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ISN=29791

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BIFAD
62

April 1, 1979

REPORT TO THE CONGRESS

ON

TITLE XII - FAMINE PREVENTION AND

FREEDOM FROM HUNGER

OF THE

FOREIGN ASSISTANCE ACT OF 1961

AS AMENDED

Submitted by the

AGENCY FOR INTERNATIONAL DEVELOPMENT

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I. SUMMARY

The Third Annual Report to Congress on Title XII activities focuses on accomplishments. It was a year of progress in implementing Title XII, although the processes and procedures for greater and more effective involvement of U.S. Land and Sea Grant Universities through the mechanism of the Board for International Food and Agricultural Development (BIFAD) are still evolving.

BIFAD and A.I.D. designed and have in operation a special review and selection process, unique to Title XII, for involving universities in the planning, shaping and implementing of country agricultural development projects and programs. A.I.D. has full access, for the first time in its history, to the enormous resources of outstanding talent in the university community.

Nineteen country projects, costing about \$72 million (life-of-project), have been shaped and implemented through the joint BIFAD/A.I.D. review and contractor selection process. Sixteen more projects, costing \$75 million, have been approved and contractor selection is in process. Still another nineteen projects, costing \$183 million, are in an advanced planning stage. Thus 54 projects costing a total of \$329 million have had the influence of the BIFAD/A.I.D. process.

In 1978, four additional Collaborative Research Support Programs (CRSPs) were added to the four programs selected during the previous year. Planning grants were made for five CRSPs, and one grant in the amount of \$4.652 million was made for research on small ruminants (sheep and goats). Research on this CRSP by the twelve participating universities will begin in 1979.

Plans and procedures for the university strengthening program to enable the universities to implement current programs authorized by Title XII were developed by BIFAD and A.I.D. Fifty-one universities submitted proposals for strengthening grants and, based on peer review and evaluation, it is anticipated that first-year grants to twenty-eight of these universities will soon be made.

Title XII activities include not only those in which universities participate but also a wide range of other activities as described in the footnotes of Table 1.

In FY 1979 the mission and regionally funded programs accounted for 89 percent of the Food and Nutrition account while centrally funded programs made up eleven percent.

Host country governments continue to show keen interest in expanded U.S. participation in their agricultural development programs. This is shown by sharply-increased requests, for FY-80, for assistance in research, education and extension, and for advisory services and training in a wide range of development projects.

II. BACKGROUND AND STRATEGY

A. Background

The lack of an adequate supply of food is a principal concern of most people in low-income countries. Hunger and mal-nourishment threaten the health -- and the lives -- of hundreds of millions of people. Although movement of food, principally food grains, from surplus-producing countries to the chronically food-short countries can cover part of the food deficit, it is generally agreed that food production and distribution in the food-short countries can and must be improved.

Although there is little new land in most developing countries which can be brought under cultivation, limited research and production demonstrations strongly suggest that yields of crops and animal products in many developing countries could be greatly increased by applying improved technology and better management. The specific causes of low agricultural production and hunger in the LDCs are usually complex and solutions not easy to achieve. A.I.D. has accepted the challenge to join in the conquest of hunger and famine by engaging in a wide variety of programs that address key agricultural problems of the developing countries.

Some A.I.D.-funded agricultural programs, such as the CRSPs, support of International Agricultural Research Centers, and the University Strengthening Program, have worldwide impact and are centrally funded. Other programs are country or region-specific and are mission, or regionally, funded.

B. Strategy

The basic objective of Title XII is explicit in its title: Famine Prevention and Freedom from Hunger. It is implemented within the framework of the "New Directions" legislation enacted by the Congress in 1973, and of the Foreign Assistance Act of 1978 which called for "programs in support of countries which pursue development strategies designed to meet basic human needs and achieve self-sustained growth with equity."

The Title XII Amendment requires that, within the guidelines of the "New Directions" and concern for meeting basic human needs, A.I.D. revise its programs to make greater use of the resources available in U.S. Land and Sea Grant and other agricultural universities.

