

THE TITLE XII PARTNERSHIP

A Report to Congress

on

Title XII - Famine Prevention and Freedom from Hunger

of the

Foreign Assistance Act of 1961 As Amended

April 1990

**Agency for International Development
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TABLE OF ACRONYMS

A.I.D.	Agency for International Development
AASCARR	American Association of State Colleges of Agriculture and Renewable Resources
AASCU	American Association of State Colleges and Universities
BIFAD	Board for International Food and Agricultural Development
BIFADEC	Board for International Food and Agricultural Development and Economic Cooperation
CGIAR	Consultative Group for International Agricultural Research
CICA	Competition in Contracting Act
CID	Consortium for International Development
CRSP	Collaborative Research Support Program
GAO	General Accounting Office
HBCUs	Historically Black Colleges and Universities
IARCs	International Agricultural Research Centers
JCARD	Joint Committee on Agricultural Research and Development
JCC	Joint Career Corps
JMOUs	Joint Memoranda of Understanding
LDC	Less Developed Country
MOUs	Memoranda of Understanding
OICD	Office of International Cooperation and Development
PVOs	Private Voluntary Organizations
USDA	U.S. Department of Agriculture

EXECUTIVE SUMMARY

For nearly 50 years, resources of U.S. universities have been utilized to assist in national foreign aid policy. During 1989, more than 60 Title XII institutions helped to implement nearly 100 projects in over 50 developing countries.

This is a report for 1989 of the Title XII partnership of U.S. universities and the Agency for International Development (A.I.D.). It discusses the functioning of the Board for International Food and Agricultural Development (BIFAD), the mobilization of university resources, collaboration and cooperation in international agricultural research, institution building in developing countries and the continuing opportunities and challenges.

The Board for International Food and Agricultural Development

Focus on Africa. In its December 1988 statement, the BIFAD said there was need for continuing technical assistance to developing countries, especially in Africa, and that human resources development should be a continuing dominant activity. In subsequent recommendations, the BIFAD recommended to the A.I.D.'s Bureau for Africa a joint review of the impact of agricultural research on development; development of agricultural faculties in some areas, centers of excellence in strategic institutions, and "food grant" colleges; and fuller use of Title XII and private voluntary organization resources to further the Development Fund for Africa and the Africa Bureau's strategy.

Sustainable Agriculture. A series of BIFAD activities has resulted in the formation of a National Select Committee on the Global Sustainability of Agriculture and Associated Environmental Issues, which is expected to spearhead the development of a national agenda for promoting sustainable agriculture in developing countries.

Task Force on Agricultural Development and Cooperation. A small group of leading scholars and development experts is to reassess the U.S. role in helping developing countries achieve sustainable agricultural development and to recommend the key elements of a new, long-term strategy for agricultural development assistance.

Joint Committee on Agricultural Research and Development (JCARD). Under new co-chairmen, the JCARD reviewed and recommended to the BIFAD changes in the guidelines for the Collaborative Research Support Program (CRSP) and the continuation of seven CRSPs.

Annual Regional Seminars. The 1989 Title XII regional seminars, held this year in Alabama and Colorado, included a review of the new strategy for rural economic growth in the 1990s for A.I.D.'s Bureau for Asia and the Near East, a report on the General Accounting Office's (GAO) review of Title XII implementation and reports of "lessons learned" by the host universities from their involvement in overseas programs.

New Legislation. The BIFAD took an active role in some of the many efforts to draft and help pass new foreign aid legislation, including the broadening of the BIFAD's mandate to make available the fuller range of U.S. university capability.

General Accounting Office Review. In the April 1989 report of its review of the implementation of Title XII, the GAO recommended several administrative actions to improve performance, including reinstating a separate annual Title XII report to Congress, reestablishing a registry of university resources, eliminating the procurement set-asides for Title XII universities, and some better tracking, reporting and evaluating procedures. A.I.D. and the BIFAD disagreed with the GAO's view about Title XII procurement set-asides.

Mobilizing University Resources in Response to Title XII

Strengthening Grants. The Strengthening Grants program was concluded with final grants to the two remaining programs at Pennsylvania State University and the University of Georgia. Their programs will be assessed in 1990. A total of 58 institutions, including nine minority universities, were involved in this program.

Memoranda of Understanding (MOUs). There was an external evaluation conducted on the joint MOU project in 1989. The evaluation recommended that "A.I.D. should give early consideration to a new project design effort which directly and clearly links university resources to Less Developed Country (LDC) activities with verifiable accomplishments." A.I.D. and the university community have begun consideration of this report and implications for future programming.

Matching Support Grants. During 1989, A.I.D. awarded one competitive matching support grant to Iowa State University. The 1989 analysis of proposals for the Matching Support Grants suggests that competition is essential, as well as well-defined goals and measurable outputs.

Research Grants to Historically Black Colleges and Universities (HBCUs). During 1989, ten new research grants, totaling \$1 million, were awarded to HBCUs. In addition to the Title XII mandate, the program is responsive to the provisions of Executive Order 12667 and

the Gray Amendment, which encourage government agencies to provide greater procurement opportunities for HBCUs.

American Association of State Colleges and Universities (AASCU). Although the international interest of this association is well publicized within the university community, opportunities have been limited due to declining new project starts. This program will be evaluated in 1990.

Collaboration and Cooperation in International Agricultural Research

Collaborative Research Support Program (CRSP). In 1989, eight CRSPs formed a council to focus on ways of integrating CRSP activities to address sustainability problems in food production and in the use of natural resources. New developments have occurred during 1989 in genetic research, new varieties and breeds, disease and weed control, as well as in improved food quality, management and institution building.

