the latter funding some 80 activities involving more than 50 U.S. universities. Given this importance of the U.S. university partnership to USAID, the ability to join the clear scientific strength of the U.S. universities with the critical global leadership of the CGIAR institutions through a simple mechanism has been gratifying.

One important instrument to promote increased collaboration between U.S. universities and various other groups interested in international agriculture in the Board for International Food and Agricultural Development (BIFAD). The current BIFAD was named in August 1995; its mandate is to advise and assist the USAID Administrator with regard to programs and activities relating to agriculture and food security. Along with other groups and individuals,

BIFAD has encouraged USAID to refocus attention on international agricultural development.

With BIFAD support and encouragement, the Administrator has taken a number of specific and concrete steps to reemphasize the importance of agriculture in USAID's programs. These include:

- stressing the critical role of agriculture in promoting economic development in low income countries in his congressional testimony and public speeches;
- signalling USAID's recommitment to agriculture and food security by explicitly adding "agricultural development" to the Agency strategic goal of economic growth;
- renewing U.S. university collaboration in agricultural research with developing countries (including a revision of the CRSP guidelines);
- opening new windows to collaboration with the U.S. agribusiness community (this was supported by naming a key private sector member to the BIFAD);
- fully participating in the interagency process related to the 1996 Rome World Food Summit and sustaining the involvement of the nongovernmental and agribusiness sectors; and
- reversing the declining trend in funding for agricultural activities. From a low point of $244 million in FY 97, USAID's FY 98 agriculture budget was $294 million and the FY 99 budget request included a further increase -- to nearly $305 million.

While this renewed budgetary commitment to expanding the role of agriculture in promoting economic growth and protecting the global natural resource base is straightforward, the strategic challenge faced by USAID in implementing Title XII is complex. This challenge encompasses:

- recognition that the size of the world's hungry population is not going to diminish without additional and more focused efforts, not only on increasing agricultural production, but also on other factors associated with children's nutrition, such as women's education;
- realization that under-investment in agricultural research for more than a decade may have already disrupted the flow of benefits which can be expected from publicly-funded research;
- increased understanding of the linkage between civil conflict, democratic participation, education, rule of law, women's roles, and food security; and
- awareness that strengthened market ties with the developing world are essential for growth of U.S. agriculture and new forms of public-private partnership are needed.

To respond to these complex issues, USAID has many of the resources needed, the most important of which are the long-standing institutional relationships which it has developed both in developing countries and the U.S.

The U.S. land-grant universities are, as the Title XII legislation asserts, essential partners in many of these relationships. These relationships enable USAID to call upon expertise around the globe, mobilizing the most appropriate to solve problems wherever they occur.

We are committed, therefore, to solving the funding and staffing problems which affect our efforts to address this complex challenge and look forward to building on our Title XII implementation experience to shape USAID's response to the continued challenges of preventing famine and freeing the world from hunger.

# Report to Congress on Title XII: Famine Prevention and Freedom from Hunger

## INTRODUCTION

This report summarizes USAID implementation of the Title XII legislation during the period 1992-97. Title XII was enacted in 1975, a time of widespread hunger and famine in Africa. The U.S. responded to that crisis with unprecedented volumes of food aid and other humanitarian assistance, thus saving millions of lives.

Title XII, however, takes a longer view, and aims at marshalling American teaching and research expertise in agricultural sciences to "prevent famine and establish freedom from hunger" in developing countries. In order to achieve these goals, "various components must be brought together...including:

- strengthening the capabilities of universities to assist in increasing agricultural production in developing countries;
- institution-building programs for development of national and regional agricultural research and extension capacities in developing countries which need assistance;
- international agricultural research centers;
- contract research; and
- research program grants."

Over the years, USAID's agricultural programs have most directly reflected Title XII's mandate, complementing other USAID efforts in support of economic growth and private sector development, child survival, education, and other social and political development goals. *Country* agricultural programs have focused on local institution-building in the agricultural sector as well as on establishing an appropriate policy environment. *Regional* programs have emphasized trade policies and regulations, production technology-sharing, and transfer. *Global* programs have focused on the genetic improvement of crops, issues related to the conservation of biodiversity and management of natural resources, food and agricultural policy, the involvement of the U.S. universities in multi-regional research and training, and collaboration and coordination with other donor agencies in both the Consultative Group on International Agricultural Research (CGIAR) and the Organization for Economic Cooperation and Development (OECD), as well as other fora.

In the period covered by this report, however, the Agency revisited its strategy, introducing new priorities in democracy and governance and human capacity development; and reshaping other objectives, including those involving agriculture, food, and nutrition. Overall, the period can be characterized as one of declining budgets and staffing for USAID, not only in the agricultural area, but for economic growth activities on a broader scale. At the same time, funding and programs in democracy, environment, and population and health, especially child survival, expanded.

Section I of this report describes the backdrop of global change in agricultural trade, productivity, and technological innovation against which USAID programs in agriculture have evolved. It also explains the U.S. government and USAID context which affected agricultural programming.

Section II takes a closer look at USAID activities in agriculture, illustrating how budget and program priorities have evolved in country, regional, and global programs. It provides insight on the overall level and distribution of USAID funding, as well as on the objectives sought and results achieved.

Section III explains the revitalization of the Board for International Food and Agricultural Development (BIFAD) in 1995, and the impact which this has had on the Agency's priorities and approaches.

Section IV provides a forward-looking vision for agriculture in the U.S. development assistance program into the next century.

## I. USAID and Agriculture

### The Backdrop: Global Changes in Agricultural Productivity, Trade, and Research

Years of research and development in crop breeding, pest management and agronomy continued to bear fruit in the 1990s. Average yields of the major staple grains increased worldwide between 1992 and 1997; in developing countries alone, grain yields increased by more than 10 percent. Total production of cereals and coarse grains increased from 1.41 billion metric tons (MT) to 1.55 billion MT. Net food availability, therefore, increased by more than 23 percent in the six-year period and per capita availability by more than 13 percent.

Only in Africa did population grow faster than agricultural production. Although overall food production has increased fairly consistently from 1992 to 1997, it was more than offset by population growth. As a result, per capita food production continued to decline gradually. Combined with weak economic (income) growth and, therefore, a limited ability to pay for commercial imports, this meant declining food availability for Africans and increased vulnerability to adverse weather conditions and the disruptions of civil conflict. Indeed, such conditions necessitated massive food aid interventions in Somalia (1992-94) and Rwanda (1994-1997).

Nevertheless, private sector trade in agricultural commodities increased enormously in other regions from the mid-1980s to the mid-1990s. As the Cold War ended, and the countries of Eastern Europe and the former Soviet Union began to participate in markets, flows from and to those regions began to grow. The most solid growth in agricultural commodity trade, however, came from the rapidly-growing Asian countries.

Private sector involvement in agricultural research, which had increased rapidly in the U.S. in the mid-1980s, began to be extended abroad in the 1990s as the possibility of gaining markets with hybrid seeds and other proprietary technologies emerged in the more rapidly-growing developing nations. More open, private sector-dominated markets provided the incentives for research-oriented agribusinesses to step into the traditionally "public" domain of agricultural technology development and extension. In developed countries, research by the International Food Policy Research Institute (IFPRI) found that "spending on private agricultural research has risen by...over 5 percent per year since 1981 and now amounts to almost half of total agricultural R & D expenditures..."

A new international orientation is increasingly being felt in the breadbaskets of America as the U.S. farmer becomes more aware of the importance of these emerging markets. The 1996 "Freedom to Farm" Act and U.S. participation in the World Trade Organization (WTO) are leading to an integration between U.S. and world markets for farm commodities. U.S. producers recognize that their future depends on expansion of exports to developing countries. USDA recorded more than $50 billion in total agricultural exports every year after 1994. At the

same time trade with developing countries has expanded rapidly. The jump in exports to developing countries is clearly evident in 1995.

**U.S. Agricultural Trade with Developing Countries ($ billions)**

| Year | Imports | Exports |
|---|---|---|
| 1993 | 18.5 | 23.2 |
| 1994 | 20.5 | 23.6 |
| 1995 | 23.4 | 30.7 |
| 1996 | 24.6 | 34.1 |
| 1997 | 27.1 | 32.2 |

Concurrently, however, international commitments to using development assistance funds in support of agricultural production declined significantly between the mid-1980s and 1992 and continued to drop throughout the 1992-97 period. The World Bank statistics are startling: lending for rural development (including agriculture) decreased by nearly 60 percent between 1985/86 and 1995/96. Total official development assistance (ODA) provided by the OECD members for agricultural programs was reduced by 16 percent between 1992 and 1996, from $15.3 billion to $12.9 billion, largely reflecting a similar decline in total ODA (from $66.7 to $60.1 billion). Total ODA further declined to $47 billion in 1997, a 40 percent decline from 1992.

The declines have been attributed to both positive and negative factors. On the positive side, the 1980s were a period of relative food surplus in exporting (donor) countries and rapid agricultural productivity growth in Latin America and in countries such as India and Indonesia. This success, coupled with low prices and few large-scale food crises, moved food and agricultural issues off the list of critical development issues. Concern in some quarters of the donor countries that agricultural growth in developing countries might hurt their own farm exports also weakened support for agricultural research and development abroad. The apparent success of commercial trade in meeting food needs and the expansion of the private sector into formerly public sector functions (research, extension) also generated some downward pressure on agricultural assistance budgets.

On the negative side, funding for agriculture declined because most donor-supported rural development/agriculture programs had been largely focused on government interventions, at times causing more problems (market distortions, excessive growth of civil service work forces, etc.) than they solved. Further, as the negative impacts of regulatory and legislative distortions were better understood, donors were less ready to invest in agricultural research and technology development until the policy environments were improved.

In keeping with these trends, the international agricultural research system, supported by the Consultative Group on International Agricultural Research (CGIAR), began to experience problems associated with inadequate funding. Donor funding levelled off during the late 1980s, and then began to decline, just at the time that the CGIAR system expanded in 1992 to include four new natural resource-oriented centers. In 1993 and 1994, the U.S. and a few other donors (e.g. Finland, Italy) made substantial reductions in their funding, owing to their own budgetary constraints. While the new centers, covering areas such as agroforestry, tropical forestry and fisheries, have been growing, the established centers have in many cases made cuts in international staffing of 10-20 percent. In addition, many staff have been shifted from "core" research programs to "soft-money" projects, reducing the number of scientists working on long-term strategic research.

Partially offsetting these changes on the international level, national agricultural research funding continued to grow in most developing countries in the 90s, but at a slower rate. In addition, nongovernmental organizations (NGOs) and private voluntary organizations (PVOs) found that long-term engagement in community-based agricultural production and extension efforts enabled them to sustain their programs between humanitarian crises (for which many of them provided food aid distribution services). These services provided an important complement to public sector research efforts.

The impact of the downward trend in investments in agriculture among all major donors was clearly visible by the late 1990s, as the rate of growth in food production per capita began levelling off after decades of gradual but steady gains. Ironically, support for the public research system which generated those gains was declining just as rapid advances in scientific knowledge and techniques were increasing that system's capacity to provide poor farmers in developing countries with hardier, more disease-resistant and more nutritious crops and livestock.

More to the point, continuing hunger and malnutrition affected almost as many people in 1997 as they had in 1972. Consequently, at the World Food Summit held in 1996, the world community committed itself to reducing the number of undernourished people from 800 million to 400 million by the year 2015.

The United States participation in this community decision reflected a growing recognition that support to long-term agricultural development and the reduction of hunger is a "win-win" situation for the U.S. Helping smallholder farmers in developing countries stimulates overall economic growth, which leads to increased imports of U.S. goods and services, such as the high-quality food and feed commodities in which the U.S. has a comparative advantage. In addition, international agricultural research - which generates new crop varieties and other technologies that can be used in U.S. research efforts - can be of considerable domestic benefit. Finally, participation by U.S. faculty and graduate students in such international research enriches the U.S. teaching, research, and extension programs.

### The USG Context for Development Assistance

The end of the Cold War and the new era of expanding global markets had a significant impact on U.S. development assistance programs. Beginning in 1992, USAID expanded its programs into the former Soviet Union and Eastern Europe, providing support for economic and political transitions on a significant scale. At the same time, however, budget agreements between the Administration and Congress resulted in a gradual reduction in overall appropriations for USAID programs. Operating Expense (OE) constraints resulted in severe restrictions on new hiring and, in 1996, in a major reduction-in-force (RIF). Combined with retirements, the Agency's staff was downsized by 30 percent during this period. As a result, the location, nature and management of USAID programs changed dramatically in a relatively short period of time.

**USAID Appropriated or Administered Accounts ($ millions)**

| | FY 92 | FY 94 | FY 96 |
|---|---|---|---|
| DA* | 2,325 | 2,330 | 1,906 |
| ESF | 3,188 | 2,365 | 2,363 |
| SEED | 364 | 382 | 475 |
| NIS | 0 | 555 | 625 |
| TITLE II | 710 | 822 | 837 |
| TITLE III | 330 | 255 | 30 |
| OE | 474 | 518 | 488 |
| **TOTAL** | **7,534** | **7,227** | **6,724** |

*DA in this table includes, depending on the year, DA, DFA, POP, CS, ASHA, Credit, IDA, FS Retire.

In order to open and staff missions in the Eastern Europe and Newly-Independent States (NIS), USAID downsized or eliminated longstanding development support programs in Asia and the Near East, Africa, and Latin America and the Caribbean.

At the same time, a revised Agency assistance strategy was developed in 1996-97, with final revisions completed in late FY 97. The new strategy articulates seven program goals. Two of them (Goal 1: Broad-based economic growth and agricultural development encouraged, and Goal 5: The world's environment protected for long-term sustainability) are expected to be attained, in part, by USAID's successful efforts in agriculture. However, this will require that

USAID address the strategic challenges laid out in Section IV as well as further shifts in funding patterns.

**USAID Agriculture Funding**
**Selected Years ($ millions)**

| | FY 92 | FY 94 | FY 97 |
|---|---|---|---|
| Africa | 176 | 122 | 80 |
| ANE | 220 | 95 | 57 |
| ENI | 50 | 87 | 32 |
| LAC | 66 | 42 | 29 |
| Global | 70 | 45 | 43 |
| BHR* | 9 | 6 | 3 |
| PPC/M | 3 | 2 | 2 |
| **Total** | **594** | **399** | **245** |

*Not including Food Aid monetizations.

As the table above shows, USAID's obligations for agricultural activities declined by 59 percent over the period. Agriculture also claimed a reduced share of the total budget, going from 10 percent of total USAID obligations in FY 92 to less than five percent of obligations in FY 97. Agricultural obligations in the Asia/Near East region declined most sharply -- by almost 75 percent. Other reductions were less drastic. For example, agricultural investments in the sub-Saharan Africa region were reduced by 55 percent, but settled at $80 million in FY 97 (thus making it the largest agricultural program among all the regions), and constituting a 10 percent share of the total Africa assistance program.

Shifts also occurred in the composition of the agricultural portfolio. Support to crop production and agribusiness activities expanded while agricultural policies and planning, training, extension and infrastructure declined. The smaller percentages allocated to fisheries, livestock, pest management, research management and agricultural credit remained relatively stable.

USAID's direct-hire technical agricultural staff has similarly been reduced between 1992-97. The number of US direct-hire Foreign Service Officers specializing in agriculture dropped from 150 in 1992 to 61 in 1997. Civil service (GS) agriculturist ranks were depleted even more -- from 20 in 1992 to 5 in 1997. Overall, the 60 percent drop in budget for agriculture was accompanied by a 60 percent decline in technical staffing. As agricultural staff left the Agency (either through the reduction-in-force or through retirement) or moved to positions not specifically focused on agriculture, management of USAID's agricultural

programs was shifted to non-technical staff, Foreign Service Nationals and contractors.

Performance-based contracting methods have enabled USAID to shift some responsibility for agricultural program planning and management to contractors. In addition, where missions were greatly downsized, the remaining agricultural officers expanded their portfolios to include other sector activities or, in some cases, agricultural portfolios have been managed by general development officers, environmental officers, or other non-agricultural staff. At the same time, in Washington, greater reliance on RSSA staff from the U.S. Department of Agriculture (USDA) has mitigated, to some extent, the reduction of technical direct-hire staff; with communication tools, such as email, supporting increased workloads. Nevertheless, there is a consensus that, for USAID to continue to undertake high-quality agricultural programs, technical staffing issues must be reconsidered.

Within the above context, the nature and extent of the U.S. government's involvement in matters related to international agricultural research and development has been changing. Preparation for the U.S. participation in the World Food Summit in November, 1996 signalled an emerging trend for USAID's management of its agricultural program -- increased collaboration on policy and programs within the U.S. government, along with greater civil society involvement. An Inter-Agency Working Group (IWG), jointly chaired by the Administrator of USAID, the Under Secretary of State for Global Affairs, and the Under Secretary of Agriculture for Farm and Foreign Agricultural Services, provided the leadership structure for the formulation of the U.S. Summit position. Broad participation from the U.S. public was also sought, and a number of private citizens associated with domestic or international groups focusing on hunger issues were part of the official U.S. delegation. In FY 97, planning for the U.S. follow-up to the Summit was immediately launched under the same IWG leadership structure. Follow-up included the formation of a new Food Security Advisory Committee (FSAC) as a sub-committee of BIFAD, which included many of the nongovernmental Summit participants and the BIFAD members.