These university resources are to be mobilized to increase the production and distribution of food and to strengthen institutional capabilities in research, education and extension in developing countries. These resources include the reservoir of technical and scientific manpower and knowledge, and the extensive capability for training at all levels in agriculture and rural development. To achieve this goal, A.I.D. has worked closely with the BIFAD and its subordinate bodies, the Joint Committee on Agricultural Development (JCAD) and the Joint Research Committee (JRC). BIFAD and the two committees, established in FY-77, have provided A.I.D. with advice and counsel, and actively participated in designing and installing special processes, unique to Title XII, for involving universities in the planning, shaping and implementing of country agricultural development programs and projects. In addition, the BIFAD and its committees have participated with A.I.D. in planning and designing innovative programs, as called for under the Title XII Amendment, such as University Strengthening and the CRSPs.

III. MAJOR ACCOMPLISHMENTS

A. Allocation of Resources

Since the enactment of the Title XII Amendment, those activities defined as Title XII* have accounted for an increasing share of the A.I.D. food and nutrition budget.

Table 1 shows that funds requested for Title XII activities in FY-78 were 57 percent more than in FY-77, 28 percent more in FY-79 than in FY-78, and the amount projected for FY-80 is 60 percent more than in FY-79. Fifty-six percent of the food and nutrition funds requested for FY-80 are for Title XII activities, as contrasted to 37, 33 and 22 percent respectively in FY-79, FY-78 and FY-77.

* The definition of Title XII activities, agreed between A.I.D. and BIFAD, includes food and nutrition research and technical assistance; support for international agricultural centers; institution-building in developing countries for agricultural research, education, extension and policy; and mobilization of U.S. institutions to participate in development assistance activities. Excluded from the definition are capital costs related to advisory services to developing countries. However, capital costs related to research, adaptation and application of technology, and strengthening of developing country agricultural research, education and extension institutions are included.

TABLE 1

LEVELS OF A.I.D. REQUESTS FOR FOOD AND NUTRITION
FUNDS AND THEIR PROPOSED ALLOCATION ^{1/}

(\$ Millions)

	FY-1976		FY-1977		FY-1978		FY-1979		FY-1980	
	\$	%	\$	%	\$	%	\$	%	\$	%
Total Food and Nutrition	582	100	540	100	586	100	673	100	715	100
Title XII										
Strengthening Developing Country Institutions for Research, Teaching and Extension. ^{2/}	28		18		42		90		173	
Advisory Services to Developing Countries ^{3/}	38		50		87		95		150	
Adaptation/Application of Technology ^{4/}	4		10		23		25		30	
Strengthening U.S. Universities	--		--		--		(5.0)		(9.0)	
International Research Centers	15.590		24.6		28.0		26.6		29.8	
CRSP ^{5/}	--		0.498		4.902		9.0		13.0	
Centrally Funded Contract Research	14.410		14.902		9.706		4.4		4.4	
TOTAL Title XII Activities	100	17	118	22	195	33	250	37	400	56
Residual ^{6/}	482		422	79	391	67	423	63	315	44

^{1/} Table does not include Title XII activities under Security Supporting Assistance.

^{2/} Includes Related capital costs.

^{3/} Does not include related capital costs.

^{4/} Funds in the programs to strengthen capacities of U.S. universities in agricultural research, education, extension, development planning, administration and related areas are allocated under adaptation/application of technology.

^{5/} Collaborative Research Support Programs

^{6/} Includes all non-Title XII Section 103 activities (e.g., rural road construction, fertilizer production or procurement, etc.) Includes also activities closely related to Title XII such as support to build capacity at U.S. agricultural universities under Section 211(d), capital costs of advisory services to developing countries, and activities of voluntary agencies.