International Agricultural Research Centers (IARCs). In 1989, the International Board for Plant Genetic Resources, one of 13 IARCs associated with the Consultative Group for International Agricultural Research (CGIAR), assisted developing nations with the design and installation of more than 15 gene banks to be added to the global network of gene banks.

Institution Building in Developing Countries

Impact of Investment in Agricultural Higher Education. A.I.D.'s strategy of building agricultural universities and facilities throughout the developing world has focused on education, research, extension, and international training and assistance. Although there has been some success in this strategy, the impact of this investment revealed that attention should be focused also on faculty development, project duration, financial support, linkages, university autonomy, and broader factors constraining rural development.

Continuing Opportunities and Challenges

Broader utilization by A.I.D. of university resources and university systems can provide both A.I.D. and the universities mutually beneficial opportunities. In doing so, A.I.D. and the universities will need to assess human resource development, institution building, technology exchange and development, research, technical assistance and various types of linkages.

Comments of the BIFAD

The BIFAD is concerned that the growing tendency of the Congress to earmark funds limits severely the response capability of the Title XII partnership. The BIFAD emphasizes the continuing need for institution building activities, including the adaptation of the land-grant model of agricultural development, continuation of extension services, and development of linkages between U.S. universities and institutions in other countries.

FOREWORD

The resources of U.S. universities have been tapped since foreign aid as a national policy began with social and technical assistance programs in Latin America nearly fifty years ago. Programs to improve the quality of life in developing countries always have included agriculture, nutrition and rural development as critical elements, and the resources of U.S. land grant universities have been used to provide research, teaching, extension and other services.

Since its passage in 1975, the Title XII amendment to the Foreign Assistance Act has been instrumental in increasing the mobilization and use of U.S. university resources in development assistance programs. As a result of the Title XII partnership of U.S. universities and the Agency for International Development (A.I.D.), more than 60 Title XII institutions are helping to implement nearly 100 projects in over 50 developing countries.

This report of the Title XII partnership for 1989 discusses the functioning of the Board for International Food and Agricultural Development (BIFAD), its committees and panels and its Support Staff.

In addition, the report describes

- how the capabilities and resources of U.S. universities have been strengthened and expanded for use in development assistance programs;
- the collaboration and cooperation in international agricultural research which have been promoted; and
- the institution building activities in developing countries.

The report concludes with an identification of some of the continuing challenges for the Title XII partnership in the 1990s.

I. THE BOARD FOR INTERNATIONAL FOOD AND AGRICULTURAL DEVELOPMENT

As advisor to the A.I.D. Administrator, the BIFAD is concerned particularly with the planning, development, implementation, administration and evaluation of the U.S. Government's international agricultural development and related programs. The seven-member BIFAD, which is the only presidentially-appointed group in the agency, has forged a dynamic Title XII partnership of U.S. universities and A.I.D. The strength and effectiveness of that partnership guide the implementation of the Title XII legislation.

Dr. William E. Lavery, Chancellor of Virginia Polytechnic Institute and State University, continues as Chairman of BIFAD. Other members are: the Honorable Paul Findley of Jacksonville, Illinois, co-author of the Title XII legislation when he was a Congressman; Dr. Jean Ruley Kearns, Professor, College of Agriculture, University of Arizona in Tucson, Arizona, and Deputy Executive Director of the Consortium for International Development (CID) in Tucson, Arizona; Dr. Hugh O. LaBounty, President of California State Polytechnic University at Pomona in California; Dr. Wendell G. Rayburn, President of Lincoln University in Jefferson City, Missouri; and Dr. Leo Walsh, Dean and Director of the College of Agriculture of the University of Wisconsin at Madison in Wisconsin. Mrs. Gwendolyn S. King, Vice-President of Gogol and Associates in Washington, D.C., resigned in August 1989, following her appointment and approval as U.S. Social Security Commissioner.

The Executive Director of the BIFAD Support Staff is Dr. Lynn L. Pesson of Louisiana State University. Until her retirement in November 1989, Dr. E. Keys MacManus, a minister-counselor in the Senior Foreign Service, was the Deputy Executive Director. Dr. Duane Everett of South Dakota State University and Dr. Eloise Carter of Tuskegee University, appointees under the Intergovernmental Personnel Act, left the BIFAD Support Staff in 1989. Dr. Everett served as Chief and Dr. Carter served as Program Officer in the Institutional and Human Resources Division. Dr. Carter, who became Chief after Dr. Everett's departure in August, was succeeded in December by Dr. William R. Miner, who had been Programs Advisor in the Country Projects Division. The BIFAD Support Staff is composed of a combination of A.I.D. career officers and members from the university community with appointments under the Intergovernmental Personnel Act.

Focus on Africa

In its December 1988 statement, "Toward A Partnership in World Agriculture for the 1990s," the BIFAD stressed the need for continuing technical assistance to developing countries, especially in Africa, and noted the major challenge of institutional development in subSaharan Africa. The statement referred also to human resources development as "a continuing dominant activity."

These themes were highlighted in a series of recommendations on the implementation of the Development Fund for Africa which the BIFAD made to A.I.D.'s Bureau for Africa in November. Culminating the BIFAD's review of activities and reports over a period of 18 months, six recommendations formed the core of the report:

- A joint BIFAD/Africa Bureau "thorough and systematic review of the impact of agricultural research on development programs in subSaharan Africa;"
- The development of undergraduate agricultural faculties in the Sahel and in the Zaire river basin jointly by the Africa Bureau and the Title XII community;
- The development with the World Bank of "centers of excellence" in agriculture, applied science and management in strategic institutions, including potential sites in Ghana, Ivory Coast and Nigeria;
- The consideration of establishing "food grant" colleges, using countries' PL-480 local currency as endowment;
- The creation of a study group to make more innovative use of U.S. university capacity to further the Development Fund for Africa; and
- The use by Africa Bureau of the Title XII-Private Voluntary Organizations (PVOs) sustainable agriculture capability to support the implementation of the Bureau's strategy.