## II. A Closer Look at USAID's Evolving Agricultural Programs

In the country-specific programs managed by Missions under the direction of USAID's regional bureaus, activities have been cut, merged, and redesigned to fit the new circumstances. Within the Global Bureau, USAID's unrestricted core support for the international agricultural research system has been trimmed and redirected at the same time that new CGIAR centers came on-line. In addition, the various Title XII programs through which USAID forges partnerships with U.S. universities in mobilizing science to solve agricultural problems (for example, the Collaborative Research Support Programs, or CRSPs) and in training and educating the next generation of agricultural scientists from developing countries were also downsized and modified.

**Mission Programs in Agriculture**

The cases which follow illustrate how the agricultural development programs in Africa, Asia and Latin America have evolved and adapted to the new operating and funding environment. They show USAID managers balancing new program priorities (e.g., democracy and governance, microenterprise, child survival), diminished budgets and reduced staff numbers, while taking into account local institutional and professional capabilities, funding availabilities from other sources for the implementation of agricultural projects, and local priorities and needs.

In **Sub-Saharan Africa**, the reduced levels of development assistance (DA) and of the Development Fund for Africa (DFA) included a major reduction in support of public sector agricultural research and technology development, while programs with a private sector, cooperative or agribusiness focus remained strong. Programming priorities led to the closure of agricultural programs in several countries -- Senegal, Tanzania, Guinea and Zimbabwe. However, strong programs that emphasize both food crops and cash crops as a means to increase rural incomes and food security continue in Kenya, Uganda, Mali, Malawi and Mozambique. These programs promote the adoption of improved agricultural policies, farmer involvement through associations and cooperatives in marketing and processing, and agribusiness support to farmers. While both the Uganda and Mozambique programs were built up during the period, Kenya's was radically restructured and more closely integrated into the business (or private sector) development thrust of the Mission strategy.

> ***Kenya:*** In the early 1990s, a staff of six U.S. direct-hire (USDH) agricultural officers and a complement of Foreign Service National (FSN) professionals managed an agricultural sector program that invested $10 million annually in agricultural research, policy reform, education, grain storage and non-traditional agricultural exports. These funds were supplemented with PL 480 (food aid) program local currency generations and had an important impact on agricultural productivity and rural growth.
>
> The University of Illinois, for example, supported the development of institutional capacity at Egerton University as it transformed itself from an agricultural college to a full-fledged university. This support raised the professional qualifications of faculty and brought its performance up to international standards. USAID/Kenya's support was terminated in the mid-1990s, as both program and operating expense funding cuts began to take effect but, as a measure of the project's success, Illinois and Egerton continue to partner with their own resources.
>
> The Kenya Market Development Program (KMDP) was another major agricultural activity and involved a consortium of top flight U.S. universities and consulting firms. Development Alternatives, Inc. (DAI), Stanford University's Food Policy Research Institute, and the University of Arizona worked with local and international counterparts to define

analytical agendas, conduct research, and produce policy briefs to aid key decision makers. KMDP's results included less restrictive agricultural policies, improved market information systems, and rehabilitated farm-to-market roads. Even though KMDP was completed in 1996, according to a 1997 study undertaken by Michigan State University, the more efficient national maize and bean marketing system it helped produce gave Nairobi consumers access to staple foods at lower costs.

By 1997, only one USDH agricultural officer and a reduced staff of FSNs administered a $2 million annual program focused on strengthening and increasing competition in Kenya's agricultural markets and increasing non-traditional agricultural exports. The Mission was able to maintain support for agriculture by integrating agricultural activities within a broader private sector emphasis.

Although more limited, this USAID support has helped Kenya excel in increasing horticultural exports at a rate of more than 10 percent annually in recent years. Further, USAID's prior investments in seed development and seed policy reforms have made Kenya both a regional model for research and a source of improved seed varieties. USAID's continued involvement in Kenyan agriculture also facilitated and buttressed the country's emergence as a leader in regional trade and other initiatives.

**In the Asia and Near East Region,** activities focused on agribusiness and policy reforms continued in Egypt and, albeit at reduced levels, in the Philippines, Sri Lanka, Nepal, Morocco and Bangladesh. Agriculture sector assistance to Indonesia ended in 1997 with the reduction of economic growth funds available to the Mission. Within a context of declining budget levels, the Morocco program's evolution resembles that experienced by USAID/Kenya.

***Morocco:*** In 1992, USAID/Morocco had four USDH agricultural officers on staff and obligated about $10 million to an ongoing agricultural program which emphasized dryland agricultural research, agricultural planning, economics and statistics, and cereal marketing reform. In addition, the Mission started major natural resources management and agribusiness promotion activities. By 1997, the USAID agricultural program in Morocco was managed by one USDH agricultural officer investing less than $4 million annually on activities focused on developing agricultural product markets, export diversification and integrated water resources management.

One example demonstrates how the current agricultural portfolio benefits from the relationships established in previous years and enables even partially-funded programs to be successful. The University of Minnesota (UM) has been a consistent partner in USAID/Morocco's programs and has also adjusted its involvement as the Mission's program levels and emphasis have changed. Building on a longstanding partnership dating from the 1960s, UM and Morocco's Institut Agronomique et Veterinaire

(IAV) began implementing a program of support to agribusiness as part of the USAID-funded Morocco Agribusiness Promotion Program (MAPP). UM support enabled IAV to respond to the needs of Morocco's agribusiness sector for training, applied research, outreach and critical support services. Accomplishments to date include: a Masters program in agribusiness management producing graduates with the skills needed for a modern, growing agribusiness sector in Morocco; Morocco's first facility capable of conducting applied research and development on new products and processes for food processing companies and providing continuing education programs for the food industry; and a fee-for-service clinic to diagnose crop pest problems and provide pest management recommendations for growers.

So far, MAPP has enabled Moroccan firms to export $101 million worth of horticultural and other crops and to generate 20,800 person years of employment. With USAID funding, USDA has overseen the establishment of world-class laboratories for food quality and food safety and trained Moroccan technicians. The University of Minnesota has also contributed to trade-promoting policy reforms through assistance carried out under the project. Moreover, legal reforms critical to agricultural development and exports were promulgated in 1997; for example, assistance from Michigan State University resulted in new laws to protect agricultural intellectual property rights. Morocco will begin to graduate from USAID's assistance programs in 1998. However, the legal and institutional groundwork has been laid, and the systems are in place for Morocco's agricultural products to successfully compete in the new era of globalized free trade.

***Bangladesh:*** In 1992, with a staff of six USDH agricultural officers, the focus of the agricultural program in Bangladesh was on increasing food availability and improving fertilizer distribution systems. Activities emphasized road and electrification development, food policy, increasing fertilizer availability, and vegetable and fish production. The agricultural program was funded with $20 million annually of DA resources and $8.5 million of PL 480 local currency dedicated to agriculture and nutrition.

By 1997, PL 480 food aid funding in support of agriculture and nutrition was $2.5 million of local currency annually and DA funding was $6 million. The Mission responded to the reduced funding in a number of ways. First, the Agrobased Industries and Technology Development Project (ATDP), envisioned as the flagship economic growth activity and designed with an $80 million price tag, was scaled back in FY 94 to a $4 million project. Second, by 1997 all but one of the USDH agricultural specialist positions were eliminated. Third, activities were consolidated to focus on improving food security for the poor by applying food aid and development assistance resources to problems of food availability, access and utilization. In 1997 the University of Maryland began implementing an employment generation activity (JOBS), in collaboration with

indigenous NGOs, to increase incomes and improve access to food. Food-based nutrition programs, partially supported from child-survival earmarks, became a focal point of the agricultural agenda.

From 1995-1997, with ATDP assistance, 23,340 farmers increased their incomes by using more productive, environmentally sound technologies; 5,702 new agribusiness investments were made in seed, fertilizer, agrimachinery, commercial livestock, poultry and fisheries; 30,660 new jobs were created in agribusiness; and 19 policy reforms which facilitate agribusiness growth were enacted.

To date, USAID's contribution to ATDP financing has leveraged $30.7 million from the Government of Bangladesh, $45 million from financial institutions and $45 million from the private sector. The International Fertilizer Development Center (IFDC), which leads the implementation effort, draws on the expertise of US universities and is closely linked with local and international PVOs, NGOs and local institutions in this effort.

Currently, USAID/Bangladesh supports increased production of fish and vegetables through homestead vegetable gardens and fish ponds. These interventions reach over three million beneficiaries and are having the positive impact of reducing malnutrition as well as providing income and employment. Overall, leveraging of nutrition, child survival and environment funds and integrating food aid with development assistance to achieve agriculture sector objectives is growing in importance in the USAID/Bangladesh program.

The **Bureau for Latin America and the Caribbean** shifted program emphasis from "strengthened markets" to "expanding access and opportunity for the poor." This has meant a refocussing of agricultural and rural development efforts as well as a general downsizing of programs across the region. USAID/Peru, however, exemplifies the opposite trend. By making use of local currencies generated by sizable PL 480 programs, it has maintained a significant agricultural portfolio throughout the 1990s.

***Peru:*** In 1992, USAID/Peru's budget included $4 million for agriculture; by 1997, the figure was $2 million. On average, USAID/Peru also programmed more than $75 million in food aid resources each year over the five-year period. The DA resources for agriculture were greatly augmented by the nearly $25 million in local currency resources generated by Title II food aid monetization and $20 million in Title III reflows that annually were used for agricultural program support. Technical staffing for agriculture remained constant, with two USDH, one US Personal Services Contractor (PSC), and six Foreign Service Personnel (FSP) managing the program.

The Mission's agricultural portfolio contributes to the strategic objective of "encouraging broad-based economic growth." DA resources have

supported activities in: agricultural research and planning, integrated regional development and technology transfer. The local currency resources generated by the Title II program were used for agricultural development activities in such areas as irrigation, road construction, farmers' organizations and agricultural production. Title III local currency has also been used for agriculture and rural development, extension and related NGO projects. Local agricultural research has also been supported with Title III funds, as have the activities of the International Potato Center (CIP).

The **Europe and the New Independent States (ENI) Bureau** program was established quickly in the early 90s. In the ENI, all assistance programs had, from the outset, very limited time horizons and an orientation toward accelerating the transition to market economies, as opposed to the more traditional development programs more common to other bureaus. Thus, the programs emphasized private sector and commercial agribusiness development, rather than research, teaching, and extension. Agribusiness, with its inherent market orientation, is seen as a means of rapidly and pragmatically approaching policy and structural issues and opportunities both upstream (production, input supply) and downstream (processing, marketing, trade). It also complements other ENI programs in, for example, commercial law, privatization, enterprise development and financial sector restructuring.

U.S. university involvement in the ENI programs has been largely in coordination with host-country educational institutions in the area of business and agribusiness curricula, and in very specific policy issues in support of private agribusiness. Albania's story demonstrates the evolution of the longest standing program in agriculture in the region.

**Albania:** Albania emerged from dogmatic and paranoid communism in 1991 as the most under-developed country in Europe with a bitter legacy of 35 years of totalitarian rule. Government was chaotic and distrusted, the economy was in shambles, infrastructure was in collapse and public institutions were non-functional. Under these conditions, agriculture - largely subsistence in orientation - rapidly came to account for over two-thirds of the GDP. A major emphasis of the USAID program was to increase productivity and put agriculture on a modern, market-oriented basis. To this end, a USDH agricultural officer was fielded and a range of projects were initiated. These included fertilizer imports, which led to the development of a private sector agricultural input supply activity; work with small-scale dairy producers (largely women);private land titling and registration (the result of the collapse of the collective farms); and a broad, sector development project that included work with the Ministry (mostly on agricultural statistics and planning) and with the agricultural university.

The most successful programs (apart from land registration) have been with the private sector: private input dealers are commercially viable and

are providing their own technical advisory services; increases in field crop productivity and dairy production are evident and directly attributable to USAID support. Meanwhile, public sector institutions remain weak and largely ineffective. Therefore, the USAID program, while remaining heavily involved in agriculture, is moving toward increased emphasis on work with the private sector, including farmer associations and cooperatives. At the same time, the USDH agricultural position, due to program diversification and personnel ceilings, has been transformed into a general development officer position responsible for a range of private sector and natural resource activities in addition to agriculture and agribusiness.

**Support for International Agricultural Research**

By its nature, agricultural research requires continuing investments to adapt to changes in technology, consumer preferences, economic demands, and the biology of plant and animal pests. USAID represents U.S. interests in the international agricultural community both by participating in multi-donor fora on agricultural policy, research, and information systems and by funding programs, either jointly or collaboratively, with other donors. U.S. interests are also conveyed by American scientists working in international agricultural research organizations and through the training and consulting services which U.S. land-grant universities provide to the international agricultural research community.

USAID's most significant multilateral research activity is the Consultative Group on International Agricultural Research (CGIAR), of which it was a founding member. Established in 1971, the mission of the CGIAR is to contribute, through research, to promoting sustainable agriculture and natural resource conservation for food and environmental security in developing countries. The CGIAR has grown to include more than 50 donors who jointly sponsor and fund a network of sixteen International Agricultural Research Centers (IARCs) around the world. Crop varieties and other technologies generated by the centers and their partners (national research systems, advanced research organizations in the U.S. and elsewhere), are used on hundreds of millions of hectares in Asia, Africa and Latin America, adding billions of dollars worth of increased production and income to developing country economies each year. Major benefits have also accrued to the U.S. directly: a 1996 impact study showed that U.S. farmers and consumers reaped up to $15 billion in benefit from CGIAR wheat and rice research between 1970 and 1993.

USAID's Global Bureau staff participate actively in the CGIAR management; senior professional staff of the Center for Economic Growth and Agricultural Development (G/EGAD) serve on key CGIAR committees (genetic resources and oversight, and the financial committee). U.S. core (or "unrestricted") funding for the International Agricultural Research Centers (IARCs) in the CGIAR system is programmed through G/EGAD, while Missions and regional Bureaus often provide "project" funding for specific activities in specific countries.

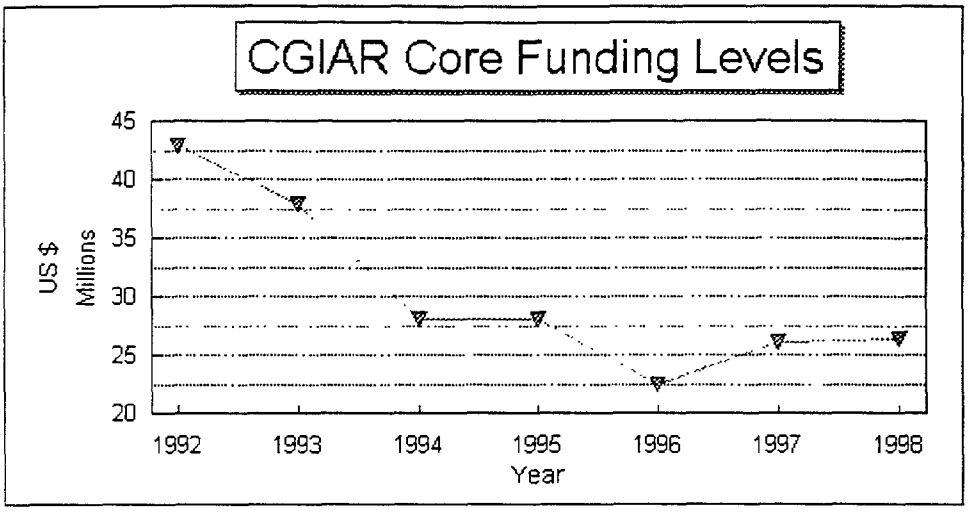
Along with U.S. universities, the IARCs have a significant role in agricultural research and development programs. Twelve of the IARCs conduct multidisciplinary programs covering the developing world's staple food crops, ruminant livestock and fish. In 1992, the CGIAR broadened its natural resource focus, expanding its membership to include research centers working on tropical forestry, agroforestry, water resource management and aquatic resources. Two smaller centers, the International Centre for Research in Agroforestry (ICRAF), and the Center for International Forestry Research (CIFOR), now focus on natural resource policy and biodiversity conservation. One center, the International Service for National Agricultural Research (ISNAR), is mandated solely to strengthen National Agricultural Research Systems (NARS) and another, the International Food Policy Research Institute (IFPRI), concentrates on food policy research.

Americans make up the largest group of international research staff in the CGIAR (roughly 18 percent of the total of 600 to 700 senior scientists) and nearly half of all CGIAR scientists hold U.S. Ph.D.s. Americans also play important leadership roles in the CGIAR. In 1997, four centers were led by Americans, seven had American chairs of their Boards of Trustees, and the system's scientific advisory body was chaired by an American.

The United States, traditionally the largest single donor to the CGIAR, provided 25 percent of its funding for many years. The World Bank and the Japanese are now the largest donors. USAID's core support to the IARCs was reduced from $42.7 million in 1992 to $22.4 million in 1996. In 1997, following the World Food Summit, funding was increased to $26 million. Most of this increase was in support of expanded research linkages with U.S. universities and is further discussed below.

**USAID Funding for the CGIAR**
**( $ millions)**

| Year | Core | Project | Total |
|---|---|---|---|
| 92 | 42.7 | 23.4 | 66.1 |
| 93 | 38.0 | 12.7 | 50.7 |
| 94 | 28.0 | 14.3 | 42.3 |
| 95 | 28.1 | 12.6 | 40.7 |
| 96 | 22.4 | 8.1 | 30.5 |
| 97 | 26.0 | 12.7 | 38.7 |
| 98 | 26.4 | NA | NA |




In addition to its role in representing U.S. interests in the CGIAR, the Center for Economic Growth and Agricultural Development has, throughout the reporting period, provided technical input for meetings on food and agricultural issues of the G-7, US-EU New Transatlantic Agenda, and US-Japan Common Agenda. These coordination activities continued to be an important G/EGAD role.