TABLE 2 a
PROJECTS SHAPED BY TITLE XII REVIEW AND SELECTION PROCESS

Summary by Regional Bureaus

Bureau	Contracts Signed		Projects Approved Contracts Not Signed		Projects In Advanced Planning		Totals	
	Number	Life-of-Project Cost Millions \$	Number	Life-of-Project Cost Millions \$	Number	Life-of-Project Cost Millions \$	Number	Life-of-Project Cost Millions \$
Near East <u>d</u>	4	17.33	4	42.40 <u>b</u>	5	83.70 <u>c</u>	13	143.43
Asia	3	23.80	2	7.40	2	25.00	7	56.20
Latin America	5	10.65	6	11.48	9	47.50	20	69.73
Africa	<u>7</u>	<u>20.18</u>	<u>4</u>	<u>13.38</u>	<u>3</u>	<u>26.40</u>	<u>14</u>	<u>59.96</u>
Totals	19	71.96	16	74.66	19	182.60	54	329.32

a. Includes host country contracts and PASAs.

b. Includes capital costs totaling \$20.0 million for Aquaculture Project in Egypt.

c. Includes capital costs totaling \$38.55 for Agricultural Mechanization Project in Egypt.

d. Activities funded by Security Supporting Assistance, but otherwise comparable to Title XII, are treated as if they were funded under Section 103 funds.

TABLE 3

NUMBER OF PARTICIPANTS IN TRAINING UNDER TITLE XII PROGRAMS.

Mode of Training	a/ FY 1977 b/			FY 1978		
	Short Term	Long Term	Total	Short Term	Long Term	Total
U.S. Non-Contract ^{c/}	400	582	982	316	537	853
U.S. Contract ^{d/}	16	344	360	22	343	365
Third Country	109	279	388	142	245	387
Totals	525	1,205	1,730	480	1,125	1,605

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a/ Programs not exceeding 90 days' duration

b/ Enrolled as full-time students and registered for credit

c/ Handled by AID/W training office and/or the U.S. Department of Agriculture

d/ Handled by a university contractor

The BIFAD and its committees participated actively with A.I.D. during FY-78 in the entire program and budget cycle, and in accordance with the Title XII legislation, formally made recommendations to the A.I.D. Administrator on the apportionment of funds for the Food and Nutrition Program. A.I.D. has taken the BIFAD recommendations into consideration. In some cases we have agreed with BIFAD and in other instances our positions have diverged, but we are continuing our dialogue in determining the best course of action.

B. Country Programs

1. Title XII Projects

The largest component of the Title XII Program is direct assistance to developing countries through the A.I.D. country mission programs. These programs are of two general types:

(a) building or strengthening LDC capacity in agricultural research, extension and training (REE), policy, planning and related services; and (b) providing advisory services on a wide range of agricultural and rural development subjects such as irrigation, rural credit, area development, crop and livestock production and marketing.

Requests for country projects, as shown in Table 1, in the general areas of improving developing country capabilities for research, education and extension, have increased from \$28 million in FY-76 to \$90 million in FY-79 and \$173 million in FY-80. These figures represent 5, 13 and 24 percent respectively of the Food and Nutrition Account. Projects directed at providing advisory services have increased from \$38 million in FY-76 to \$95 million in FY-79 and \$150 million in FY-80.

As of mid-March 1979, nineteen country projects, as shown in Table 2, costing about \$72 million (life-of-project), have been shaped and implemented by the joint BIFAD/A.I.D. review and contractor selection process. Sixteen more, costing about \$75 million, have been approved and the process of selecting the U.S. contracting institution(s) is underway. Still another nineteen, costing about \$183 million, are in an advanced planning stage but are not yet fully approved. These 54 projects, with a total life-of-project cost of about \$329 million, represent an annual average cost of about \$75 million. Detailed information on the 54 projects shaped by Title XII is included in Appendices A through D.