The BIFAD is continuing to work with the Bureau for Africa to implement these recommendations.

Sustainable Agriculture

The Joint Panel on Sustainable Agriculture followed and was a result of the BIFAD's earlier Task Force on the Environment and Natural Resources. Composed of representatives of A.I.D. and the university and environmental communities, the Joint Panel met twice under the co-chairmanship of Dr. Gerald Thomas, President Emeritus of New Mexico State University, and Ambassador Robert O. Blake of the International Institute for Environment and Development.

As a result of its deliberations and recommendations, a Standing Committee on Sustainable Agriculture was created by the BIFAD in June to catalyze the formation of a National Select Committee on the Global Sustainability of Agriculture and Associated Environmental Issues. When the membership is completed, the National Select Committee is expected to convene a one-day forum to develop a national agenda for promoting sustainable agriculture in developing countries.

Four components have been identified as organizing themes for a national agenda: education and public awareness, policy reform, expansion of proven interventions and research needs.

Task Force on Agricultural Development and Cooperation

Late in the reporting period, the BIFAD authorized the creation of a Task Force on Agricultural Development and Cooperation. This action was an outgrowth of the Board's activities in 1988, including a two-day national symposium, under the heading of "getting ready for the 90s." The Task Force, composed of leading scholars and development experts, is to reassess the U.S. role in helping developing countries achieve sustainable agricultural development.

Taking a long-term view, the Task Force is charged to recommend the key elements of a new strategy regarding future agricultural development assistance activities in developing countries that will be relevant into the 2000s.

Dr. G. Edward Schuh, Dean of the Hubert Humphrey Institute for Public Affairs at the University of Minnesota, is the chairman of the Task Force. An advisory committee, headed by the BIFAD Chairman, Dr. William E. Lavery, will provide support to the Task Force.

Joint Committee on Agricultural Research and Development

During the reporting period, Dr. William Furtick, Agency Director for Food and Agriculture in A.I.D.'s Bureau for Science and Technology, succeeded Dr. John Nicholaides of the University of Illinois as Chairman of the Joint Committee on Agricultural Research and Development (JCARD), the only permanent BIFAD committee. Succeeding Dr. Furtick as co-chairman was Dr. Edward Price of Oregon State University. The year's activities included:

- The review of the guidelines for the Collaborative Research Support Program (CRSP) and the recommendation to the BIFAD to amend them to authorize five-year (instead of three-year) extensions. This amendment will result in the review of and decision on CRSP extensions during the fourth (instead of the third) year;
- The review of evaluation reports on several CRSPs, including those on bean and cowpea, tropical soils management, pond dynamics (aquaculture), fisheries stock assessment, small ruminant, sorghum and millet, and peanut and recommendations to the BIFAD for their continuation; and
- The creation of an ad hoc group to review A.I.D.'s procurement requirements and ways to improve A.I.D.'s and the universities' access to each other's services and resources.

Annual Regional Seminars

The 1989 annual regional seminars were held in January in Alabama and Colorado. The seminar in Alabama was hosted by Auburn University and the University of Arkansas at Pine Bluff, and Colorado State University was the host in Colorado.

Designed to bring together university and A.I.D. officials to discuss matters of common concern, this year's agenda included status reports on Title XII and on A.I.D., presentation of the Asia and Near East Bureau's new strategy on rural economic growth in the 1990s, report of the General Accounting Office (GAO) review of Title XII implementation, and a presentation on sustainable agriculture.

Highlights of the seminars were the excellent presentations of "lessons learned" by the host universities from their involvement in overseas programs.

New Legislation

In Congress, the Executive Branch and throughout the international development community in the United States, there was considerable activity late in 1988 and continuing throughout 1989 to draft and help Congress pass new foreign aid legislation. The BIFAD took an active role in these efforts, following and building on the results of the national two-day symposium it had helped A.I.D. sponsor in September 1988.

Among the changes considered was the broadening of the BIFAD's mandate beyond its primary focus on agriculture and related subjects, in order to make available the fuller range of U.S. university capability. This idea had the strong support of the late A.I.D. Administrator, Alan Woods. Indeed, a new charter for a Board for International Food and Agricultural Development and Economic Cooperation (BIFADEC) had been drafted before his untimely death in June. Unfortunately, the year ended without either new foreign aid legislation or a new charter for the proposed BIFADEC.

GAO Review

There was another major related activity in which the BIFAD was involved during the reporting period. At the request of the Chairman of the House Foreign Affairs Committee, the GAO reviewed the efforts of A.I.D. and the BIFAD to implement the Title XII legislation. The last GAO report on the legislation was in 1981.

The GAO report, "Foreign Aid: Issues Concerning U.S. University Participation," was issued in April, and contained several recommendations of administrative actions needed to improve Title XII implementation. Included were: improving A.I.D.'s knowledge of and ability to track and report on university capabilities for Title XII project activities; evaluating university contractor performance of Title XII projects; requiring a statement in university project proposals regarding the extent of compliance with the National Association of State Universities and Land Grant Colleges' "Basic Principles for College and University Involvement in International Development Activities;" and reinstating a separate annual Title XII report to Congress. The GAO also recommended that the BIFAD reestablish a registry of university resources and that the procurement set-asides for Title XII universities be eliminated.

In response to the GAO recommendations, A.I.D. submitted a separate annual report, "The Title XII Partnership, 1985-1988," to Congress in June. The first such report since 1984, it covered the intervening period of 1985 through 1988.