At the same time, USAID's Bureau for Program and Policy Coordination (PPC) backstops two of the three food and agricultural agencies headquartered in Rome, the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD). Similarly, the Bureau for Humanitarian Response (BHR) assures coordination with the World Food Program. G/EGAD provides support and advisory services to both PPC and BHR, as needed.

USAID staff actively observe GATT trade issues in the International Agricultural Trade Research Consortium (IATRC). Coordination with USDA's Foreign Agricultural Service, the Office of the U.S. Trade Representative, and the Departments of State and Commerce is also required from time to time as issues arise in specific countries.

**Partnerships with U.S. Universities**

USAID's partnerships with U.S. universities stem from both the Title XII legislation and USAID's desire to mobilize the best and the brightest of American teaching, research, extension, and scientific expertise in support of agricultural development.

Four sets of partnerships have resulted from Title XII's Section 297, three of which are: collaborative research between American and developing country research institutions; long-term teaching/training cooperation; and research and training linkages between U.S. universities and the International Agricultural Research Centers (IARCs). The fourth partnership is carried out through a wide

range of contract and grant relationships generally seeking to accomplish a specific scope of work in a specific country.

***Collaborative Research***

The Title XII mandate to provide "program support for long-term collaborative university research on food production, distribution, storage, and marketing" was, in the 1992-97 period, embodied in nine Collaborative Research Support Programs (CRSPs) and three related programs: the Postharvest Collaborative Agribusiness Support Program (CASP), the Agricultural Biotechnology for Sustainable Productivity (ABSP) activity, and the Food Security II (FS II) project.[1] Fifty land-grant universities from 34 states, the District of Columbia and Puerto Rico are participating in these programs.

**Focus and Funding, FY 92-97** of CRSPs and related University Programs

**CRSPs**
Broadening Access and Strengthening Input Marketing Systems (BASIS), $2 million
Bean/Cowpea, $15 million
Sorghum and Millet (INTSORMIL), $15 million
Integrated Pest Management (IPM), $6 million
Peanuts, $9 million
Pond Dynamics and Aquaculture (PD/A), $9 million
Sustainable Agriculture and Natural Resource Management (SANREM), $12 million
Small Ruminants/Livestock, $13 million
Soils Management, $16 million

**Related Programs**
Postharvest Collaborative Agribusiness Support Program (CASP), $4.9 million
Agricultural Biotechnology for Sustainable Productivity (ABSP), $5.7 million
Food Security II (FS II), $2.7 million

CRSPs address problems whose solutions will be mutually beneficial to the U.S. and developing countries in increasing agricultural incomes, production, and/or productivity. The CRSPs achieve their goals not only through research, but by developing research capacity in developing countries through formal training, mentoring, and collaborative research efforts. Through participation in CRSPs, developing country scientists and educators can increasingly carry out independent research and training activities and sustain their impact in their own and neighboring countries.

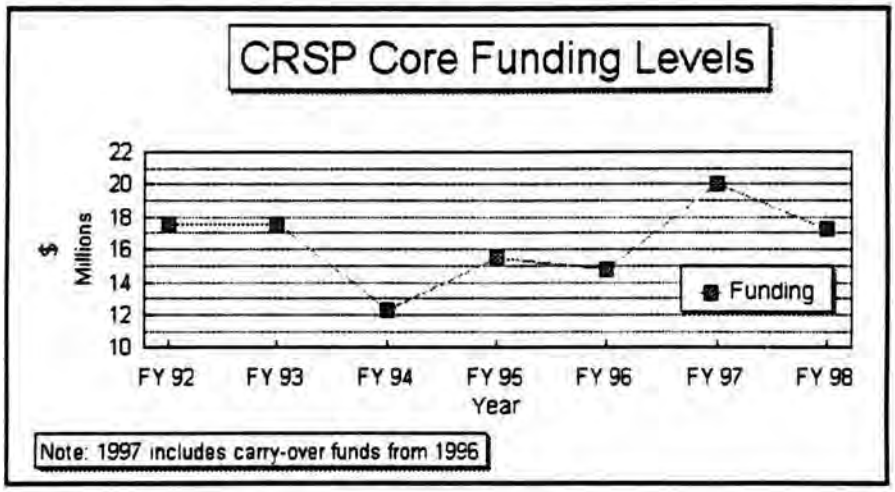
In the 1992 - 97 period, CRSPs continued to produce a massive quantity of research results and information. Over 7000 scientists and support staff from the U.S., host countries, and other developing countries have been better educated through their involvement in the CRSPs.

[1] The Annex table "CRSP Linkages between U.S. Institutions and Collaborating Host Countries" provides details on the universities involved in each of these programs and indicates the extent of state-level participation achieved.

*In the picture at right, Mr. Warren Christy, a farmer from Harrison County, Iowa examines his crop of pearl millet. The Sorghum Millet CRSP (INTSORMIL), managed from the University of Nebraska in Lincoln, was the source of seed, originally from an international germplasm bank. Christy is innovating the use of pearl millet as a specialized bird seed and to promote habitat for wildlife, but also sees its potential as poultry and hog feed. He finds pearl millet a promising crop due to its drought tolerance and short growing season.*

Iowa Farmer Benefits from International Agricultural Research.

Universities are required to provide a 25 percent match to USAID's "core" funding and USAID Missions and host countries often make substantial contributions as well, either in cash or in kind. Overall, approximately 60 percent of the financing for the CRSPs comes from the centrally-managed (by G/EGAD) grants, and the remainder comes from the organizations involved in the research.




The following highlights from the CRSPs and the three other projects in which land-grant universities play a leading role illustrate key outcomes of the USAID-U.S. university collaboration.

*Increased food availability*

- Pond Dynamics/Aquaculture (PD/A) CRSP researchers worked in Northeast Thailand changing traditional pond management methods through CRSP-generated pond fertilization recommendations. With these recommendations, production in farm ponds increased from 500 kg/ha/year to 2000 kg/ha/year.

- The Peanut CRSP discovered a procedure to remove aflatoxins from different chemical compounds. This major breakthrough is already saving millions of dollars in the animal feed industry and has the potential to save billions of dollars in human health costs.

  Peanut CRSP efforts in Senegal contributed to the release of the *Fleur 11* variety in 1995, which increased yields by 30 percent among the 12 percent of the peanut producers planting the variety. With 100 percent adoption nationwide, additional farmgate value from this variety will be $50 million. Using the CRSP's international germplasm collection, a new variety highly resistant to a form of blackrot (CBR), NC10c was developed and released in North Carolina, adding $4.5 million annually in value above that expected from standard varieties. Another CRSP release, *Tamspan 90* (which incorporates partial resistance to several diseases from germplasm identified in Brazil) has added $25 million annually to the value of Texas and Oklahoma peanut production.

- The International Sorghum/Millet Collaborative Research Support Program (INTSORMIL) developed a hybrid sorghum, Hageen Dura-1, which contributes nearly $10 million annually of added production for Sudan's farmers. Texas sorghum producers save nearly $400 million each year by using insect-resistant plant material brought to the U.S. by INTSORMIL. In Mali, the CRSP has produced a food-quality sorghum variety, N'tenimissa, which can be used to prepare noodles using 100 percent sorghum flour and locally-available equipment. This product can be used in wheat-free diets. CERELEG, a

This farmer (above) in Niger is admiring the high grain yield of his crop of hybrid sorghum, which gives higher yields than traditional, open-pollinated varieties. This hybrid was developed through collaborative research by scientists at the International Sorghum/Millet CRSP, the National Agricultural Research Institute of Niger in West Africa and Purdue University. Well-adapted to the hot, dry climate in Niger, the hybrid was released for commercial production in that country in 1992, after several years of plant breeding research and testing at experiment stations and on over 100 farms there.

weaning food developed through Mali/INTSORMIL collaboration and marketed in Bamako, Mali, contains a mixture of dehulled pearl millet, cowpea and maize flours -- all locally-available ingredients. In Niger, CRSP collaborators are test-marketing a sorghum/millet-based couscous of a consistently high quality. Finally, INTSORMIL scientists have identified a sorghum variety with highly digestible protein and are evaluating its milling qualities.

- As a result of the Small Ruminant CRSP's health and breeding projects, a method has been developed for reducing and controlling *Haemonchus contortus* (a major sheep and goat parasite) by identifying the gene for resistance and developing it into a recombinant vaccine. The CRSP also helped the Kenya Agricultural Research Institute (KARI) develop their own capacity to conduct multivalent vaccine research by training thirteen staff at the graduate level. These trainees have key roles on the animal health team that developed a vaccine for the Rift Valley Fever; this promises to have a substantial impact in livestock production in Kenya and much of East Africa.

*Improved agribusiness opportunities*

- The Integrated Pest Management (IPM) CRSP helped Guatemalan exporters of snow peas solve a serious insect problem which curtailed exports and resulted in a loss of $5.7 million in farmers' incomes. The IPM CRSP staff noted that the major insect species found in Guatemala also exists in the U.S. As a result, USDA/APHIS cleared the Guatemalan snow peas for import, permitting Guatemalan farmers to regain their market share and ensuring U.S. consumers access to high quality snow peas. The total annual value of Guatemalan snow peas in the U.S. market is about $140 million.

- Agribusiness firms and institutions in eighteen countries are using Soils CRSP-designed fermentors and technology for production, and increased quality, of legume inoculant. As a result, the increased yield and savings from reduced nitrogen fertilizer use is estimated to be worth several million dollars per year. Further, one U.S.-based firm produced and exported CRSP-designed fermentors worth nearly $400,000 to over nine countries.

- Work by the BASIS CRSP in El Salvador found that fewer than 10 percent of all agricultural enterprises have access to formal credit and, consequently, lack the capacity to invest in improving their enterprises. Lack of titled landownership further contributes to farmers' inability to secure credit. Based on CRSP findings, steps are being taken to address these issues through titling and microfinance interventions.

- Bean/Cowpea CRSP scientists conducted tests at Princess Maria Louise Hospital for Children in Ghana, evaluating CRSP-developed cowpea

flakes for the management of protein malnutrition. The flakes were highly accepted by both mothers and children and resulted in excellent recovery rates from malnutrition. Firms in Benin, Nigeria, and Senegal have expressed an interest in manufacturing this product on a commercial basis.

- The Collaborative Agribusiness Support Project (CASP) designed, equipped and trained personnel for Albania's National Seed Testing Laboratory, making membership possible in the International Seed Testing Association (ISTA). Membership is a requirement for the commercial import and export of improved seed, which has facilitated the growth and development of the private seed industry in Albania.

- The Agricultural Biotechnology for Sustainable Productivity (ABSP) program strengthened fruits and vegetable production by developing: improved micropropagation methods for banana and pineapple; transgenic melons with virus resistance; transgenic maize with putative resistance to Asian corn borer; transgenic tomatoes with resistance to geminivirus; transgenic potatoes with putative resistance to potato tuber moth; and, disease-resistant sweet potatoes. Partnerships with Kenya, Indonesia, Morocco and Costa Rica developed intellectual property rights legislation and biosafety regulations and have involved the training of breeders, molecular biologists, entomologists, and tissue culture specialists in cutting-edge technologies.

*Development of approaches for long-term conservation of natural resources*

- Through the use of IPM technologies introduced by the CRSP, farmers in the Philippines are now able to grow vegetables in rice fields during periods which are not suitable for rice production, deriving more production (and incomes) from the same land area.

- The SANREM CRSP's work with both farmer- and researcher-managed erosion control test plots in the Philippines showed soil loss could be reduced by 50-75 percent (from 54 to 13 t/ha) through strip and contour planting. In addition, community-based organizations have been formed to monitor water quality. In 1996, more than 1,800 water samples were collected at 29 sites by these organizations to detect -- and to urge the municipal government to address -- the human contamination of water supplies.

These highlights are only a sample of the range and importance of impacts which these programs are achieving in the developing countries and the United States. In addition, the professional ties which the CRSPs have developed among scientists from the U.S. and developing countries have a value which transcends the specific research activities funded.

### *University Development Linkage Program (UDLP)*

Title XII's Sec. 297 also directs USAID to "build and strengthen the institutional capacity and human resources skills of agriculturally developing countries...".

Begun in 1991, the University Development Linkages Project (UDLP) supports and encourages long-term linkages between U.S. and developing country higher education institutions collaborating in broad areas related to USAID's development interests. The linkages help strengthen developing country institutions to more effectively meet their societal needs and contribute to the internationalization of U.S. institutions. The linkages, which are multidisciplinary and cross-sectoral, are funded at the level of $100,000 a year for five years on a matching grant basis. USAID funding of $25 million has been matched by $47 million in non-USG funding. Activities undertaken by linkage partners include skills and participant training; technology transfer using latest communications technologies; extension programs to industry and labor markets; conducting research; and improving, upgrading and developing relevant curricula. All linkages are based on implementation of one or more well-defined objectives with time-specific accomplishments for each objective that can help attain and support Mission strategic objectives.

Many of the UDLP programs focus strictly on agriculture. Approximately 28% of the linkages are in health, population and nutrition; 25% in economic growth (including agriculture); 27% in environmental protection; 10% in democracy and governance; and 9% are in education. The partnerships address USAID's five goal areas (economic growth, health and population, environment and natural resources, human capacity development, and democracy and governance) with a variety of partnership-based teaching, research and outreach activities. In all, 42 centrally and mission-funded partnerships are at work in 29 countries and involve approximately 50 U.S. and 50 developing-country institutions. Nine HBCUs are actively participating in this program. The UDLP is active in 29 countries: Argentina, Bangladesh, Belize, Botswana, Chile, Colombia, Costa Rica, Ecuador, Erithrea, Ghana, Guatemala, Guyana, Honduras, India, Indonesia, Jordan, Kenya, Mali, Malawi, Madagascar, Mexico, Morocco, Mozambique, Nepal, Nigeria, Senegal, Thailand, Tunisia, Uganda.

Linkages are also proving to be effective mechanisms for continuation of activities without the need for Mission in-country presence.

### *Building University - IARC Linkages*

The increasing interest in, and scope for, collaboration between U.S. universities and the IARCs reflects larger trends in scientific research. As both a greater number of disciplines contribute to integrated research approaches and as budgets have been reduced, it has become increasingly attractive to seek collaborative linkages. This is especially true in areas such as biotechnology and information management, where U.S. universities can contribute significantly towards achievement of IARC objectives. In addition, continuing breakthroughs in

communications technology have made collaboration easier and more efficient than ever before. IARCs, with their enormous "in-trust" agro-biodiversity collections and extensive linkages to national programs, also offer U.S. researchers an excellent means to apply and test new technologies of potential benefit to developing country and U.S. agriculture.

A 1997 World Bank study on research linkages between IARCs and U.S. universities found that the CGIAR Centers collectively had 263 joint programs with 89 U.S. universities during the 1990-1995 period. Nearly 80 percent of these programs were with land-grant institutions. The World Bank study found that well in excess of $5 million in the CGIAR's international funds (from all donors) were devoted to collaborative activities with American institutions.

To further expand the scope and impact of these trends, USAID initiated a new program in 1997 to foster collaboration between U.S. universities and the IARCs. In FY 1997, USAID increased CGIAR funding by $3.5 million. However, a clear emphasis for this additional funding was placed on increasing the engagement of U.S. universities in IARC programs. To this end, $2 million were identified within the CGIAR funding levels to support new or expanded U.S. university collaboration with recipient IARCs. Each IARC was asked to use up to eight percent of its otherwise-unrestricted U.S. core funding to negotiate individual arrangements with U.S. university partners. As a result, IARCs funded some 80 activities involving more than 50 U.S. universities. These activities have annual budgets ranging in size from $5,000 to $50,000, with a median size of approximately $15,000; they covered graduate student stipends, laboratory screening of germplasm, and a wide range of related research activities conducted by university faculty and students.

In this program's first year, IARCs pursued a mix of activities, engaging university partners in areas ranging from genomics and biotechnologies to natural resource management, information sciences and policy. Two examples illustrate the range of creative partnerships launched:

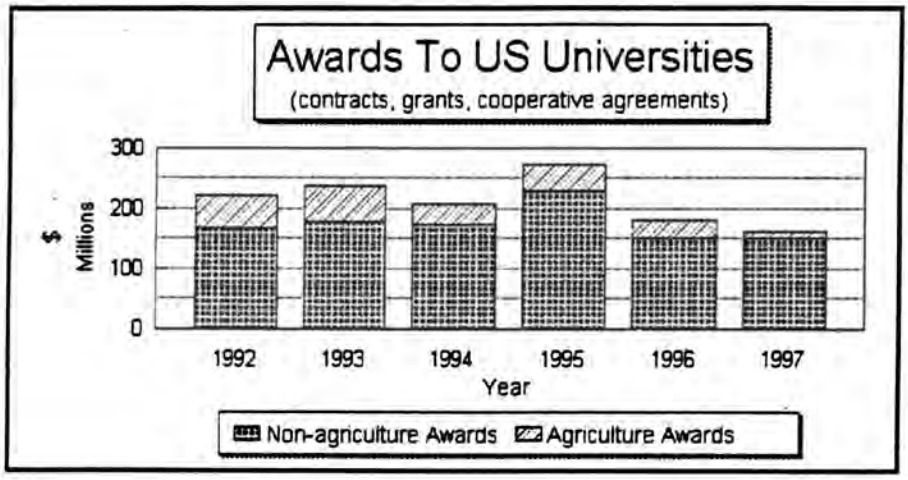
- The International Livestock Research Institute (ILRI) initiated or expanded 12 collaborative efforts involving 14 universities (12 of them land-grant institutions), including several associated with the Small Ruminants CRSP. Activities ranged from gene mapping and feed utilization to policy reform and strategic planning; many included opportunities for U.S. university graduate students to become involved in international research activities.