A.I.D. recognized early that training, both short-term and long-term, is a vital component of country programs and projects. In many of the very early programs, short-term training was given major emphasis with less attention to long-term training. It is now recognized that both types of training are essential and should be given important emphasis in country programs. Degree training is particularly needed in institution-building projects to train teachers,

managers, agricultural specialists and administrators. As a result of the success of A.I.D.'s training programs, higher-level U.S. training in agriculture is becoming more and more recognized by developing countries, even those heretofore oriented toward university-level training in Western Europe, as especially valuable and suited to their needs. It is also important to note that a significant amount of training also occurs in the process of carrying out various centrally-funded activities such as the CRSPs, and as components of country projects directed at strengthening LDC institutions. The benefits to the developing countries of U.S.-sponsored training in agriculture by A.I.D. and predecessor agencies probably cannot be assessed quantitatively, but the results of this training unquestionably represent a success story of significant proportions.

Table 3 shows the number of A.I.D.-funded participants in FY-77 and FY-78 in agriculture, nutrition and rural development.

Recognizing the critical importance of training to the agricultural development process, the BIFAD has established a special working group under the Joint Committee structure to focus specifically on Human Resource Development Programs under Title XII. This group, having joint representation of A.I.D. and the BIFAD, is developing a training source book which will show the different kinds of agricultural training in U.S. agricultural institutions that is available to persons from the LDCs.

Projections for FY-79 and FY-80 of mission projects falling under the Title XII classification represent only potential candidates for university implementation. They must go through the BIFAD review and recommendation process, followed by a mission decision on how the project will be planned and implemented. During the past year, BIFAD and A.I.D. have developed procedures for this joint review process to decide which of the candidate projects are best implemented in full, or in part, by U.S. agricultural universities, and for selection of universities to implement a given project. This careful matching of U.S. university expertise to the needs of the developing countries is a major element in the planning and implementation of Title XII programs and projects.

We anticipate, based on country mission projects for FY-80 projects, that more and more Title XII projects will be designed and implemented through the BIFAD/A.I.D. review and selection process.

2. Baseline Studies

Title XII places special emphasis on developing or strengthening developing country agricultural education, research and extension institutions, and on the more effective coordination of

these three functions. This is an important and proper emphasis. Many countries have serious deficiencies in capability in one or more of these three functions. Even where all three are reasonably adequate, they are often poorly coordinated so that farmers may not receive sound technical information, research may not be directed to local problems, or agricultural training may not be based on relevant local information.

To ascertain the adequacy of their agricultural research, education and extension capabilities, and of the coordination among these functions, BIFAD recommended, and A.I.D. agreed, that baseline studies be carried out in selected developing countries. These studies were designed to provide relatively comprehensive, country-specific information on the current state of and future requirements for assistance in the strengthening or development of research, education and extension systems. They would also provide a basis for identification of opportunities for Title XII programs.

Progress in implementing these baseline studies has been slow, for a variety of reasons. Some countries with scarce resources felt that analyses of other development needs such as roads, transportation facilities, marketing, etc., should be given higher priority. Other missions report that baseline information in research, education and extension has been or will be obtained by sector assessments and special studies in progress or planned. In other cases, U.S. programs of assistance in research, education and extension are underway and analyses of future requirements are built into those programs. In still others, requirements for this type assistance is felt to be minimal or is being met by other donors. In the meantime, as a regular part of their programming process, A.I.D. missions are developing the baseline data necessary for project development and implementation. A.I.D. and BIFAD agree that the important requirement is that sufficient information be available as a basis for programming, and that a variety of approaches to establishing such baseline information is acceptable. A.I.D. and BIFAD are now considering what if any additional information is needed, beyond the studies now being planned, as described below.

Ecuador

Field studies by a team from the USDA, Oklahoma State University and the University of Missouri provided for under a Participating Agency Service Agreement (PASA) with the USDA were completed in November 1978. This work was done in collaboration with Ecuadorian counterparts. The draft report was submitted, reviewed by A.I.D. in December, then submitted to the Government of Ecuador for review and comment. Personnel of the Ecuadorian Ministry of

Agriculture, the U.S. study team and A.I.D. mission personnel have completed a final revision of the analyses and findings of the study. It is expected that a final report will be issued in April 1979. Follow-up projects, based upon the findings and recommendations of the study, may be developed in FY-80.