The BIFAD began immediately to redesign its registry of university resources. A simple, in-house, personal computer-based system is planned. A.I.D. will need to give the matter high priority in order that budget resources are made available for the needed hardware, software and professional services.

A.I.D. and the BIFAD disagreed with the GAO's view about Title XII procurement set-asides. Whereas the GAO felt that such limited procurement was inconsistent with the Competition in Contracting Act (CICA), A.I.D. and the BIFAD believed that the Title XII legislation provided sufficient basis for such set-asides. A.I.D. and the BIFAD noted also that both separate and joint ongoing activities were addressing the other GAO recommendations.

II. MOBILIZING UNIVERSITY RESOURCES IN RESPONSE TO THE TITLE XII MANDATE

One emphasis in the Title XII legislation is strengthening the capacity of U.S. institutions to help with development assistance programs. Continuing and building on the earlier experience of providing strengthening grants to universities under Section 211(d) of Title II of the Foreign Assistance Act of 1961 (which was repealed in 1978), several new programs were initiated: the Strengthening Grants program, single and joint Memoranda of Understanding (MOU), a Matching Support Grants program, the Joint Career Corps (JCC) program, and a program of small grants to historically black colleges and universities.

Strengthening Grants

The Strengthening Grants program was concluded with final grants to Pennsylvania State University and the University of Georgia. These programs will be assessed in 1990.

From its inception in 1979 through 1989, 58 institutions (including nine minority universities) participated. The program required a financial commitment of nonfederal funds from each participating university (except the minority institutions) which was matched by A.I.D.

The grants resulted in strengthening the capability of these universities — i.e., in faculty competency, administrative capacity, curriculum relevancy and research capacity — to participate in international development assistance programs.

Memoranda of Understanding

Five single and 12 joint Memoranda of Understanding (MOUs) and a Matching Support Grants program have evolved from the experience with the Strengthening Grants program and in keeping with explicit reference to MOUs in the Title XII legislation. The MOUs provide the terms and conditions between the A.I.D. Administrator and the universities participating in Title XII programs and are supported with program grants from A.I.D. and matching university contributions.

In 1982 and 1983, single MOUs were initiated with Colorado State University, University of Florida, Purdue University, Utah State University and Washington State University. Beginning in 1984, Joint MOUs (JMOUs) were initiated, which eventually paired 12 large,

“1860” land grant universities with 12 historically Black, “1890”, land grant colleges and universities (HBCUs) as follows:

- Oregon State University and Tuskegee University
- Michigan State University and North Carolina A&T State University
- Kansas State University and Alabama A&M University
- Auburn University and the University of Arkansas at Pine Bluff
- Ohio State University and Fort Valley State College
- Texas A&M University and Prairie View A&M University
- University of Illinois and University of Maryland, Eastern Shore
- New Mexico State University and Tennessee State University
- Louisiana State University and Southern University
- North Carolina State University and Florida A&M University
- University of Wisconsin at Madison and Virginia State University
- University of Minnesota and Lincoln University in Missouri.

The joint MOUs were evaluated in 1989 to determine the effectiveness of the program activities in relation to the Title XII mandate. The report, dated December 1989, concluded:

The PSG/JMOU Project has made a significant, though hard to measure, contribution in both the quantity and quality of U.S. universities’ participation in international development activities and thus has improved the quality of AID assistance activities. However, it is increasingly clear that this project is not the most cost-effective mechanism for achieving that goal.

In addition, it has served to stimulate and broaden interest in international development issues in the universities and through the universities to private and public institutions within the states. Thus its principal long-term benefit to the U.S. may be indirect and unmeasurable.

Stressing the theme of there having been beneficial, but unmeasurable and unquantifiable, outputs, the report continued:

The project suffers in its original design from the absence of feasible and quantifiable output targets. Project goals are expressed in terms of “strengthened capability”, “broadened participation”, “increased commitment” and “mobilized resources” and no benchmarks exist as to when such states have been reached. While the Joint Memorandum of Understanding does commit

the universities to an “area of concentration”, these areas are so broad as to encompass almost any likely activity.

The evaluation report recommended that, building on past experience, “AID should give early consideration to a new project design effort which more directly and clearly links university resources to LDC activities with verifiable output goals and measurable accomplishments.” Seven explicit suggestions can be summarized as follows:

- Focus on continuing noncontractual linkages between U.S. and developing country universities and institutions;
- Consider an HBCU Institutional Linkages Program (similar to the PVO Grant Program) to give special attention to the potential role of the HBCUs in long-term linkages with community-based developing country institutions;
- Maintain the flexible partnership approach, reserving a percentage of funding for joint 1862-1890 activities;
- Finance the services of 1862 institutions to A.I.D. through a contractual process, and leave the “strengthening elements” of the present grant program primarily for the benefit of the 1890 institutions;
- Continue to support development in HBCU institutions of viable “marketing” strategies for a specified time; thereafter, continued A.I.D. financing would be based on country-specific, output-related activities;
- Remove the “closed system” of JMOUs, thereby permitting consideration of the merits of proposals by other eligible universities; and
- Encourage collaboration between the universities and the private sector, in keeping with the A.I.D. procurement policy and practice of open competition.

The Title XII partnership has begun consideration of this report and its implications for future programming.

Matching Support Grants

The Matching Support Grant program was established in 1986 as a competitive program which is open to certain universities. Candidate universities must have met successfully the objectives of the Strengthening Grants program, provided to A.I.D. during the immediately preceding three years with a minimum average of two fulltime equivalents of overseas technical services to Title XII-related projects by their own regular employees, and not have had any other Title XII university support grant. Their proposals provide for a dollar-for-dollar match of funding by the universities and A.I.D.