- The Center for International Forestry Research (CIFOR) funded a doctoral student from the University of Florida to develop a supply model for mahogany exports and prepare a review paper describing the evolution of natural resource management policies in Bolivia. From the Florida perspective, the linkage activity is expected to help give young researchers-in-training, as well as their professors, expanded opportunities for international development engagement. In most cases,

the fact that these collaborations are mutually beneficial will help to foster long term scientist-to-scientist, as well as institutional, relationships.

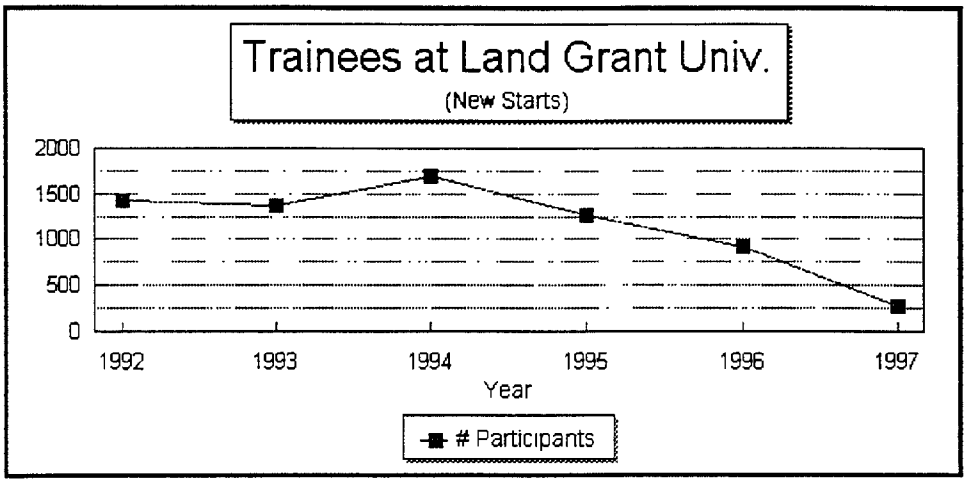
***USAID Contracts and Grants with Universities***

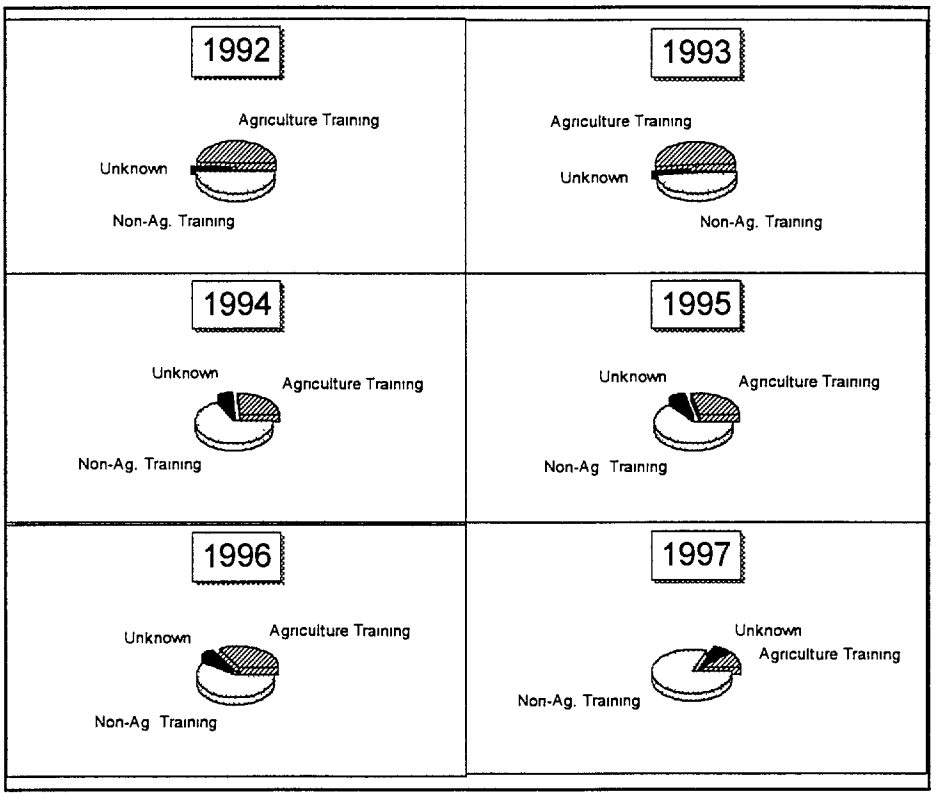
Contract/grant data show that, in FY 92, USAID signed 384 agreements with universities. A third of these agreements (134) were for agricultural sector activities, with an average value of $3.4 million. In FY 97, USAID negotiated 142 contracts or grants with institutions of higher education, 11 of which were for agriculturally-related activities. The average value of each agriculture related grant was $906,000. In comparison with agriculture sector activities, total funding levels of grants/contracts with universities fell less dramatically, from $221 million in FY 92 to $162 million in FY 97.




The geographic location of a college or university did not seem to influence its participation. Only eight of the 134 agricultural grants/contracts signed in FY 92 (or six percent) were with institutions located in the five states nearest Washington, D.C., or in the District of Columbia itself. Only two of the 21 (ten percent) negotiated in FY 97 were in this geographic area.

Training at U.S. universities has long been an important element of the USAID portfolio. During the period of this report, the total number of participants in USAID-sponsored training at all U.S. universities peaked in 1994; since that time, the numbers have declined steadily. Agriculture's share of total trainees dropped from about 50 percent in 1992/93 to just under 12 percent in 1997.




Training at Land Grant Universities

## III. The New BIFAD

The Title XII legislation mandated the establishment of a Board for International Food and Agricultural Development (BIFAD) to "assist the administration of the programs authorized by this title." The BIFAD members resigned in 1994 and a new Board was named in August, 1995, with a mandate to advise and assist the

USAID Administrator with regard to programs and activities relating to agriculture and food security.

Under the able leadership of the University of Minnesota's Dr. G. Edward Schuh, the Chairman of BIFAD, the Board has addressed several of the agricultural development challenges facing the Agency and encouraged USAID to refocus attention on the importance of agriculture as a key to economic growth in low-income countries.

With BIFAD support and encouragement, the Administrator has taken a number of specific and concrete steps to reemphasize the importance of agriculture in USAID's programs. These include:

- stressing the critical role of agriculture in promoting economic development in low income countries in his congressional testimony and public speeches;

- signalling USAID's recommitment to agriculture and food security by explicitly adding "agricultural development" to the Agency strategic goal of economic growth;

- renewing U.S. university collaboration in agricultural research with developing countries (including a revision of the CRSP guidelines);

- opening new windows to collaboration with the U.S. agribusiness community (this was supported by naming a key private sector member to the BIFAD);

- fully participating in the interagency process related to the 1996 Rome World Food Summit and sustaining the involvement of the nongovernmental and agribusiness sectors (Dr. Schuh co-chaired the Food Security Advisory Committee to demonstrate his own commitment to the consultative process); and,

- reversing the declining trend in funding for agricultural activities. From a low point of $244 million in FY 97, USAID's FY 98 agriculture budget was $294 million and the FY 99 budget request included a further increase -- to nearly $305 million.

Still on the BIFAD agenda for discussion are issues related to agricultural development in the Newly Independent States (including Russia); global climate change; the relationship of increasingly-free markets to food security in low-income, food deficit countries; public private partnerships for agricultural development; and, food safety and science and technology policy.

## IV. Strategic Challenge

As part of its recommitment to agriculture, USAID is working to increase funding for such programs. Agricultural funding reached a low of $244 million in FY 1997. USAID's FY 1998 agriculture budget is $294 million and the FY 1999 budget request shows a further increase -- to nearly $305 million. There are, however, many legitimate and competing needs in developing countries, as shown by Congressional directives and/or earmarks for child survival, infectious diseases, basic education, and microenterprise. In addition, Administration priorities in critical areas like environmental protection and family planning also impact funding in the remaining discretionary areas of the budget, such as agriculture and business development.

The strategic challenge faced by USAID in achieving the goals of Title XII is complex. This challenge encompasses:

- recognition that the size of the world's hungry population is not going to diminish without additional, but more focused, efforts encompassing increasing agricultural production and other factors associated with children's nutrition, such as women's education;

- realization that the Agency, along with the international donor community, has under-invested in agricultural research for more than a decade which may disrupt the flow of benefits expected from publicly-funded research;

- increased understanding of the linkage between civil conflict, democratic participation, and food security; and,

- broader awareness that strengthened market and technology ties with the developing world are essential for growth of U.S agriculture and that new forms of public private partnerships are needed.

USAID has many of the resources needed to respond to these complex issues, the most important of which being the longstanding institutional relationships it fostered both in developing countries and the U.S. The U.S. land-grant universities are, as the Title XII legislation asserts, essential partners in many of these relationships. They enable USAID to call upon expertise around the globe, mobilizing the most appropriate to solve problems wherever they occur.

However, funding and staffing trends, along with directives and earmarking, constrain USAID's ability to develop creative and effective approaches to the issues. Some of the ways in which USAID is proposing to overcome these constraints and take full advantage of the strengths of our institutional partners over the next five years are briefly outlined below.

These core goals of the Title XII legislation also remain core concerns for USAID. USAID's participation in the 1996 World Food Summit signalled our continuing involvement in these issues. However, budget levels for both USAID and other donors clearly show ambivalence towards the role of agriculture and economic growth in attaining these Title XII goals. During the 1992-97 period, it is evident that both agriculture and economic growth, which are of a more long-term and sustainable nature, received less attention than approaches with more immediate impact. The latter include emergency and targeted food assistance, conflict prevention and immediate post-conflict recovery measures, reduction of trade barriers to permit an increased flow of commercial food imports, and even the increased use of health care interventions to promote child survival.

Data shows, however, that sustainable freedom from hunger is largely derived from sustainable freedom from poverty. The last two decades of economic growth in East Asia and Latin America, and the economic progress realized by some African nations, have demonstrated that reduced poverty is an attainable goal and can, within the span of a generation, improve the nutritional status of the majority of the population. But, as the Asian financial crisis has also illustrated, such progress is not irreversible. Financial risks, market reversals, political instability -- all can upset a long-term trend. Climatic risks -- such as the changes in weather patterns associated with the El Niño phenomenon -- must also not be discounted, especially as they affect the most basic of productions, that of food.

Within the follow-up to the World Food Summit, USAID has played a leadership role in developing a conceptual framework for achieving the Summit's target of reducing the number of hungry people to 400 million by the year 2015. This framework links interventions at the global, national, sector, community, and household levels to create an impact on the nutritional status of individuals.

For example, agricultural research and the transfer of technology are one set of critical "sectoral" interventions considered in the framework. They are particularly important for Africa, where productivity gains still lag behind those of other regions, and where increases in rural productivity are essential to increasing incomes and improving nutrition. Interestingly, increasing women's educational attainment also appears to exert a powerful impact on reducing hunger. Open trade, working through its effect on increasing economic growth in general, provides a further push toward freedom from hunger -- especially where the poor have adequate access to productive resources (such as land) to permit their full participation in economic growth. The analytical framework also posits which of these interventions would likely be most effective in a particular geographic context.

Against this analytical background, it is then possible to target those areas which are most well-suited to U.S. support -- such as where we have a national interest, a strong comparative advantage, or mechanisms through which we can organize a coordinated program. This proposal for a revitalized, "Millennium" approach to

reducing world hunger is under active discussion by the Inter-Agency Working Group on Food Security, as its adoption has significant budget and resource implications.

The framework's analysis is likely to lead USAID into a more focused approach to the problem of averting famine and reducing hunger. For example, in FY 98 the Africa Bureau has launched a regional program (the African Food Security Initiative, or AFSI) which concentrates additional resources for agriculture and nutrition investments in countries that are committed to economic reform and have established the necessary policy framework. The analysis also points out the importance of ensuring that the Africa Trade and Investment Initiative and the new Education Initiative (both to start in FY 99) are closely coordinated with the AFSI.

The framework also suggests that child survival and environment funding be used to address hunger. Similarly, improved agricultural practices can have a positive effect on the environment - for example, increased productivity reduces the need to expand cultivation into marginal or fragile lands. In many cases, environment funding is already widely coordinated with agriculture funding. Both, however, need to be programmed as effectively as possible to increase the impact on food security.

Food is, of course, the major source of children's nutrient intakes and children who are mal or under nourished are most vulnerable to infectious diseases. Fortunately, the potential already exists for crop breeders to increase both the yields and the micronutrient content of widely-consumed crops through the application of biotechnology. Expanded research and technology transfer efforts can ensure that improved crop varieties are developed as quickly as possible and put into the hands of producers. If those producers are mothers, whose role as primary care givers shapes children's consumption, the loop between research results and nutrition impact is effectively closed.

#### Re-emphasizing Investments in Agricultural Research

The public sector has traditionally been the main source of improved agricultural technology for developing nations. The private sector has generally supported research only on high-value export crops. That pattern has begun to change somewhat in recent years - in ways that are both promising and challenging.

The international public sector has been particularly important because it has provided support for both national programs and international research programs. The latter provides international public goods which can be widely and freely used by a number of nations. To the extent that public funds for international research or for the support of national programs are constrained, the availability of public goods is reduced.

The private sector has clearly been expanding its range of activities in developed nations and is beginning to do so in the higher-income developing nations.

However, it is not yet a major player in the poorer developing nations and, except in some special cases, is not likely to become one. The private sector is, of course, usually interested in large and relatively high-income markets which offer a substantial degree of intellectual property rights; these conditions are far less prevalent in the poorer nations of the world. The private sector, moreover, is apt to focus its activities on relatively advanced forms of biotechnology which may find less immediate use in poorer developing countries.

Thus, the poor of the world depend - and will continue to do so - on public agricultural research to help them improve their condition. As a result, the stagnation and, in some cases, the decline in public sector funding for research does not bode well for them. These declining funding trends have fostered more collaboration among institutions and have led to increases in efficiency and productivity. The process, however, has gone too far and may now be having negative impacts on the quantity and quality of research.

Human resource investments over the past four decades of development assistance have provided an institutional base and cadre of scientific, technical, and managerial talent on which it was thought that the developing countries would be able to rely. In the early 1960s, for example, developing countries had only half as many agricultural researchers (20,000) as the industrial countries. By the early 1980s, developing countries had almost 50 percent more (80,000), and this number is now thought to be over 100,000; but, many trained as scientists no longer function in that capacity. It is also true that the flow through the U.S. university system of budding agricultural scientists, especially those from low-income food deficit countries in Africa and Asia, may have been so reduced for lack of donor funding that the quality of national institutions has been affected.

There is clearly a substantial established capacity for research but, unless the public systems are adequately funded, the best human talent is likely to go elsewhere, with negative impacts on the overall quality of the system. In addition, most developing countries have not yet dealt adequately with the issues of protecting intellectual property rights (IPR) and the biosafety and regulatory issues associated with transgenic varieties. These must be addressed to encourage the entry of the private sector into agricultural research areas most suited to private investors and not currently covered by public sector financing.

For all these reasons, it is time for the donor community to provide more funding for global agricultural research. A more flexible and inclusive approach is also needed to determine priorities and key problems which should be addressed through the application of agricultural science. The CRSPs, the CGIAR, and a host of bilateral partnerships between national agricultural research systems and U.S. universities provide a solid foundation for developing expanded partnerships. NGOs and private companies interested in agricultural productivity can work with the USG and universities through these partnerships to regain the momentum of research which once spawned the Green Revolution.

### The Linkage between Civil Conflict, Democratic Participation, and Food Security

This aspect of the challenge of preventing famine and establishing freedom from hunger is perhaps the most complex of all. On the one hand, it is clear that a lack of food security can, in its more extreme forms, lead to civil disruptions and conflict. Food riots - such as those recently experienced in Indonesia - are a well-known manifestation of this problem. Such riots can be caused by a wide range of factors, but reductions in food subsidies due to budgetary constraints often play a triggering role, though there may be a wide array of background causes (such as high-cost production, which necessitates subsidies in the first place). At the same time, less extreme or more localized disruptions may go unnoticed. On the other hand, food supplies are still affected by economic sanctions, and civil conflicts increase human suffering through the disruption of food supplies.

Several Africa examples show clearly that the resolution of civil conflict immediately leads to a decrease in hunger and undernutrition as production and normal trade resume. Other studies show that citizens' participation in more democratic forms of government tends to increase their ability to influence public expenditures, especially for health facilities, schools, water and sanitation. These expenditures enable populations to absorb and utilize available food supplies more effectively and so improve their nutritional status.

USAID's democracy and governance programs have been growing around the world during the 1992-97 period. Civil conflicts in populous, food-deficit countries (Mozambique, Ethiopia) have ended. Emphasis on conflict prevention and on the recovery from conflict has led USAID to create an Office of Transition Initiatives (OTI) within the Bureau for Humanitarian Response.

From the perspective of Title XII's goal of freedom from hunger, however, the linkage among civil conflict, democratic participation, and food security opens up a whole new potential area of collaboration between U.S. universities and USAID.