This comprehensive study required about 55 man-weeks of services, and cost approximately \$147,000 under the PASA.

Peru

Negotiations are underway for a team from the USDA and North Carolina State University to do a comprehensive baseline study in Peru. The team is expected to be in the field by May, and a draft report completed by September 1979. The study is expected to provide basis data and information for U.S. assistance projects in research, education and extension in FY-80.

Jamaica

A.I.D. is requesting technical proposals from a source list of Title XII universities provided by the BIFAD staff. It is expected that a Title XII contractor will be selected by May 1979, and field work completed by September 1979.

Guyana

Guyana has requested a baseline study and a team will soon visit that country to develop plans for the study.

All other USAID recipient countries in LAC have agricultural sector assessments planned, underway or completed.

India

It is anticipated that the Indian Government will request a high-level U.S. university team to visit their country, study and review their agricultural research and education programs, and identify areas where it would be mutually rewarding to develop cooperative programs, particularly in agricultural research.

Liberia

Liberia has requested that the U.S. make an assessment of food crops research and recommend specific needs in that area. A team is expected to be in the field by April 1, 1979.

Burundi

The university community was canvassed to determine interest in performing an agricultural sector assessment, but lack of French capability precluded any university from making a responsive proposal.

Lesotho

Preliminary plans have been made for an agricultural sector assessment. This will include an analysis of research, education and extension institutional capacities. It is expected that plans for the study will be developed during a visit by BIFAD and Regional Bureau staff in April 1979.

Syria

An agricultural sector assessment financed by A.I.D. is now being done jointly by the U.S. Department of Agriculture, several U.S. universities and the host government. Study and appraisal of research, training and extension is an important component of this assessment.

Jordan

In early 1978, at the request of the Government of Jordan, a team of consultants made a preliminary assessment of the capabilities of existing research, teaching and extension services in the Jordan Valley and requirements for more effective organization and coordination of these services. The mission has proposed a follow-up project to assist in reorganizing these services. More complete baseline information will be assembled in developing plans for that project.

Egypt

A U.S.-funded Agricultural Development Systems Project is to create an institutional capability to plan and implement programs in research, education and extension. The project is being implemented under a collaborative assistance contract with the University of California. Considerable data were assembled in an agricultural sector study carried out in 1975-76 before planning the Agricultural Development Systems Project. Additional information was assembled in a sector study in late 1977. The University of California team will undertake additional studies to get more complete baseline information.

Yemen

The Consortium for International Development (CID)¹ has been selected to design and implement a long-term assistance program to the agricultural sector. The initial phase will include a study of the technical assistance needs in agricultural training, research and extension.

Tunisia

A.I.D. has developed a collaborative assistance project for strengthening research and teaching institutions. The Mid-America International Agricultural Consortium (MIAC)² has carried out the design phase which included gathering relevant baseline information on the status of agricultural research, education and, to some degree, extension. The project is scheduled to be implemented in mid-CY-79.

Morocco

A team of consultants from a university consortium in 1978 assisted in the design of a drylands agricultural development project. The team prepared a comprehensive review of Morocco's agricultural research, education and extension institutions and programs. That report provides information for a good assessment of research, education and extension capabilities in Morocco.

C. Centrally-Funded Programs

1. Collaborative Research Support Programs (CRSPs)

Under the leadership and guidance of the JRC, A.I.D. has initiated a new Collaborative Research Support Program in accordance with specific provisions of Title XII. This has evolved carefully and slowly, with continuous interaction with the BIFAD, its Joint Research Committee and A.I.D.