Three-year grants were given to seven universities and two universities received one-year and two-year grants, respectively. During 1989, one competitive Matching Support Grant was awarded to Iowa State University.

The analysis of proposals in 1989 suggests that competition is essential, as well as well-defined goals and measurable outputs. It is expected that a smaller number of two-year grants will be made during 1990.

The Agency has been interested in measuring the extent to which the strengthened capacity of Title XII universities (as a result of the foregoing and other programs) actually is being employed in A.I.D. development assistance programs. Two sets of data from these universities help to quantify the degree of their involvement: volume of business (actual contract expenditures) and full time equivalents (overseas assignments).

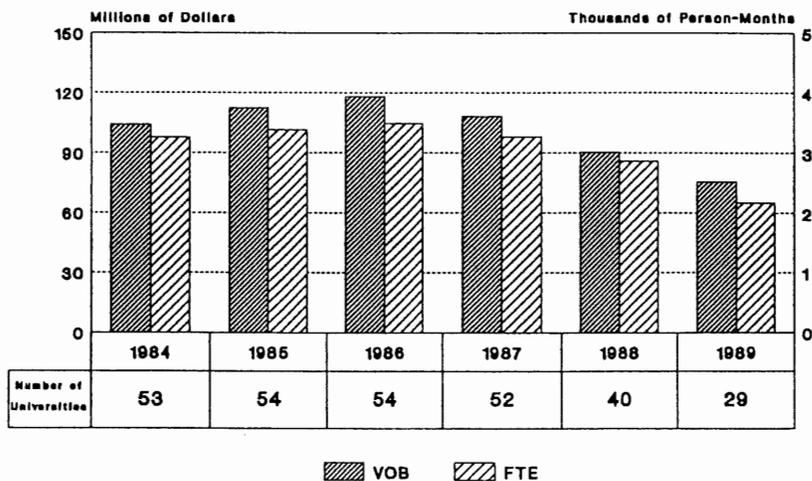
The decline, which was noted in last year's report, has continued (see Figure 1). There was only one new project start in 1989. With a reduction in the Agency's agriculture and nutrition account, procurement regulations requiring more full and open procurement and an increase in program (in contrast to project) assistance, the field missions have not been identifying Title XII projects. Indeed, they are finding increasingly fewer opportunities for using the resources and strengthened capacity of Title XII universities.

The GAO study corroborated this decline. In addition to the foregoing reasons, the report noted that "the reluctance of some AID staff to use title XII universities...is due, in part, to negative perceptions of university performance and commitment."

The need persists "to overcome attitudinal and institutional barriers which limit the potential benefits of such a partnership," which was the language used in the GAO study of 1981. This is a matter of urgency which the Title XII partnership must address.

Figure 1

**Title XII Universities Report on
Volume of Business and
Full Time Equivalents**



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The Joint Career Corps

The Joint Career Corps (JCC) program, which began in 1983, is a mutual, long-term undertaking by A.I.D. and universities through career commitments of their personnel. American university expertise is provided to A.I.D. field missions for two- and three-year assignments, and A.I.D. specialists spend similar periods of time working in the university community.

There were no new appointments in 1989.

Since 1983, 19 university specialists have had overseas assignments in 15 A.I.D.-eligible countries, providing approximately 36 person-years of service. Eight are still on assignments. Of the eight A.I.D. employees on so-called "reverse JCC" appointments, only two are still at universities. The others have returned to A.I.D. posts.

Research Grants to Historically Black Colleges and Universities

Increasing the participation of researchers from Historically Black Colleges and Universities (HBCUs) in A.I.D.-financed research activities has been the purpose of the HBCU Small Research Grant program since its establishment in 1984. Projects and activities with small personnel and financial resource requirements, costing up to \$100,000, are encouraged. This program is in addition to the participation of these institutions in the 12 joint MOUs (see pp. 7-9) and in the Collaborative Research Support Program (see pp. 15-17).

Through FY 1989, 51 agricultural research projects have been funded at a total cost of \$4.6 million. Of those totals, 10 new projects, costing \$1 million, were added in 1989. See further, Table 1 (page 13) and Table 2 (page 14) for more detailed information on the number and location of the projects and the HBCUs which are involved.

In addition to the Title XII mandate, the program is responsive to the provisions of Executive Order 12667 and the Gray Amendment, which encourage government agencies to provide greater procurement opportunities for HBCUs.

American Association of State Colleges and Universities

The cooperative agreement, which A.I.D. made in 1987 with the American Association of State Colleges and Universities (AASCU), is to foster the utilization of the resources of AASCU and American Association of State Colleges of Agriculture and Renewable Resources (AASCARR) members in international development assistance programs.

While some short-term A.I.D. assignments have been found for the fellows program, which builds on faculty overseas experience, the same constraints as were mentioned earlier in A.I.D.'s use of Title XII university resources limit also the involvement of the resources of AASCU and AASCARR colleges and universities.

The program will be evaluated in 1990.

Table 1.

HBCU Research Grants in Agriculture: Number, Cost and Principal Location of Research Fiscal Years 1984 - 1989		
Location	Number	Cost
Africa	19	1,775,373
Burkina Faso	2	131,585
Ghana	6	575,025
Kenya	1	99,591
Niger	1	99,432
Nigeria	3	284,947
Rwanda	1	99,809
Senegal	2	187,824
Sierra Leone	1	99,679
Zambia	1	98,981
Zimbabwe	1	98,500
Asia/Near East	5	495,150
India	1	99,360
Indonesia	1	99,986
Nepal	1	99,986
Philippines	2	195,818
Caribbean	15	1,322,725
Barbados	3	276,684
Belize	1	100,000
Caribbean General	2	188,942
Dominican Republic	3	298,598
Haiti	1	100,000
Jamaica	5	358,501
Latin America	3	251,502
Costa Rica	1	54,800
Latin American General	1	97,802
Peru	1	98,900
United States	9	\$747,168
TOTAL	51	\$4,591,918

Table 2.