### Strengthened Market Ties and Public Private Partnerships

The National Center for Food and Agricultural Policy (NCFAP) eloquently articulated the case for U.S. agriculture profiting from revitalized trade and development cooperation policies: "Abroad, we seek agricultural and rural development, which is broadly-based and environmentally sustainable, and capable of improving food security and economic welfare in developing countries. At home, we seek a U.S. farm sector made more prosperous through continued growth in international trade."

NCFAP also recommended that new partnerships between the public and private sectors would be key to success in achieving these goals. USAID needs to broaden its traditional partnerships to include the private sector which represents the domestic and international food and fiber industry. While Title XII legislation

permits such new partnerships, amending the legislation could promote them more explicitly.

The globalization of markets in the early 1990s and the completion of the Uruguay Round of the GATT have opened up new opportunities for USAID's Title XII partners in two ways:

- First, the Treaty on Rights for Intellectual Property Systems (TRIPS) extends the security of U.S. patent law to many emerging agricultural markets. This security offers a new incentive for biotechnology companies to develop innovative, patented technologies adapted for the conditions of foreign agriculture. As already noted, however, private sector efforts are not likely to be enough; the presence of certain agricultural public goods in developing countries is necessary. USAID and its Title XII partners (including the IARCs and the PVO community, as well as the land-grant institutions) are in a unique position to provide the trained agricultural personnel and functioning public agricultural research and extension systems needed to complement private investments.

- Second, open and well-regulated agricultural markets provide further incentive for U.S. agribusinesses to venture into foreign economies. USAID's programs supporting the development of open, transparent, and predictable trade regimes are an important complement to U.S. agribusinesses' interests in expanding markets. Clear biosafety regulations, competitive transport and communication systems, and banking systems which facilitate reliable transfer of assets are also important to both U.S. and host-country interests. In fact, their importance is evidenced by the fact that potential investors are willing to enter into cost-sharing partnerships with USAID to ensure that the right technologies, the right institutions, and the right personnel are on hand where they want to invest. In this context, the experience of American agribusiness investors in the ENI -- where the regulatory, institutional, and logistical infrastructures leave much to be desired -- is instructive. While interest in, and potential for, U.S. agribusiness remains high, there is also a greater appreciation for the difficulties which inefficient and non-competitive markets pose -- difficulties which economic growth/agricultural development programs managed by bilateral Missions and supported by U.S. partner-resources can help address.

## IN CONCLUSION

Given the experience, problems and opportunities of the 1992-1997 period, USAID is seeking resolution of the funding and staffing issues which impact our efforts to address the complex challenges before us. We look forward to building on our Title XII implementation experience to shape USAID's renewed response to the continuing need to prevent famine and free the world from hunger.

**Total Obligations In Agriculture**
**By Emphasis Area By Bureau (FY 92-97)**
**(000)**

| | FY92 | FY93 | FY94 | FY95 | FY96* | FY97 |
|---|---|---|---|---|---|---|
| **Bureau for Africa** | | | | | | |
| Agribusiness | $31,604 | $22,594 | $24,444 | $21,407 | $15,053 | $17,739 |
| Agricultural Credit | $3,060 | $2,062 | $4,507 | $5,841 | $4,057 | $3,462 |
| Agricultural Infrastructure | $24,412 | $13,572 | $12,655 | $11,910 | $10,060 | $7,218 |
| Agricultural Policies and Planning | $73,107 | $35,243 | $47,702 | $33,761 | $24,096 | $11,924 |
| Agricultural Training and Extension | $19,661 | $17,428 | $11,047 | $9,608 | $5,698 | $10,690 |
| Crop Production | $10,440 | $11,749 | $12,370 | $12,317 | $8,179 | $21,946 |
| Fisheries Production | | | | | $1,213 | $430 |
| Livestock Production | $3,085 | $2,981 | $2,758 | $2,825 | $4,448 | $760 |
| Pest Management | $2,768 | $2,773 | $1,199 | $1,488 | $1,134 | $208 |
| Res. Mgt. For Agr. Prod. and Prod. | $18,231 | $6,759 | $7,835 | $12,577 | $6,185 | $5,809 |
| **Sub-total:** | $186,368 | $115,161 | $124,517 | $111,734 | $80,123 | $80,186 |
| 'Less Environment Funding | $9,957 | $2,222 | $2,361 | $16,929 | $17,517 | |
| **Total** | $176,411 | $112,939 | $122,156 | $94,805 | $62,606 | $80,186 |
| **Bureau for Asia/Near East** | | | | | | |
| Agribusiness | $24,111 | $13,093 | $8,636 | $33,002 | $19,156 | $3,870 |
| Agricultural Credit | $9,769 | $2,555 | $7,150 | $598 | $1,172 | |
| Agricultural Infrastructure | $49,901 | $31,097 | $9,073 | $7,331 | $8,597 | $8,226 |
| Agricultural Policies and Planning | $83,287 | $19,804 | $56,592 | $61,236 | $48,622 | $36,281 |
| Agricultural Training and Extension | $30,051 | $19,386 | $7,249 | $1,724 | $2,629 | $1,563 |
| Crop Production | $6,940 | $6,448 | $3,381 | $7,729 | $12,461 | $4,961 |
| Fisheries Production | $1,546 | $1,284 | | $132 | $92 | $345 |
| Livestock Production | $350 | $1,946 | $675 | | | $814 |
| Pest Management | $2,585 | $1,440 | $523 | $2,299 | $430 | |
| Res. Mgt. For Agr. Prod. and Prod. | $13,085 | $14,177 | $1,604 | $278 | $410 | $768 |
| **Sub-total:** | $221,625 | $111,230 | $94,883 | $114,329 | $93,569 | $56,828 |
| 'Less Environment Funding | $1,272 | $2,346 | $240 | $3,385 | $2,030 | |
| **Total** | $220,353 | $108,884 | $94,643 | $110,944 | $91,539 | $56,828 |
| **Bureau for Europe and N.I.S.** | | | | | | |
| Agribusiness | $32,364 | $64,199 | $77,564 | $18,990 | $19,118 | $23,995 |
| Agricultural Credit | $1,095 | $432 | | $17,853 | $1,023 | $1,300 |
| Agricultural Infrastructure | $795 | | | $6,520 | $4,355 | |
| Agricultural Policies and Planning | $14,499 | $23,337 | $9,526 | $5,862 | $5,310 | $3,104 |
| Agricultural Training and Extension | | | | $2,651 | $2,053 | |
| Crop Production | | | | $6,980 | | $3,076 |
| Fisheries Production | $795 | | | | | |
| Livestock Production | | | | | | |
| Pest Management | $600 | | | $2,127 | $250 | |
| Res. Mgt. For Agr. Prod. and Prod. | | | | | | $50 |
| **Sub-total:** | $50,148 | $87,968 | $87,090 | $60,983 | $32,109 | $31,525 |
| 'Less Environment Funding | | | | $3,248 | $1,138 | |
| **Total** | $50,148 | $87,968 | $87,090 | $57,735 | $30,971 | $31,525 |
| **Bureau for Latin America and Caribbean** | | | | | | |
| Agribusiness | $15,212 | $8,019 | $10,153 | $10,862 | $4,598 | $3,814 |
| Agricultural Credit | $5,364 | $2,645 | $2,888 | $6,574 | $3,966 | $703 |
| Agricultural Infrastructure | $11,312 | $11,722 | $15,453 | $12,020 | $2,397 | $2,849 |
| Agricultural Policies and Planning | $12,923 | $6,039 | $1,748 | $4,381 | $3,120 | $3,735 |
| Agricultural Training and Extension | $9,998 | $7,082 | $4,648 | $5,399 | $5,091 | $4,680 |
| Crop Production | $9,433 | $7,510 | $5,841 | $6,180 | $6,439 | $8,308 |
| Fisheries Production | | | | | | $1,170 |
| Livestock Production | $240 | | | | | $116 |
| Pest Management | $1,068 | $2,219 | $1,420 | $717 | $402 | $3,583 |
| Res. Mgt. For Agr. Prod. and Prod. | $3,045 | $2,848 | $1,768 | $4,049 | $6,669 | $28,958 |
| **Sub-total:** | $68,595 | $48,084 | $43,919 | $50,182 | $32,682 | |
| 'Less Environment Funding | $2,183 | $2,982 | $2,411 | $10,081 | $10,055 | |
| **Total** | $66,412 | $45,102 | $41,508 | $40,101 | $22,627 | $28,958 |
| **Bureau for Global Programs** | | | | | | |
| Agribusiness | $12,012 | $9,397 | $8,744 | $8,403 | $5,491 | $5,634 |
| Agricultural Credit | $604 | $865 | $843 | | | $5,534 |
| Agricultural Infrastructure | $206 | $473 | $328 | $717 | $494 | $5,534 |
| Agricultural Policies and Planning | $5,890 | $6,157 | $3,899 | $7,740 | $5,108 | $2,133 |
| Agricultural Training and Extension | $8,793 | $5,992 | $4,397 | $5,626 | $3,728 | $2,522 |

## Total Obligations In Agriculture
## By Emphasis Area By Bureau (FY 92-97)
## (000)

| | FY92 | FY93 | FY94 | FY95 | FY96* | FY97 |
|---|---|---|---|---|---|---|
| Crop Production | $21,256 | $17,225 | $16,861 | $19,868 | $16,068 | $1,614 |
| Fisheries Production | $2,727 | $1,765 | $1,168 | $2,870 | $1,975 | $4,170 |
| Livestock Production | $11,292 | $14,649 | $4,632 | $11,914 | $10,774 | $4,454 |
| Pest Management | $9,506 | $9,082 | $6,655 | $14,668 | $11,267 | $5,534 |
| Res. Mgt. For Agr. Prod. and Prod. | $13,917 | $13,314 | $8,770 | $13,210 | $9,135 | $5,534 |
| **Sub-total:** | $86,203 | $78,919 | $56,297 | $85,016 | $64,040 | $42,663 |
| 'Less Environment Funding | $17,149 | $15,281 | $11,619 | $23,563 | $16,195 | |
| **Total** | $69,054 | $63,638 | $44,678 | $61,453 | $47,845 | $42,663 |
| | | | | | | |
| **Bureau for Humanitarian Response** | | | | | | |
| Agribusiness | $1,662 | $819 | $2,331 | $4,419 | $567 | $618 |
| Agricultural Credit | $1,032 | $853 | $253 | $1,045 | $760 | $194 |
| Agricultural Infrastructure | | | | | | $277 |
| Agricultural Policies and Planning | $527 | $425 | $385 | $260 | $40 | |
| Agricultural Training and Extension | $3,528 | $1,785 | $2,482 | $3,828 | $1,731 | $891 |
| Crop Production | $1,109 | $750 | $417 | $1,172 | $1,034 | $547 |
| Fisheries Production | | | | | | |
| Livestock Production | $315 | $273 | $223 | | | $209 |
| Pest Management | | | | | | |
| Res. Mgt. For Agr. Prod. and Prod. | $359 | $290 | $100 | $1,562 | $1,170 | |
| **Sub-total:** | $8,532 | $5,195 | $6,191 | $12,286 | $5,302 | $2,736 |
| 'Less Environment Funding | $4 | | | $1,216 | $933 | |
| **Total** | $8,528 | $5,195 | $6,191 | $11,070 | $4,369 | $2,736 |
| | | | | | | |
| **Policy and Management Bureaus** | | | | | | |
| Agribusiness | $525 | $574 | | | | |
| Agricultural Credit | | | | | | |
| Agricultural Infrastructure | | | | | | |
| Agricultural Policies and Planning | $2,528 | $1,273 | $665 | | | $687 |
| Agricultural Training and Extension | $306 | $1,060 | $1,564 | | | $1,171 |
| Crop Production | | | $88 | | | |
| Fisheries Production | | | $44 | | | |
| Livestock Production | | | | | | |
| Pest Management | | | | | | |
| Res. Mgt. For Agr. Prod. and Prod. | $447 | $71 | | | | |
| **Sub-total:** | $3,806 | $2,978 | $2,361 | $0 | $0 | $1,858 |
| 'Less Environment Funding | $412 | | | | | |
| **Total** | $3,394 | $2,978 | $2,361 | $0 | $0 | $1,858 |
| | | | | | | |
| **Grand Total** | | | | | | |
| Agribusiness | $117,490 | $118,695 | $131,872 | $97,083 | $63,983 | $55,670 |
| Agricultural Credit | $20,924 | $9,412 | $15,641 | $31,911 | $10,978 | $11,193 |
| Agricultural Infrastructure | $86,626 | $56,864 | $37,509 | $38,498 | $25,903 | $24,104 |
| Agricultural Policies and Planning | $192,761 | $92,278 | $120,517 | $113,240 | $86,296 | $57,864 |
| Agricultural Training and Extension | $72,337 | $52,733 | $31,387 | $28,836 | $20,930 | $21,517 |
| Crop Production | $49,178 | $43,682 | $38,958 | $54,246 | $44,181 | $40,452 |
| Fisheries Production | $5,068 | $3,049 | $1,212 | $3,002 | $3,280 | $4,945 |
| Livestock Production | $15,282 | $19,849 | $8,288 | $14,739 | $15,222 | $7,407 |
| Pest Management | $16,527 | $15,514 | $9,797 | $21,299 | $13,483 | $5,858 |
| Res. Mgt. For Agr. Prod. and Prod. | $49,084 | $37,459 | $20,077 | $31,676 | $23,569 | $15,744 |
| **Sub-total:** | $625,277 | $449,535 | $415,258 | $434,530 | $307,825 | $244,754 |
| 'Less Environment Funding | $30,977 | $22,831 | $16,631 | $58,422 | $47,868 | $0 |
| **Total** | $594,300 | $426,704 | $398,627 | $376,108 | $259,957 | $244,754 |

*FY96 figures are Congressional Presentation (CP) estimates.

**Budgeted Obligations In Agriculture**
**By Emphasis Area By Bureau (FY 98-99)**
**(000)**

| | FY98 | FY99 |
|---|---|---|
| **Bureau for Africa** | | |
| Agribusiness | $21,725 | $20,088 |
| Agricultural Credit | $1,343 | $3,718 |
| Agricultural Infrastructure | $11,007 | $4,662 |
| Agricultural Policies and Planning | $10,295 | $15,202 |
| Agricultural Training and Extension | $8,211 | $4,042 |
| Crop Production | $17,381 | $15,882 |
| Fisheries Production | | |
| Livestock Production | $300 | $4,339 |
| Pest Management | $285 | $880 |
| Res. Mgt. For Agr. Prod. and Prod. | $6,869 | $7,187 |
| **Total** | $77,416 | $76,000 |
| | | |
| **Bureau for Asia/Near East** | | |
| Agribusiness | $29,395 | $14,280 |
| Agricultural Credit | | |
| Agricultural Infrastructure | $1,800 | $3,159 |
| Agricultural Policies and Planning | $77,680 | $74,688 |
| Agricultural Training and Extension | | |
| Crop Production | $900 | $1,050 |
| Fisheries Production | | $1,400 |
| Livestock Production | $245 | $301 |
| Pest Management | | |
| Res. Mgt. For Agr. Prod. and Prod. | $4,925 | $5,833 |
| **Total** | $114,945 | $100,711 |
| | | |
| **Bureau for Europe and N.I.S.** | | |
| Agribusiness | $25,666 | $23,360 |
| Agricultural Credit | $2,311 | $1,342 |
| Agricultural Infrastructure | | $4,700 |
| Agricultural Policies and Planning | $1,100 | $4,205 |
| Agricultural Training and Extension | $8,300 | $8,000 |
| Crop Production | | |
| Fisheries Production | | |
| Livestock Production | | |
| Pest Management | | |
| Res. Mgt. For Agr. Prod. and Prod. | | |
| Agricultural Land Privatization | | $17,800 |
| **Total** | $37,377 | $59,407 |
| | | |
| **Bureau for Latin America and Caribbean** | | |
| Agribusiness | $2,540 | $8,462 |
| Agricultural Credit | $1,460 | $7,735 |
| Agricultural Infrastructure | $1,547 | $2,650 |
| Agricultural Policies and Planning | $3,832 | $3,437 |
| Agricultural Training and Extension | $2,321 | $3,185 |
| Crop Production | $4,601 | $7,530 |

**Budgeted Obligations In Agriculture**
**By Emphasis Area By Bureau (FY 98-99)**
**(000)**

| | FY98 | FY99 |
|---|---|---|
| Fisheries Production | | |
| Livestock Production | $166 | $100 |
| Pest Management | | $44 |
| Res. Mgt. For Agr. Prod. and Prod. | $6,591 | $12,410 |
| **Total** | $23,058 | $45,553 |
| | | |
| **Bureau for Global Programs** | | |
| Agribusiness | $2,876 | $2,180 |
| Agricultural Credit | $213 | $2,185 |
| Agricultural Infrastructure | | $2,185 |
| Agricultural Policies and Planning | $9,472 | $2,185 |
| Agricultural Training and Extension | $900 | $2,185 |
| Crop Production | $628 | $2,185 |
| Fisheries Production | $1,450 | $2,185 |
| Livestock Production | $4,950 | $2,185 |
| Pest Management | $2,350 | $2,185 |
| Res. Mgt. For Agr. Prod. and Prod. | $10,191 | $2,185 |
| **Total** | $33,030 | $21,845 |
| | | |
| **Bureau for Humanitarian Response** | | |
| Agribusiness | | |
| Agricultural Credit | | |
| Agricultural Infrastructure | | |
| Agricultural Policies and Planning | | |
| Agricultural Training and Extension | | |
| Crop Production | | |
| Fisheries Production | | |
| Livestock Production | | |
| Pest Management | | |
| Res. Mgt. For Agr. Prod. and Prod. | | |
| **Total** | $0 | $0 |
| | | |
| **Policy and Management Bureaus** | | |
| Agribusiness | | |
| Agricultural Credit | | |
| Agricultural Infrastructure | | |
| Agricultural Policies and Planning | $1,143 | $1,062 |
| Agricultural Training and Extension | $1,135 | $1,062 |
| Crop Production | $6,000 | |
| Fisheries Production | | |
| Livestock Production | | |
| Pest Management | | |
| Res. Mgt. For Agr. Prod. and Prod. | | |
| **Total** | $8,278 | $2,124 |
| | | |
| **Grand Total** | $294,104 | $305,640 |