Agriculture is an industry that retrogrades in the absence of a steady flow of new knowledge. Any intensive agricultural production technology, no matter how well suited, deteriorates through time as nature confronts it with new or more aggressive forms of plant and

1/ U. of Cal. at Riverside, U. of Arizona, U. of Idaho, Texas Tech U., Washington State U., Oregon State U., New Mexico State U., Colorado State U., and Utah State U.

2/ The Universities of Missouri, Nebraska, Iowa State and Kansas State.

animal disease, soils erode or lose desirable chemical or physical characteristics, plant varieties lose vigor and suitability. The very low level of crop and animal yields which characterizes the developing countries is largely a result of an inadequate research base for developing and maintaining a reasonably productive technology.

One of the long-range means of assisting developing countries in solving this pervasive problem is through strengthening their agricultural research institutions. This is a major emphasis of our Title XII country programs. But research adequate to develop greatly different and more effective technologies of production, distribution and consumption in the developing countries is necessarily a large-scale enterprise. No single institution or country can do it alone.

Agricultural research scientists in all countries, including the United States, can contribute more to the solution of many of their own country's problems by working as part of an international research team than by working entirely within their own state or country. Consequently, although each such collaborative research program is directed at developing country needs and problems, the benefit to the domestic missions of the collaborating U.S. universities is such that they agree to contribute a minimum of 25 percent of the total dollar cost of each program.

In 1977, the BIFAD and A.I.D. selected four priority areas for research under the CRSP process: 1) small ruminants; 2) grain sorghum/pearl millet; 3) fisheries/aquaculture; and 4) implications of marginal nutrient deficiencies in human diet.

In 1978, the following additional areas were selected for development of CRSPs: 1) beans/cowpeas; 2) soils management; 3) basic food crops/integrated pest management; and 4) post-harvest food losses. Peanuts was added to the list in FY-79.

As shown in Table 4 below, planning grants for five CRSPs were made in FY-77 and 78, and one research grant was made in FY-78. A.I.D. expects to obligate \$9.55 million in FY-79 covering the costs of the small ruminants and grain sorghum/millet CRSPs, and planning and exploratory study grants for three other areas. The program is expected to increase in FY-80 to \$13.00 million.

TABLE 4

CRSPs Funded in FY-77 and FY-78, Programmed for
Funding in FY-79 and Projected for Funding in FY-80

	<u>Millions \$</u>		
	<u>FY-77/78</u>	<u>FY-79</u>	<u>FY-80</u>
Small Ruminants	4.801 ^{1/}	4.0	1.50
Grain Sorghum/Pearl Millet	0.219 (planning)	5.0	2.50
Fisheries/Aquaculture	0.277 (planning)		1.75
Marginal Nutrient Deficiencies	0.220 (planning)		1.75
Beans/Cowpeas	0.250 (planning)		3.00
Soils Management		0.250 (planning)	2.00
Basic Food Crops-Integrated Pest Management		0.250 (planning)	
Post-Harvest Losses		0.050 (exploratory study)	0.25 (planning)
Peanuts			0.25 (planning)
Totals	5.767	9.550	13.00

1/ Includes \$0.149 million for planning in FY-77.

The present status of each of the research programs is described below:

Small Ruminant Animals (sheep and goats). Sheep and goats are very important sources of meat, milk and fiber for people in many developing countries. They are the best means of utilizing the scanty vegetation and browse of extensive areas of rangeland unsuited to other animals or uses. Ecologically, they are potentially destructive under improper grazing and management. Particular research problems to be addressed include diseases, feeding and nutrition, sociological aspects of sheep and goat raising, breed improvement, production systems for small farms, and herd management practices.

Planning by Research Triangle Institute of North Carolina was completed. The University of California (Davis) was selected as the management entity and a program director appointed. A grant to the management entity in the amount of \$4.652 million for 1978 and 1979 has been signed, and eleven other eligible universities and one eligible livestock center will participate in one or more segments of the research to be undertaken. Two overseas research sites have been selected, one in Brazil the other in Kenya. It is expected that two additional sites, one in the Middle East the other in Asia, will be selected.