HBCU Research Grants In Agriculture: Number and Cost by Institution Fiscal Years 1984 - 1989		
Institution	Number	Cost
Alabama A & M University	2	\$177,621
University of Arkansas at Pine Bluff	2	181,170
Clark Atlanta University	2	192,452
Benedict College	1	88,942
Florida A & M University	4	350,557
Fort Valley State College	4	397,206
Howard University	1	100,000
Langston University	1	100,000
Lincoln University	6	481,330
University of Maryland, Eastern Shore	1	88,127
Mississippi Valley State University	1	30,195
Morehouse College	2	199,338
Morgan State University	1	54,800
North Carolina A & T State University	2	196,598
Philander Smith College	1	82,661
Prairie View A & M University	3	299,968
Selma University	1	99,809
South Carolina State College	3	295,804
Southern University	1	99,679
Tennessee State University	2	154,705
Tuskegee University	9	820,645
Virginia State University	1	99,591
TOTAL	51	\$4,591,918

III. COLLABORATION AND COOPERATION IN INTERNATIONAL AGRICULTURAL RESEARCH

The Title XII legislation encourages collaboration and cooperation in international agricultural research. Toward that end, the Title XII partnership has supported the Collaborative Research Support Program (CRSP), international agricultural research centers and centrally-funded research and other research activities.

Collaborative Research Support Program

In November, representatives of the eight Collaborative Research Support Programs (CRSPs) — in small ruminants, sorghum and millet, bean and cowpea, tropical soil, nutrition, peanut, pond dynamics (aquaculture) and fisheries stock assessment — formed a CRSP Council. Dr. John Yohe of the University of Nebraska, director of the INTSORMIL (sorghum and millet) CRSP, is the Council Chairman.

The Council is focussing on ways of integrating CRSP activities to address sustainability problems in food production and in the use of natural resources. Joint research, communications and public relations projects and activities are envisioned.

In the 12 years since the first CRSP (in small ruminants) became operational — the eighth CRSP, in fisheries stock assessment, did not begin until 1985 — 40 U.S. institutions (including 37 Title XII universities), 66 institutions in 30 other countries and nine international agricultural research centers (IARCs) have collaborated on more than 150 research and development activities. Of the more than \$200 million invested in these CRSPs, nearly two-thirds has come from A.I.D.; the remainder has come in nearly equal portions from the U.S. universities and the host countries.

Among the CRSP achievements are:

- Genetic research. Germ plasm from newly identified wild plants and other sources in developing countries was integrated with U.S. germ plasm, resulting in breakthroughs in disease resistance and production yields in sorghum and millet, beans and cowpeas and peanuts.
- New varieties. The development of the first hybrid sorghum (Hagen Dura I) in Sudan increased production in both irrigated and dryland farming by 150 percent.

- New breeds. A composite breed of goat (for milk and meat) has been developed in Kenya which has potential for significant benefits in increased milk and meat to small farm families. A prolific strain of Javanese sheep has been developed in Indonesia that has nearly doubled lamb production.
- Weed control. Progress has been made in controlling striga, a parasitic weed which often destroys complete fields of grain.
- Disease control. A vaccine against pleuropneumonia in small ruminants has been developed, and methods were developed which have controlled and eradicated the spread of the deadly caprine (goat) arthritic encephalitis disease in Kenya. Such joint U.S.-developing country efforts also are developing a vaccine against caseous lymphadenitis, a disease in sheep that exists worldwide.
- New products. A number of new food products have been developed and are being marketed in Africa, Latin America and Southeast Asia: sorghum/wheat flour, doughnuts from cowpea flour, a glutinous, rice-like product from sorghum flour, and tortillas made with sorghum flour and corn meal.
- Improved food quality. Phenols in sorghum have been reduced, thereby increasing the percentage of digestible protein available to animal and man. A technique has been developed to eradicate aflatoxin (a deadly fungus that causes liver cancer) from peanut oil. Use of a higher-protein, drought-resistant U.S. variety of cowpea (black-eyed pea) in West Africa thwarted a threatened famine and increased yields and income for 100,000 people.
- Child development. Collaborative research in nutrition has documented evidence that marginal food consumption during the first year after birth (and especially during the first three months) has a permanent negative effect on the rate of growth and on the cognitive and physical performance abilities of children. This information is being used to influence policies on food imports, food aid, and food production and distribution.
- Sustainable agriculture. A method has been developed for a permanent sedentary type of farming — that is, 44 successive crops on the same land — that can replace traditional slash-and-burn, shifting cultivation in the Brazilian and Peruvian rain forests. The destruction of rain forests has global consequences.
- Management techniques. Utilizing worldwide data collected on a standardized basis, production has been increased and costs have been reduced in pond culture

— for example, the development of fish feed from natural resources — and stock assessment contributed to the improved management of stock in small coastal fisheries operations.

- Institution building. The CRSPs have enhanced U.S. research institutions by providing international experience and have improved research institutions in developing countries through training programs. CRSP-sponsored training programs during the 1980s resulted in the awarding of 500 doctor's, 628 master's and 203 baccalaureate degrees. In addition, CRSP-sponsored workshops provided non-degree, specialized training for 5,600 people.

Centrally-Funded Research

The Bureau for Science and Technology continues to budget approximately \$5 million annually to university-based agricultural research and to support several international research centers which are not associated with the Consultative Group in International Agricultural Research (CGIAR). Most of the university-based research projects have a significant developmental or field mission support component. Research in the international centers is focussed on aquatic resources, fertilizer, irrigation, soils, and vegetables.