## USAID Obligations by Emphasis Area (US $ 000)
## FY 92-97

| | FY92 | FY93 | FY94 | FY95 | FY96* | FY97** |
|---|---|---|---|---|---|---|
| Democracy | 224,701 | 315,091 | 370,669 | 435,516 | 387,103 | 413,309 |
| Environment | 475,693 | 476,499 | 477,835 | 634,312 | 547,180 | 654,329 |
| Population & Health | 874,768 | 1,010,596 | 1,053,283 | 1,121,315 | 931,330 | 1,028,732 |
| Economic Growth | 4,122,732 | 3,925,665 | 4,165,096 | 3,798,173 | 3,292,251 | 2,897,820 |
| Agriculture | 594,300 | 426,704 | 398,627 | 376,108 | 259,957 | 244,755 |
| Basic Education*** | 113,822 | 134,459 | 116,133 | 142,049 | 126,310 | 0 |
| Other Education*** | 231,266 | 240,798 | 254,024 | 222,206 | 164,373 | 0 |
| Energy | 200,419 | 145,064 | 198,291 | 144,291 | 37,262 | 0 |
| Private Sector | 1,022,195 | 977,208 | 1,561,522 | 1,015,257 | 843,275 | 0 |
| Other**** | 1,960,730 | 2,001,432 | 1,636,499 | 1,898,262 | 1,861,074 | 0 |
| Humanitarian Assistance | 38,006 | 145,799 | 53,314 | 0 | 0 | 0 |
| Human Capacity***** | 0 | 0 | 0 | 0 | 0 | 187,097 |
| Agency Total | 5,735,900 | 5,873,650 | 6,120,197 | 5,989,316 | 5,157,864 | 5,181,287 |

## USAID Obligations by Emphasis Area (%)
## FY 92-97

| | FY92 | FY93 | FY94 | FY95 | FY96* | FY97** |
|---|---|---|---|---|---|---|
| Democracy | 3.92 | 5.36 | 6.06 | 7.27 | 7.51 | 7.98 |
| Environment | 8.29 | 8.11 | 7.81 | 10.59 | 10.61 | 12.63 |
| Pop. & Health | 15.25 | 17.21 | 17.21 | 18.72 | 18.06 | 19.85 |
| Econ. Growth | 71.88 | 66.84 | 68.05 | 63.42 | 63.83 | 55.93 |
| Agriculture | 10.36 | 7.26 | 6.51 | 6.28 | 5.04 | 4.72 |
| Basic Education*** | 1.98 | 2.29 | 1.90 | 2.37 | 2.45 | 0.00 |
| Other Education*** | 4.03 | 4.10 | 4.15 | 3.71 | 3.19 | 0.00 |
| Energy | 3.49 | 2.47 | 3.24 | 2.41 | 0.72 | 0.00 |
| Private Sector | 17.82 | 16.64 | 25.51 | 16.95 | 16.35 | 0.00 |
| Other**** | 34.18 | 34.07 | 26.74 | 31.69 | 36.08 | 0.00 |
| Humanitarian Assistance | 0.66 | 2.48 | 0.87 | 0.00 | 0.00 | 0.00 |
| Human Capacity***** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.61 |
| Agency Total | 100 | 100 | 100 | 100 | 100 | 100 |

*FY 96 figures are Congressional Presentation (CP) Estimates

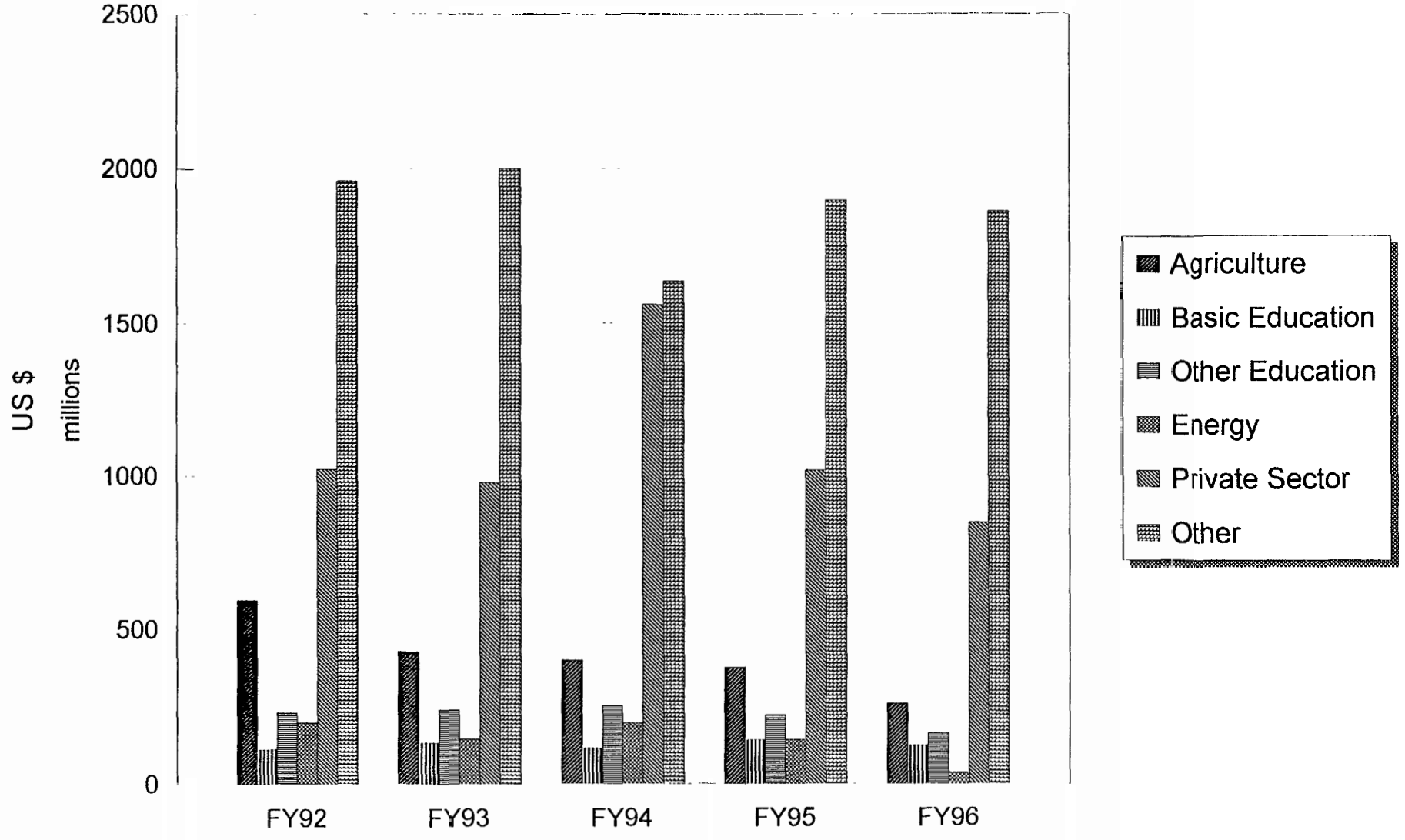
**FY97 figures are NOA and not obligations as in previous years

***In FY97 all education that was previously under Economic Growth came under the newly formed Agency goal of Human Capacity Development

****Other includes cash transfers

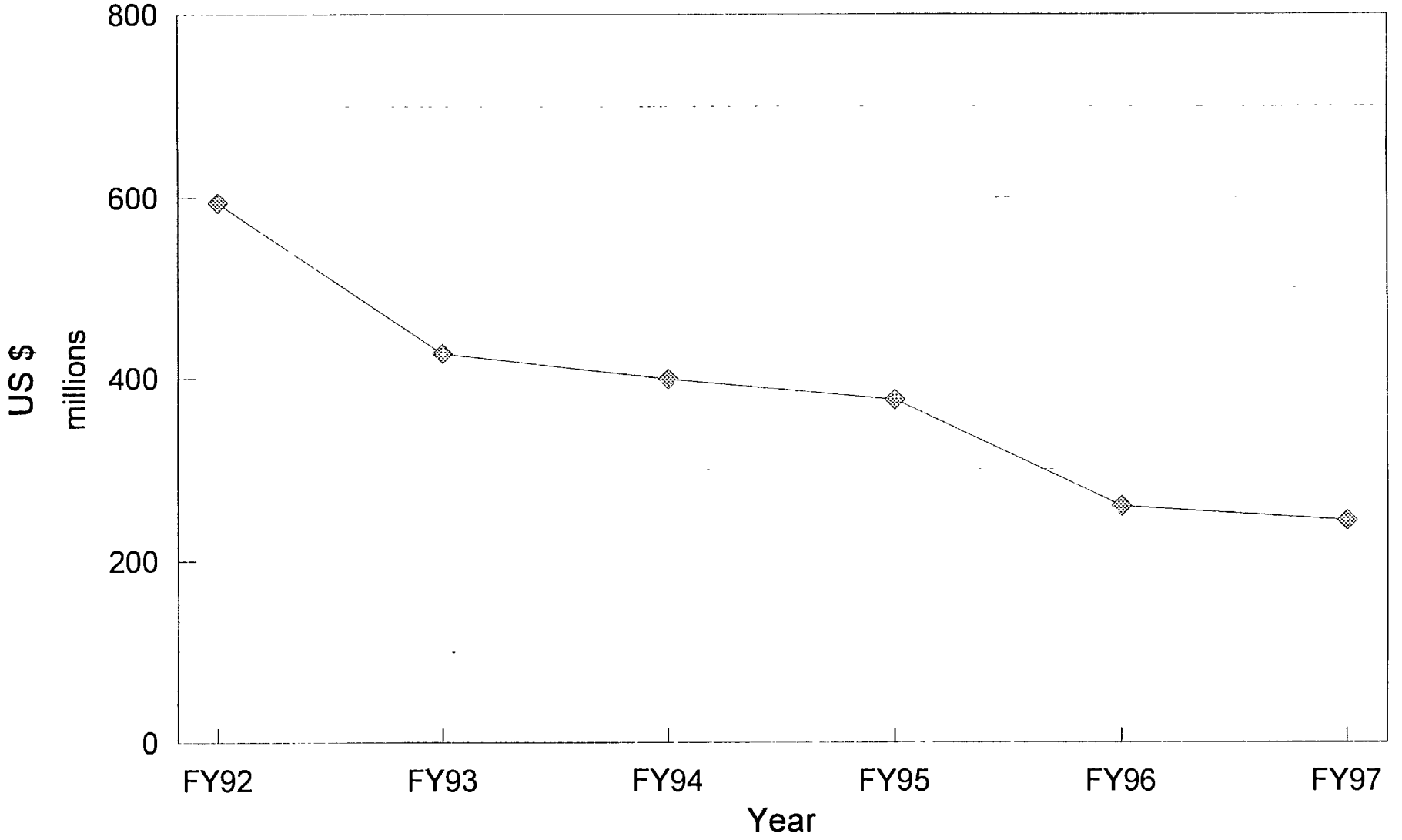
*****In FY97 Human Capacity was added as an Agency goal

# Components of Economic Growth Obligations

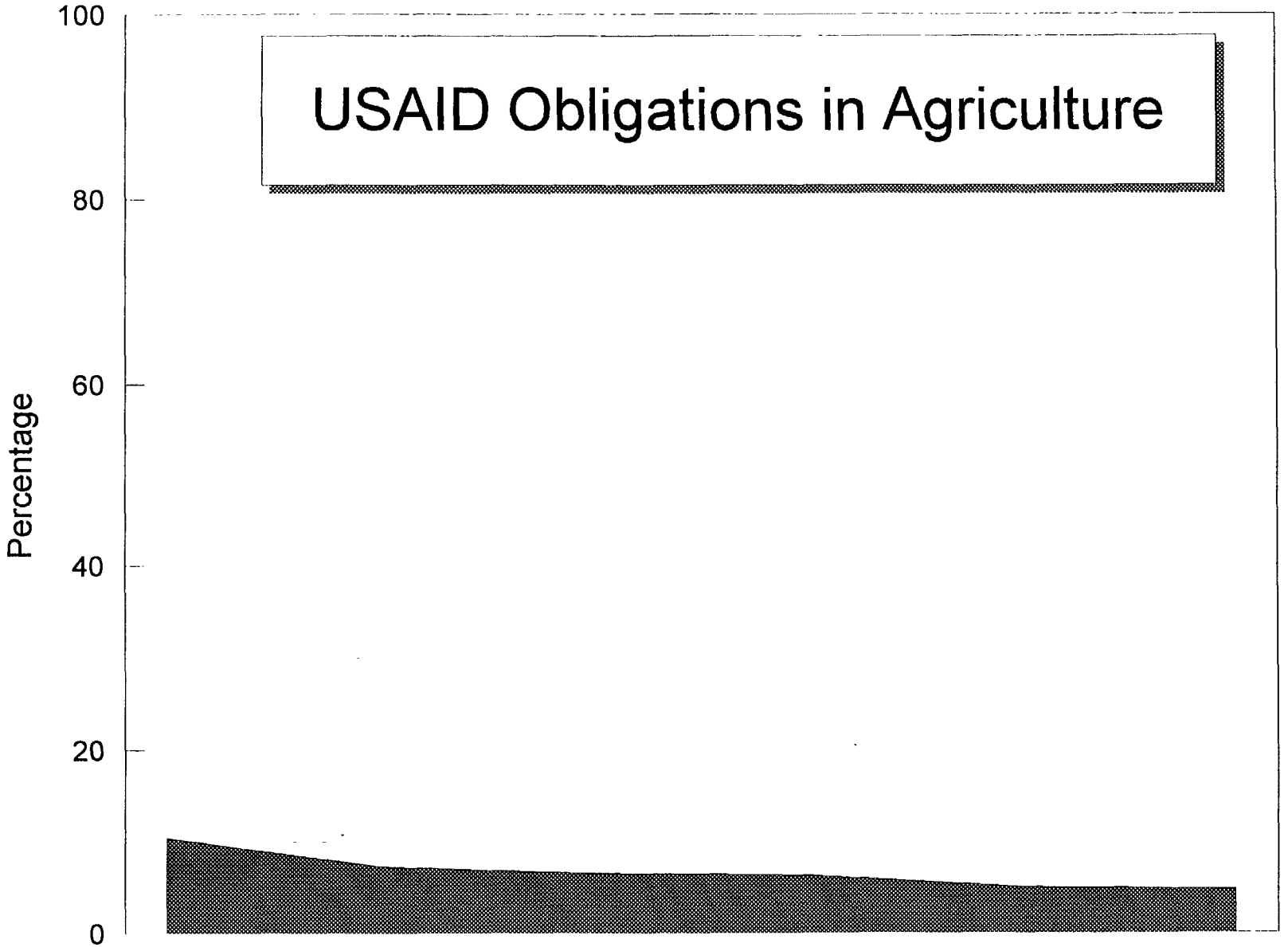



Note: FY97 is not included because the same categories are no longer used.
Note: "Other" includes categories such as telecommunications, roads, construction, and policy reform.

# Agriculture Obligations

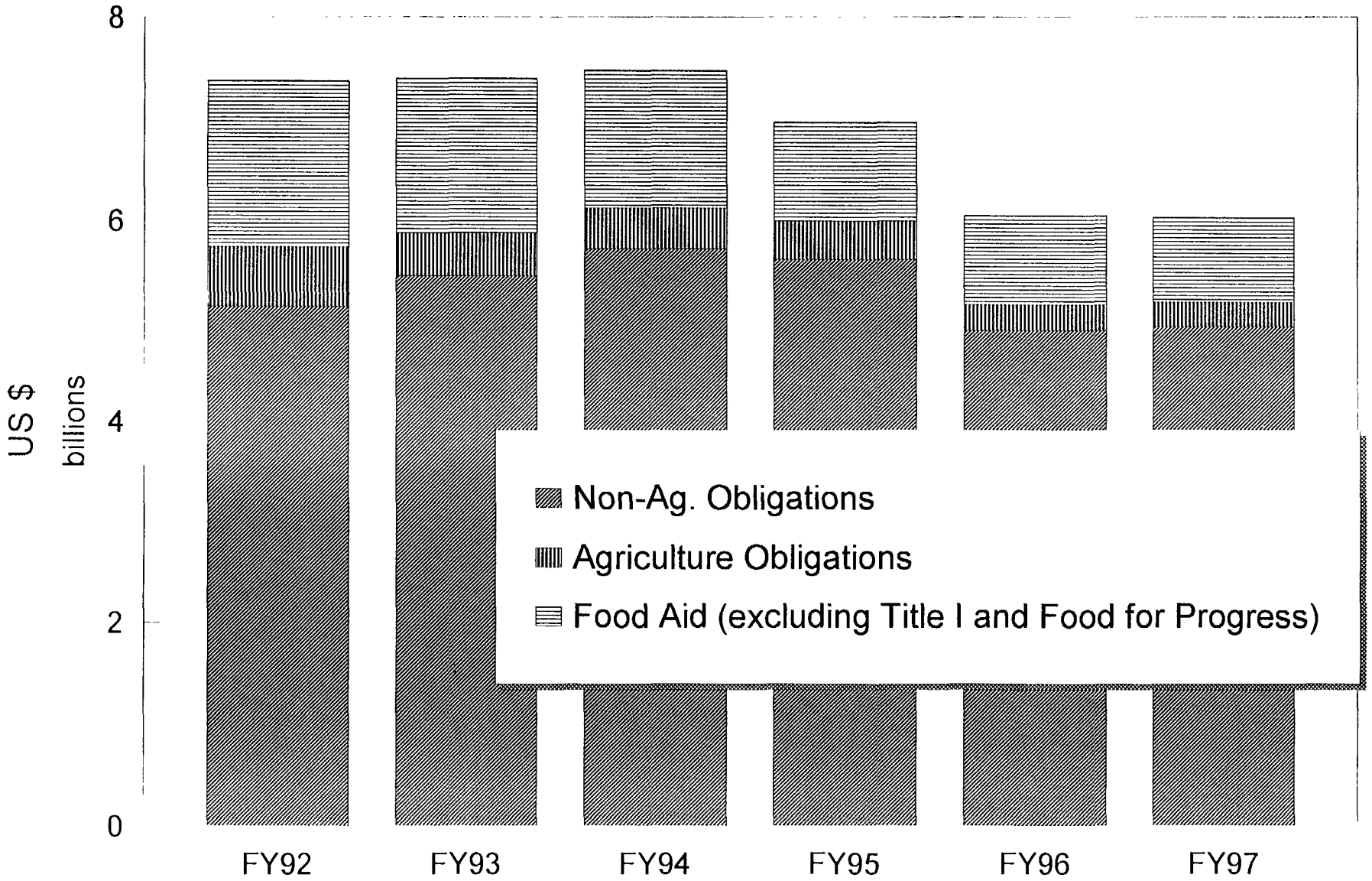


# USAID Obligations in Agriculture



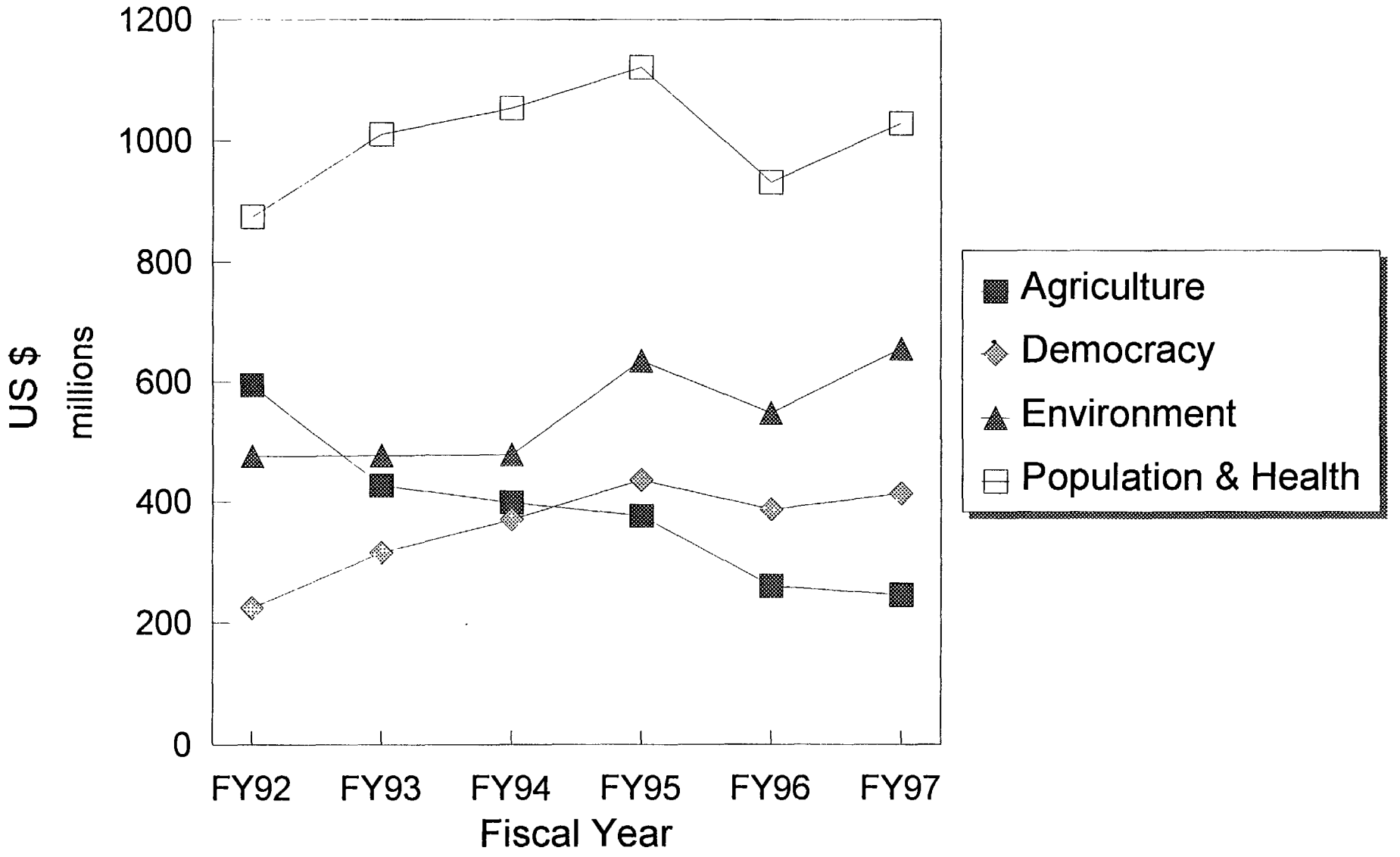

| Fiscal Year | FY92 | FY93 | FY94 | FY95 | FY96 | FY97 |
|---|---|---|---|---|---|---|
| % Agriculture | 10.36 | 7.26 | 6.51 | 6.28 | 5.04 | 4.72 |

# USAID Obligations and Food Aid



# Agency Obligation Totals

by emphasis area



## CRSP Funding Levels for FY 92 - FY 98

| CRSP University Projects | FY 92 | FY 93 | FY 94 | FY 95 | FY 96 | FY 97* | FY 98 | Total |
|---|---|---|---|---|---|---|---|---|
| INTSORMIL | 2,300,000 | 2,700,000 | 2,300,000 | 2,355,000 | 2,543,000 | 2,727,000 | 2,500,000 | 14,925,000 |
| Bean/Cowpea | 3,750,000 | 1,900,000 | 2,300,000 | 2,355,000 | 2,400,000 | 2,736,000 | 2,500,000 | 15,441,000 |
| Soil Management | 4,555,000 | 4,325,000 | 1,600,000 | 2,100,000 | 145,000 | 3,609,000 | 2,500,000 | 16,334,000 |
| Small Ruminant | 2,960,000 | 2,700,000 | 900,000 | 2,200,000 | 2,036,000 | 2,390,000 | 2,500,000 | 13,186,000 |
| Pond Dynamics | 1,007,000 | 1,000,000 | 900,000 | 1,300,000 | 2,250,000 | 2,200,000 | 1,700,000 | 8,657,000 |
| Peanuts | 1,148,000 | 1,700,000 | 1,000,000 | 1,290,000 | 1,943,000 | 1,925,000 | 1,500,000 | 9,006,000 |
| IPM | 0 | 933,000 | 1,100,000 | 1,200,000 | 1,400,000 | 1,500,000 | 1,250,000 | 6,133,000 |
| SANREM | 1,847,000 | 2,300,000 | 2,200,000 | 2,728,000 | 1,300,000 | 1,650,000 | 2,000,000 | 12,025,000 |
| BASIS | - | - | - | - | 800,000 | 1,281,000 | 850,000 | 2,081,000 |
| **Total** | 17,567,000 | 17,558,000 | 12,300,000 | 15,528,000 | 14,817,000 | 20,018,000* | 17,300,000 | 97,788,000 |

*FY97 includes $2 647 million of carry-over from FY96

**CRSP Linkages between U.S. Institutions and Collaborating Host Countries**

| State/Institutions/Collaborating CRSPs | Collaborating Host Countries |
|---|---|
| Alabama | |
| Alabama A&M (Peanut) | Burkina Faso, Ghana |
| Auburn (PDA)(SANREM)(B/C)(SOILS) | Honduras, Rwanda, Kenya, Egypt, Thailand, Haiti, Philippines, Peru, Ecuador, Cameroon |
| Tuskegee (SANREM) | Burkina Faso, Mali |
| Arizona | |
| U. of Az. (PDA)(INTSORMIL)(ABSP) | Philippines, Egypt |
| Arkansas | |
| U. of Ark. At Pine Bluff (PDA) | Rwanda |
| California | |
| U.C. (PDA) | Honduras, Kenya, Peru, Philippines, Thailand |
| U C. Davis (SR)(B/C) | Indonesia, Kenya, Morocco, Kazakhstan, Turkmenistan, Uzbekistan, Peru, Bolivia, Ecuador, Mali |
| UCLA (SR) | Kenya, Ethiopia Uganda |
| U.C. Riverside (B/C) | Senegal |
| Colorado | |
| Colorado State (SR) | Kenya |
| Univ. of Colorado (SR) | Tanzania, Kenya, Uganda |
| District of Columbia | |
| Intern. Center for Res. on Women (BASIS) | Ethiopia |
| Florida | |
| Florida A&M (INTSORMIL) | |
| U of FL (SOILS) | Uganda, Malawi, Zambia, Senegal, Ethiopia |
| Georgia | Burkina Faso, Nigeria, Guatemala, Honduras, Kenya |
| U. GA. (IPM)(SANREM)(B/C)(Peanut) | Peru, Philippines, Thailand, Ecuador, Mali, Ghana |
| Hawaii | |
| U. of Hawaii (PDA)(SOILS) | Egypt, Philippines, Kenya |
| Idaho | |
| U. of Idaho (B/C)(CASP) | Tanzania, Honduras |
| Illinois | |
| Southern Illinois U. At Carbondale (PDA) | Peru |
| Univ. of Ill. (CASP) | |
| Indiana | Mali, Guatemala, Cameroon, Costa Rica, Niger, |
| Purdue (IPM)(INTSORMIL)(B/C) | Ethiopia, Uganda, Eritrea, Kenya, Sudan |
| Iowa | |
| Iowa St.(SANREM) | Ecuador, Peru |
| Kansas | Mali, Egypt, Kenya, Uganda, Niger, Malaysia, South |
| KSU (INTSORMIL)(CASP) | Africa, Swaziland, Uruguay |
| Kentucky | |
| U. K. (SR)(INTSORMIL) | Kenya, Ethiopia |

| State/Institutions/Collaborating CRSPs | Collaborating Host Countries |
|---|---|
| Massachusetts<br>Harvard Inst. for Int. Devel.(BASIS)<br>Williams College (SR) | <br>South Africa<br>Ethiopia, Kenya |
| Michigan<br>Mich. St (PDA)(B/C)(ABSP)(FSII)<br>U. of Mich. (PDA) | <br>Thailand, Costa Rica, Mexico, Malawi, Egypt, Kenya, Indonesia, Morocco, Jamaica, Mali, Mozambique, Zimbabwe, Ethiopia<br>Thailand, Egypt |
| Minnesota<br>U. Minn. Duluth (SR)(B/C) | <br>Mexico, Ecuador, Bolivia |
| Mississippi<br>Miss. St. U (INTSORMIL)(CASP) | <br>Honduras, Ethiopia, Nicaragua |
| Missouri<br>Univ. of Missouri (SR)<br>Lincoln U. (IPM) | <br>Bolivia, Indonesia, Kenya,<br>Jamaica |
| Montana<br>Montana St. (IPM)(SOILS) | <br>Mali, Ecuador, Peru |
| Nebraska<br>U. of Neb.(INTSORMIL)(B/C) | <br>Dominican Republic, Mali, Niger, Botswana, Namibia, Zambia, Zimbabwe |
| New York<br>Cornell (SR)(SOILS)<br>Inst. of Development Anthropology (BASIS) | <br>Peru, Honduras, Ecuador, Bangladesh, Nepal<br>Ethiopia |
| North Carolina<br>NC State (SR)(Peanut)(SOILS) | <br>Indonesia, Thailand, Costa Rica, Philippines, Mali |
| Ohio<br>Ohio St. (IPM)(BASIS) | <br>Philippines, Jamaica, Mali, Uganda, Ecuador, El Salvador |
| Oklahoma<br>U. of Ok. (PDA) | <br>Honduras, Kenya, Peru, Philippines, Thailand, Egypt |
| Oregon<br>Oregon St. (SR) (PDA) | <br>Rwanda, Kenya, Honduras, Egypt |
| Pennsylvania<br>Penn St. (IPM) | <br>Philippines, Jamaica |
| Puerto Rico<br>U. of PR (B/C) | <br>Honduras |
| South Carolina<br>Clemson (B/C)<br>USDA Vegetable Lab | <br>Ghana<br>Jamaica |
| South Dakota<br>South Dakota St. (SR) | <br>Kazakhstan, Turkmenistan, Uzbekistan |

| State/Institutions/Collaborating CRSPs | Collaborating Host Countries |
|---|---|
| Texas<br>Texas A&M (SR)(INTSORMIL)(Peanut)(SOILS)<br><br><br><br>Texas Tech (SR) (INTSORMIL)<br>U. of Texas (PDA) | Argentina, Bolivia,Botswana, Brazil, Namibia, Burkina Faso, El Salvador, Ethiopia, Ghana, Guatemala, Honduras, India, Uganda, Kenya, Mali, Mexico, Nicaragua, Niger, Tanzania, Uganda, Zambia, Zimbabwe,<br>Bolivia<br>Honduras |
| Utah<br>Utah St. (SR) | Kenya, Ethiopia, Peru, Bolivia |
| Virginia<br>VPI&SU (IPM)(SANREM) | Philippines, Jamaica, Mali, Uganda, Guatemala, Ecuador, Peru, Burkina Faso |
| Washington<br>Wash. St. (SR)(SANREM) | Kenya, Burkina Faso, Mali, Tanzania |
| Wisconsin<br>U. of Wisc. (SR) (SANREM)(B/C)(BASIS) | Bolivia, Kazakhstan, Kirgystan, Uzbekistan, Mexico, Ecuador, Bolivia, Philippines, Thailand, Burkina Faso, Mali, Costa Rica |
| Totals: 34 States, D.C. and Puerto Rico; 50 Institutions | Total: 50 Host Countries |

**COUNTRIES IN WHICH CRSPs WORK - BY REGION, 1992-1997**

| AFR | ANE | ENI | LAC |
|---|---|---|---|
| Botswana (INTSORMIL) (SANREM) | Bangladesh (SOILS) | Kazakhstan (SR) | Argentina (INTSORMIL) |
| Burkina Faso (Peanut) (SANREM) | Egypt (PDA) | Kirgystan (SR) | Bolivia (SR) |
| Cameroon (B/C) | India (INTSORMIL) | Turkmenistan (SR) | Brazil (INTSORMIL) |
| Eritrea (INTSORMIL) | Indonesia (SR) | Uzbekistan (SR)(BASIS) | Costa Rica (B/C)(SOILS) |
| Ethiopia (INTSORMIL) (SR) (SOILS)(BASIS) (FSII) | Malaysia (INTSORMIL) | | Dominican Republic (B/C) |
| Ghana (Peanut) (INTSORMIL) (B/C) | Morocco (SR) | | Ecuador (IPM) (SANREM) (B/C) (SR)(SOILS) |
| Kenya (PDA) (SR)(SOILS) (INTSORMIL) (FSII) | Nepal (SOILS) | | El Salvador (INTSORMIL)(BASIS) |
| Malawi (B/C)(SOILS) | Philippines (IPM) (PDA)(SANREM)(SOILS) | | Guatemala (IPM) (INTSORMIL) |
| Mali (IPM)(SANREM)(FSII) (INTSORMIL)(SOILS) | Thailand (Peanut) (PDA)(SANREM) | | Haiti (SOILS) |
| Mozambique (INTSORMIL) (FSII) | | | Honduras (PDA) (INTSORMIL) (B/C) (SR) (SOILS) |
| Namibia (INTSORMIL) | | | Jamaica (IPM) |
| Niger (INTSORMIL) | | | Mexico (B/C) (SR) |
| Nigeria (Peanut) | | | Nicaragua (SOILS)(INTSORMIL) |
| Rwanda (PDA) (INTSORMIL) | | | Peru (PDA)(SANREM) (SR)(SOILS) |
| Senegal (INTSORMIL) (B/C)(SOILS) | | | Uruguay (INTSORMIL) |
| South Africa (BASIS)(INTSORMIL) | | | |
| Sudan (INTSORMIL) | | | |
| Swaziland (INTSORMIL) | | | |
| Tanzania (B/C) (SR) | | | |
| Uganda (IPM) (SR)(SOILS) (INTSORMIL) | | | |
| Zambia (SOILS) (INTSORMIL) | | | |
| Zimbabwe (INTSORMIL) (FSII) | | | |
| 22 COUNTRIES | 9 COUNTRIES | 4 COUNTRIES | 15 COUNTRIES |

**Membership**
**of the**
**Board For International Food and Agricultural Development**
**(BIFAD)**

Seven members were appointed in 1995

**Dr. G. Edward Schuh, Chairman**
Orville and Jane Freeman Professor in
International Trade and Investment Policy
University of Minnesota

appointed for two years and reappointed in 1998

**Dr. Walter Hill**
Dean and Research Director
School of Agriculture and Home Economics
Tuskegee University

appointed for two years

**Mr. Miles Goggans**
President
Goggans, Inc.
Little Rock, AR

appointed for two years and resigned from BIFAD in June 1998

**Dr. Ada Demb**
Associate Professor
Educational Policy and Leadership
The Ohio State University

appointed for one year and reappointed for an additional two year term

**Dr. Walter Falcon**
Director
Institute of International Studies
Stanford University

appointed for one year and reappointed for an additional two year term

**Dr. Goro Uehara**
Professor of Soil Science
University of Hawaii

appointed for one year and reappointed for an additional two year term

**Mr. Alan Klingerman**
CEO
Akpharma, Inc.

appointed for a two year term and resigned from BIFAD in late 1996

***Ms. Ertharin Cousin Moore**
Vice President
Jewel-Osco
Chicago, Ill

Ms. Cousin Moore was appointed in June 1998 for two years to fill the position vacated by Mr. Klingerman.