International Agricultural Research Centers

Supporting and complementing A.I.D. bilateral and regional efforts to build national research capability, foster agricultural sufficiency and focus scientific expertise on critical problems retarding sustainable agricultural development is A.I.D.'s investment in an expanding global agricultural research network of international agricultural research centers (IARCs).

Thirteen of the IARCs are associated with the CGIAR, an association of more than 40 countries, regional and international organizations and private foundations which A.I.D. helped establish in 1971 and continues to support. The combination of CGIAR-associated and non-associated centers is at the heart of the expanding global agricultural research network.

A.I.D. actively promotes U.S. interaction and collaboration with this network. Linking U.S. scientific expertise with the centers has proven to be highly effective in furthering sustainable agricultural development in developing nations, while strengthening U.S. scientific capacity

and bringing useful technologies and germ plasm into domestic agricultural production. For example:

- Improved germ plasm from the International Rice Research Institute has served as genetic building blocks for more than 16 U.S. varieties;
- Scientists at the International Center for Tropical Agriculture, in collaboration with scientists at the University of Wisconsin, have identified a new protein, arcelin, as the toxic factor to the Mexican bean weevil. These findings are being exploited in successful breeding against this pest;
- The International Crops Research Institute for the Semi-Arid Tropics continues to explore Africa, South America and South Asia to enhance its extensive gene bank of valuable accessions of sorghum, millet, chickpea, pigeonpea and groundnut before options for the future are foreclosed by the extinction of some of the world's most important crop plants and their wild relatives; and
- In 1989, the International Board for Plant Genetic Resources assisted developing nations with the design and installation of more than 15 gene banks to be added to the global network of gene banks.

IV. INSTITUTION BUILDING IN DEVELOPING COUNTRIES

Developing the human and institutional resources essential to improving and sustaining food production and overall agricultural development has been an integral part of the U.S. land-grant model of agricultural development which the Title XII legislation encouraged for use and adaptation in developing countries. In addition to research cited above, the land grant model has included education and extension, which functions focus especially on building and strengthening needed institutional capacity and human resources skills.

The Role of U.S. Universities

Academic and technical training for participants from developing countries continues to be provided by the Title XII universities, not only on an ad hoc basis, but also as part of technical assistance missions and programs. These universities also are primary sources of technical assistance advisors and services.

During 1989, 55 participants received academic and 39 participants received technical training in agriculture. The comparable 1988 figures were 68 and 131. Table 3 shows the numbers by subject matter.

Table 3.

Number of Participants in Agriculture: Academic and Technical Training in the U.S., 1989*			
	Academic	Technical	Total
Agricultural Education	14	27	41
Agricultural Research and Extension	41	12	53
TOTAL	55	39	94
* Source: A.I.D., Office of International Training			

As was noted earlier (see page 10), the "volume of business" with A.I.D. by 29 Title XII universities in 1989 amounted to \$75.6 million. The total fulltime equivalents of service was 2,165 person-months. The comparable figures in 1988 were: 40 Title XII institutions, \$90.2 million volume of business and 2,866 person-months of fulltime equivalent service. "Volume of business" includes the value of all research and program technical assistance and other grants, contracts and cooperative agreements. The 1989 totals are approaching those of 1981, when the volume of business was only \$52 million. The peak year was 1986, when the volume of business amounted to \$118 million, there were nearly 3,500 person-months of fulltime equivalent service and 54 Title XII universities participated.

The Role of the U.S. Department of Agriculture

The U.S. Department of Agriculture (USDA), through its Office of International Cooperation and Development (USDA/OICD), coordinates and provides much-needed expertise in a range of subject matters to many countries, using the USDA's constituent services — namely, Agricultural Research Service, Animal and Plant Health Inspection Service, Economic Research Service, Extension Service, Forest Service, National Agricultural Statistical Service and the Soil Conservation Service. USDA/OICD also taps the resources of state universities through various arrangements.

The Impact of Investments in Agricultural Higher Education

In 1989, A.I.D.'s Center for Development Information and Evaluation prepared a short summary on investments in agricultural higher education (Evaluation Highlights No. 5, August, 1989, 8 pp.) for agency management. The report concluded that university development projects of longer duration (*i.e.*, 10-15 years) tended to be more successful.

Among the issues complicating the problems of declining university finances and lack of political support were the absence of close ties with ministries of agriculture, the lack of institutional autonomy and the narrow focus on production agriculture. Where there was some institutional autonomy, the report found more entrepreneurial activities and innovative programs responding to constituent needs and building support for research and education endeavors.

The report stated that the emphasis on improving crop and animal production technology had resulted in less attention being given to addressing policy and institutional factors which constrained employment, income and overall rural development. Thus, the universities had not participated in important public and private decision making arenas.

Regarding faculty development in many universities, the report noted that inbreeding — that is, universities hiring their own graduates — had become a serious problem.

From these findings, the following “lessons learned” were gleaned:

- University development efforts should focus greater attention on issues of institutional sustainability in ensuring that the university has the capacity to constantly renew itself;
- University development efforts should emphasize the development of strong linkages with external constituencies and policy arenas;
- University research and education should address policy and institutional concerns as well as technological factors that contribute to rural agricultural development;
- Strategic planning concepts and methods should be used in university agenda setting, management and linkage development;
- Universities should pioneer innovative rural development strategies, particularly for complex problems in natural resource use, income growth and poverty alleviation; and
- Government agencies should expand their vision of the role of the university and serve as facilitators rather than regulators of university innovation.

As the foregoing indicates, the Title XII partnership needs to continue to be involved in institution-building activities in both the public and private sectors in developing countries. Capable and efficient institutional support is essential for sustainable development.

V. CONTINUING OPPORTUNITIES AND CHALLENGES

Changing world circumstances make this an unusual period in the history of the Title XII partnership. It is faced with continuing opportunities and challenges, the magnitude of which requires intensifying the dialogue between A.I.D. and U.S. universities.

A key to responding effectively to this moment is the fuller utilization of Title XII university resources, a prospective development which itself is at once an opportunity and a challenge.

Among other considerations, high priority needs to be given also to the following:

- Human resource development. Skilled personnel are needed at all levels from the continued professional growth of agricultural and other scientists to the knowledgeable involvement of the end-users/farmers. All are essential to any program or strategy of sustainable development.
- Institution building. Both public and private institutions need to be developed and strengthened in developing countries, especially in subSaharan Africa. Included is development of a future role for agricultural universities in developing countries. A capable institutional structure is needed to meet the challenge of developing sustainable and complementary systems of food and fuel production and natural resource preservation.
- Technology development. Better technical knowledge and approaches and the fuller use of modern research and development tools in the natural and social sciences and in communication media are required to help implement and support sustainable development.
- Research. A better conceptualization and analysis of the constraints to development become essential as limited budgetary resources demand improved targeting and programming. Sectoral, local and regional problems need to be understood more fully, as do national problems, and their implications for the development of policies and strategies.
- Technical assistance. The more traditional “hands on” type of technical assistance continues to be needed in many places, despite an increasing number of

collaborative relationships between U.S. and developing country individuals and institutions. An ongoing challenge is the dissemination and application of research findings and the products of technological development, particularly so that they reach and benefit the end users/farmers.

- Linkages. Various kinds of linkages between U.S. universities and other institutions are needed as changes and transitions occur in developing and more developed countries. The changing circumstances in which U.S. research and technical know-how can be supportive include the following:

(1) the maturing and changing relationships and situations, which encourage the development of partnerships, and the continuing research and development needs in developing countries,

(2) the technological needs of more advanced countries as they progress to other stages of development, and

(3) the need to restructure and modernize in countries which are in the process of moving to a more democratic form of government and a free-market economic orientation.

Title XII universities are rich reservoirs of talent and other resources which can help meet these challenges and opportunities.

COMMENTS OF THE BOARD FOR INTERNATIONAL FOOD AND AGRICULTURAL DEVELOPMENT

The BIFAD has participated in the preparation of the foregoing report of the activities of the Title XII partnership during 1989. The review is comprehensive and highlights the considerable accomplishments of the past year.

The concluding section of the report focuses on the continuing opportunities and challenges. It notes especially the rapid changes and developments occurring in many parts of the world which challenge the Title XII partnership to be responsive in appropriate and timely fashion.

Being able to respond effectively to these fast-changing situations is dependent on having flexibility in the use of available resources, both financial and technical. The BIFAD is concerned with the response capability of the Title XII partnership, as it is impacted by severe budgetary constraints which result from the growing tendency of Congress to earmark funds. Lacking discretion over the use of appropriated funds, A.I.D. — and, therefore, its Title XII partners, the U.S. universities — cannot meet in timely fashion the new and unexpected opportunities and challenges which accompany people's bold moves toward political freedom and economic and social development.

The severity of the earmarking constraints is made the more frustrating because of the growing capability of U.S. universities to help with a wide range of development assistance programs. Strengthening that capacity in the universities is one of the emphases in the Title XII legislation; as has been noted in this report, much has been accomplished along these lines. More flexibility in the programming of appropriated funds would make possible the fuller and more efficient utilization of Title XII university resources.

The BIFAD is concerned also with the continuing need for institution-building activities to support and sustain the economic, political and technological changes which are occurring. As has been stated in the concluding section of this report, skilled personnel and both public and private institutions are needed at all levels to extend better technical knowledge and methodologies for the benefit of all. Along with the move to other modes of development assistance, the more traditional, grassroots approaches, including extension services, continue to be needed to reach and benefit poor farmers and small producers. The BIFAD remains convinced that a version of the land-grant model of research, education and extension responsive to local needs and conditions, which the Title XII legislation promotes, still has relevance in helping countries develop institutional structures and systems of food and fuel production and natural resource preservation which are sustainable and complementary.

The BIFAD recognizes that the fast-paced changes and transitions require other kinds of relationships as well, not only in developing countries as they progress to other stages of development, but also in more advanced countries as they begin to restructure and modernize their systems. The BIFAD encourages the continuation and evolution of linkages between U.S. universities and institutions in developing countries beyond the termination of technical assistance projects, building on the knowledge and goodwill that have resulted. The development of new linkages with institutions in more developed countries also is encouraged, making fuller use of the considerable resources of U.S. universities.

In addition to being sources of needed professional and technical knowledge and skills, Title XII institutions have accumulated expertise about developing countries and regions from their involvement in the programs of A.I.D. and of other donors.

Moreover, Title XII universities provide education and training for thousands of international students, imparting and interpreting American ideals, values and objectives. Similarly, in the education and training of Americans, these institutions broaden horizons, thus helping Americans prepare to function more knowledgeably and effectively in an increasingly interdependent global community.

Title XII universities also provide continuing support for U.S. humanitarian assistance and economic, political and social development programs in various public fora at the local, state, national and international levels.

Famine prevention and freedom from hunger, the subject of the Title XII legislation, are desirable, yet elusive, goals. The crisis in per capita food production continues in many countries, exacerbated by droughts, floods, locust infestations, and other calamities, as well as by increasing population. These conditions demand even greater achievements by the Title XII partnership.