**Membership**
**of the**
**Advisory Committee on Food Security**

December 1997

The Advisory Committee on Food Security is an independent committee under the legislated auspices of BIFAD. There are 30 members.

**Andrew Agle, Lithonia, Georgia**,Global 2000/The Carter Center

**Selina Ahmed, Houston, TX**, Mickey Leland Center for World Hunger

**David Beckmann, Silver Spring, MD**, Bread for the World

**Margaret Bogle, Little Rock, AR**, Lower Mississippi Delta Nutrition Intervention Initiative

**John Cady, Washington, DC**, National Food Processors Association

**Ralph Christy, Ithaca, NY**, American Agricultural Economics Association, Cornell University

* **Ada Demb, Columbus, OH**, Ohio State University

**Betsy Faga, Arlington, VA**, Protein Grain Products International

* **Walter Falcon, Stanford, CA**, Stanford University

**Rick Foster, Battle Creek, MI**, Kellogg Foundation

**David J. Frederickson, Murdock, MN**, Minnesota Farmers Union

**Cutberto Garza, Ithaca, NY**, United Nations University/Food and Nutrition Program

* **Miles Goggans, Little Rock, AR**, Goggans, Inc.

**Richard Gutting, Jr.**, Alexandria, VA, National Fisheries Institute

**John D. Hardin, Jr.**, Danville, IN, farmer

* **Walter Hill, Tuskegee, AL**, Tuskegee University

**Charles Johnson, Des Moines, IA**, Pioneer Hi-Bred, International

**Charles F. MacCormack**, Westport, CT, Save the Children

**Whitney MacMillan, Minneapolis, MN**, Cargill, Inc.

**Membership**
**of the**
**Advisory Committee on Food Security**
**(continued)**

**Ellen Marshall, Boulder, CO,** National Audubon Society

**P. Howard Massey, Jr., Blacksburg, VA,** Rotary Foundation/Rotary International

**Cheryl Morden, Takoma Park, MD,** Church World Service/Lutheran World Relief

**Sharyle Patton, Bolinas, CA,** Citizens Network for Sustainable Development

**Sherrie Perry, Tahlequah, OK,** Food Distribution Programs, Cherokee Nation

* **G. Edward Schuh, Minneapolis, MN,** University of Minnesota

**P. Scott Shearer, Oakton, VA,** Farmland Industries, Inc.

**Barbara R. Spangler, Arlington, VA,** American Farm Bureau Federation

***Goro Uehara, Honolulu, HI,** University of Hawaii

**Christine Vladimiroff, Chicago, IL,** Second Harvest

* **Ertharin Cousin Moore, Chicago, Il,** Jewel-Osco, was appointed to BIFAD and became a member of this committee in June 1998.

* Members of BIFAD

(e) [295] In order to carry out the purposes of this title, the agency primarily responsible for administering part I of this Act, shall develop systematic programs of inservice training to familiarize its personnel with the objectives of this title and to increase their knowledge of the political and social aspects of development. In addition to other funds available for such purposes, not to exceed 1 per centum of the funds authorized to be appropriated for grant assistance under this chapter and chapter 1 [293] may be used for carrying out the objectives of this subsection.

**Title X—Programs Relating to Population Growth [296] * * * [Repealed—1978]**

**Title XI—Food Production Targets and Reports [297] * * * [Repealed—1978]**

**Title XII—Famine Prevention and Freedom From Hunger [298]**

**Sec. 296.[298] General Provisions.**—(a) The Congress declares that, in order to prevent famine and establish freedom from hunger, the United States should strengthen the capacities of the United States land-grant and other eligible universities in program-related agricultural institutional development and research, consistent with sections 103 and 103A, should improve their participation in the United States Government's international efforts to apply more effective agricultural sciences to the goal of increasing world food production, and in general should provide increased and longer term support to the application of science to solving food and nutrition problems of the developing countries.

The Congress so declares because it finds—

(1) that the establishment, endowment, and continuing support of land-grant universities in the United States by Federal, State, and county governments has led to agricultural progress in this country;

(2) that land-grant and other universities in the United States have demonstrated over many years their ability to cooperate with foreign agricultural institutions in expanding indigenous food production for both domestic and international markets;

(3) that, in a world of growing population with rising expectations, increased food production and improved distribution, storage, and marketing in the developing countries is necessary not only to prevent hunger but to build the economic base for growth, and moreover, that the greatest potential for increasing world food supplies is in the developing countries where the gap between food need and food supply is the greatest and current yields are lowest;

(4) that increasing and making more secure the supply of food is of greatest benefit to the poorest majority in the developing world;

[295] Subsec. (e) was added by sec. 106(b) of the FA Act of 1968.

[296] Title X, as added by the FA Act of 1967, was repealed by sec. 104(b) of the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat. 947).

[297] Title XI, as added by the FA Act of 1967, was repealed by sec. 502(d)(1) of the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat. 959).

[298] 22 U.S.C. 2220a. Sec. 312 of Public Law 94-161 (89 Stat. 849) added title XII and new sec. 296.



(5) that research, teaching, and extension activities, and appropriate institutional development therefor are prime factors in increasing agricultural production abroad (as well as in the United States) and in improving food distribution, storage, and marketing;

(6) moreover, that agricultural research abroad has in the past and will continue in the future to provide benefits for agriculture in the United States and that increasing the availability of food of higher nutritional quality is of benefit to all; and

(7) that universities need a dependable source of Federal funding, as well as other financing, in order to expand, or in some cases to continue, their efforts to assist in increasing agricultural production in developing countries.

(b) Accordingly, the Congress declares that, in order to prevent famine and establish freedom from hunger, various components must be brought together in order to increase world food production, including—

(1) strengthening the capabilities of universities to assist in increasing agricultural production in developing countries;

(2) institution-building programs for development of national and regional agricultural research and extension capacities in developing countries which need assistance;

(3) international agricultural research centers;

(4) contract research; and

(5) research program grants.

(c) The United States should—

(1) effectively involve the United States land-grant and other eligible universities more extensively in each component;

(2) provide mechanisms for the universities to participate and advise in the planning, development, implementation, and administration of each component; and

(3) assist such universities in cooperative joint efforts with—

(A) agricultural institutions in developing nations, and

(B) regional and international agricultural research centers,

directed to strengthening their joint and respective capabilities and to engage them more effectively in research, teaching, and extension activities for solving problems in food production, distribution, storage, marketing, and consumption in agriculturally underdeveloped nations.

(d) As used in this title, the term "universities" means those colleges or universities in each State, territory, or possession of the United States, or the District of Columbia, now receiving, or which may hereafter receive, benefits under the Act of July 2, 1862 (known as the First Morrill Act), or the Act of August 30, 1890 (known as the Second Morrill Act), which are commonly known as "land-grant" universities; institutions now designated or which may hereafter be designated as sea-grant colleges under the Act of October 15, 1966 (known as the National Sea Grant College and Program Act), which are commonly known as sea-grant colleges; and other United States colleges and universities which—

(1) have demonstrable capacity in teaching, research, and extension activities in the agricultural sciences; and

(2) can contribute effectively to the attainment of the objective of this title.

(e) As used in this title, the term "Administrator" means the Administrator of the Agency for International Development.[299]

(f)[300] * * * [Repealed—1978]

(g)[300] * * * [Repealed—1978]

Sec. 297.[301] General Authority.—(a) To carry out the purposes of this title, the President is authorized to provide assistance on such terms and conditions as he shall determine—

(1) to strengthen the capabilities of universities in teaching, research, and extension work to enable them to implement current programs authorized by paragraphs (2), (3), (4), and (5) of this subsection, and those proposed in the report required by section 300 of this title;

(2) to build and strengthen the institutional capacity and human resources skills of agriculturally developing countries so that these countries may participate more fully in the international agricultural problem-solving effort and to introduce and adapt new solutions to local circumstances;

(3) to provide program support for long-term collaborative university research, in the developing countries themselves to the maximum extent practicable,[302] on food production, distribution, storage, marketing and consumption;

(4) to involve universities more fully in the international network of agricultural science, including the international research centers, the activities of international organizations such as the United Nations Development Program and the Food and Agriculture Organization, and the institutions of agriculturally developing nations; and

(5) to provide program support for international agricultural research centers, to provide support for research projects identified for specific problem-solving needs, and to develop and strengthen national research systems in the developing countries.

(b) Programs under this title shall be carried out so as to—

(1) utilize and strengthen the capabilities of universities in—

(A) developing capacity in the cooperating nation for classroom teaching in agriculture, plant and animal sciences, human nutrition, and vocational and domestic arts and other relevant fields appropriate to local needs;

(B) agricultural research to be conducted in the cooperating nations, at international agricultural research centers, or in the United States;

[299] Sec. 6 of Reorganization Plan No. 2 of 1979 (establishing IDCA), transferred all responsibilities and functions vested in this subsection from the Administrator to the Director of IDCA.

[300] Subsecs. (f) and (g), which defined the terms "agriculture" and "farmers," were repealed by sec. 103(c) of the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat. 945). Similar definitions for these terms can now be found in sec. 644 (o) and (p) of this Act.

[301] 22 U.S.C. 2220b. Sec. 297 was added by sec. 312 of Public Law 94-161 (89 Stat. 849).

[302] The words ", in the developing countries themselves to the maximum extent practicable," were added by sec. 113(1) of the International Development Cooperation Act of 1979 (Public Law 96-53, 93 Stat. 364).



(C) the planning, initiation, and development of extension services through which information concerning agriculture and related subjects will be made available directly to farmers and farm families in the agriculturally developing nations by means of education and demonstration; or

(D) the exchange of educators, scientists, and students for the purpose of assisting in successful development in the cooperating nations;

(2) take into account the value to the United States agriculture of such programs, integrating to the extent practicable the programs and financing authorized under this title with those supported by other Federal or State resources so as to maximize the contribution to the development of agriculture in the United States and in agriculturally developing nations; and

(3) whenever practicable, build on existing programs and institutions including those of the universities and the United States Department of Agriculture and the United States Department of Commerce.

(c)[303] To the maximum extent practicable, activities under this section shall—

(1) be directly related to the food and agricultural needs of developing countries;

(2) be carried out within the developing countries;

(3) be adapted to local circumstances;

(4) provide for the most effective interrelationship between research, education, and extension in promoting agricultural development in developing countries; and

(5) emphasize the improvement of local systems for delivering the best available knowledge to the small farmers of such countries.

(d) The President shall exercise his authority under this section through the Administrator.[304]

Sec. 298.[305] Board for International Food and Agricultural Development.—(a) To assist in the administration of the programs authorized by this title, the President shall establish a permanent Board for International Food and Agricultural Development (hereafter in this title referred to as the "Board") consisting of seven members, not less than four to be selected from the universities. Terms of members shall be set by the President at the time of appointment. Members of the Board shall be entitled to such reimbursement for expenses incurred in the performance of their duties (including per diem in lieu of subsistence while away from their homes or regular place of business) as the President deems appropriate.

(b) The Board's general areas of responsibility shall include, but not be limited to—

[303] Subsec. (c) was amended and restated by sec. 113(2) of the International Development Cooperation Act of 1979 (Public Law 96-53; 93 Stat. 364). It formerly read as follows:

"(c) To the maximum extent practicable, activities under this section shall (1) be designed to achieve the most effective interrelationship among the teaching of agricultural sciences, research, and extension work, (2) joins primarily on the needs of agricultural producers, (3) be adapted to local circumstances, and (4) be carried out within the developing countries."

[304] This authority of the Administrator was transferred to the Director of IDCA, pursuant to sec. 6 of Reorganization Plan No. 2 of 1979 (establishing IDCA).

[305] 22 U.S.C. 2220c. Sec. 298 was added by sec. 312 of Public Law 94-161 (89 Stat. 849).

(1) participating in the planning, development, and implementation of,

(2) initiating recommendations for, and

(3) monitoring of,

the activities described in section 297 of this title.

(c) The Board's duties shall include, but not necessarily be limited to—

(1) participating in the formulation of basic policy, procedures, and criteria for project proposal review, selection, and monitoring;

(2) developing and keeping current a roster of universities—

(A) interested in exploring their potential for collaborative relationships with agricultural institutions, and with scientists working on significant programs designed to increase food production in developing countries,

(B) having capacity in the agricultural sciences,

(C) able to maintain an appropriate balance of teaching, research, and extension functions,

(D) having capacity, experience, and commitment with respect to international agricultural efforts, and

(E) able to contribute to solving the problems addressed by this title;

(3) recommending which developing nations could benefit from programs carried out under this title, and identifying those nations which have an interest in establishing or developing agricultural institutions which engage in teaching, research, or extension activities;

(4) reviewing and evaluating memorandums of understanding or other documents that detail the terms and conditions between the Administrator and universities participating in programs under this title;

(5) reviewing and evaluating agreements and activities authorized by this title and undertaken by universities to assure compliance with the purposes of this title;

(6) recommending to the Administrator the apportionment of funds under section 297 of this title; [306] and

(7) assessing the impact of programs carried out under this title in solving agricultural problems in the developing nations.

(d) The President may authorize the Board to create such subordinate units as may be necessary for the performance of its duties, including but not limited to the following:

(1) a Joint Research Committee to participate in the administration and development of the collaborative activities described in section 297(a)(3) of this title; and

(2) a Joint Committee on Country Programs which shall assist in the implementation of the bilateral activities described in sections 297(a)(2), 297(a)(4), and 297(a)(5).

(e) In addition to any other functions assigned to and agreed to by the Board, the Board shall be consulted in the preparation of the annual report required by section 300 of this title and on other

[306] This function of the Administrator was transferred to the Director of IDCA, pursuant to sec 6 of Reorganization Plan No 2 of 1979 (establishing IDCA)



agricultural development activities related to programs under this title.

**Sec. 299.[307] Authorization.**—(a) The President is authorized to use any of the funds hereafter made available under section 103 of this Act to carry out the purposes of this title. Funds made available for such purposes may be used without regard to the provisions of sections 110(b) and 122(d) [308] of this Act.

(b) Foreign currencies owned by the United States and determined by the Secretary of the Treasury to be excess to the needs of the United States shall be used to the maximum extent possible in lieu of dollars in carrying out the provisions of this title.

(c) Assistance authorized under this title shall be in addition to any allotments or grants that may be made under other authorizations.

(d) Universities may accept and expend funds from other sources, public and private, in order to carry out the purposes of this title. All such funds, both prospective and inhand, shall be periodically disclosed to the Administrator as he shall by regulation require, but no less often than in an annual report.[309]

**Sec. 300.[310] Annual Report.**—The President shall transmit to the Congress, not later than April 1 of each year, a report detailing the activities carried out pursuant to this title during the preceding fiscal year and containing a projection of programs and activities to be conducted during the subsequent five fiscal years. Each report shall contain a summary of the activities of the Board established pursuant to section 298 of this title and may include the separate views of the Board with respect to any aspect of the programs conducted or proposed to be conducted under this title.

## Chapter 3—International Organizations and Programs

**Sec. 301.[311] General Authority.**—(a) When he determines it to be in the national interest, the President is authorized to make voluntary contributions on a grant basis to international organizations and to programs administered by such organizations, and in the case of the Indus Basin Development Fund administered by the International Bank for Reconstruction and Development to make grants and loans payable as to principal and interest in United States dollars and subject to the provisions of section 122(b),[312] on such terms and conditions as he may determine, in order to further the purposes of this part.

(b) [313] * * * [Repealed—1981]

[307] 22 U.S.C. 2220d. Sec 299 was added by sec. 312 of Public Law 94-161 (89 Stat. 849).

[308] The references to "110(b) and 122(d)" were inserted in lieu of "110(b), 211(a), and 211(d)" by sec 102(c)(2) of the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat. 941)

[309] This function of the Administrator was transferred to the Director of IDCA, pursuant to sec 6 of Reorganization Plan No 2 of 1979 (establishing IDCA).

[310] 22 U.S.C. 2220e. Sec 300 was added by sec. 312 of Public Law 94-161 (89 Stat. 849)

[311] 22 U.S.C. 2221.

[312] The words to this point, beginning with ", and in the case of the Indus Basin", were added by sec 107(a) of the FA Act of 1966 The reference to sec 122(b) was substituted in lieu of a reference to sec 201(d) by the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat 941)

[313] Subsec (b), as amended by sec 107(b) of the FA Act of 1966, was repealed by sec 734(a)(1) of the International Security and Development Cooperation Act of 1981 (Public Law 97-113, 95 Stat 1560) It formerly read as follows:

Continued