Grain Sorghum/Pearl Millet. Grain sorghum and pearl millet are the principal food grains eaten by the world's poorest people. Highly drought- and heat-resistant, these crops are often produced on lands which are marginal or unsuited to the "higher quality" cereals such as corn, wheat and rice. Problem areas to be investigated include breeding and genetics, diseases and insects, grain quality, socio-cultural concerns, nutrition and consumption, farming systems and marketing.

Planning by the University of Missouri was completed. The University of Nebraska has been selected as the management entity and a program director appointed. Eleven other eligible universities will participate in research on one or more of the priority problem areas. Selection of research sites in the developing countries is now in progress.

Fisheries/Aquaculture. Research Development Associates of California made a survey of development needs in fisheries and aquaculture and published a report. The JRC and A.I.D. reviewed the recommendations and selected three areas as having potentials for CRSPs. The JRC is looking into university interest in these areas.

Marginal Nutrient Deficiencies. A planning grant was made to the University of California (Berkeley) to identify LDC institutional capacities in the developing countries, and U.S. institutional capabilities and interests, and to plan a CRSP.

Beans and Cowpeas. These two crops are major sources of protein in many countries of the tropics and sub-tropics. Both beans and cowpeas (*Vigna sinensis*) are important crops in the U.S. Cowpeas are grown mainly in the southern states under the common varietal names including black-eye pea, crowder pea, purple hull pea, etc.

A planning grant was made to Michigan State University to determine the state of research on these crops; to identify key problems and constraints; to document U.S. institutional capabilities; to identify institutions in the developing countries with which linkages should be developed; and to plan a CRSP.

Soil Management. In many countries, inadequate or inappropriate soil management is a major constraint to production. Following definition of the principal soil management problems which are common in the developing countries, and which can be appropriately addressed by international research, this CRSP will undertake research to develop new knowledge on how to handle these problems. A scope of work for the planning agent is being refined, and a planning grant for its execution is expected to be made this fiscal year.

Basic Food Crops-Integrated Pest Management. It is expected that a scope of work for the planning grant will be developed by A.I.D. and the JRC during FY-79.

Peanuts. Peanuts are widely grown in many of the poorer tropical and sub-tropical countries of the developing world. They are a very important source of edible oil for domestic use and export, as well as an excellent protein food for direct human consumption.

Eligible U.S. universities are being canvassed to determine the extent of their interest and capacity for participating in an international research program in peanuts in preparation for a CRSP planning grant.

Post-Harvest Losses. Discussions regarding the proposed exploratory study are in a very preliminary stage.

2. University Strengthening Program.

Title XII provides authority for A.I.D. to strengthen the capabilities of qualified U.S. universities in teaching, research and extension work to enable them to implement programs authorized by

Title XII. We have developed a program of grants which will match the university's investment of their own non-federal funds in strengthening activities. We expect that these grants will produce an expanded pool of technical experts, who will be more readily available than in the past to respond to requests for assistance on food, nutrition and rural development problems overseas. In addition to enhanced technical competence in the subject matter fields most needed by LDCs, these experts will have a better understanding of developing country characteristics and, therefore, of how to better apply their expertise to LDC needs. Further, these individual skills and knowledge will be fed into the knowledge base and other institutional resources of the university, producing a capability greater and more lasting than the sum of the individuals it represents.

As A.I.D. has relatively few technical experts in relation to needs, it is heavily dependent upon the U.S. agricultural universities for the specialists to carry out field programs. Moreover, as the LDCs mature, and as their development efforts focus more on improvement of small farm agriculture and general rural development, they require and request more highly-trained persons with a combination of technical competence and special ability to adapt their knowledge to the needs of LDCs. The present pool of such expertise in this country is inadequate and, unfortunately, diminishing. The Title XII university strengthening program is designed to expand the pool of U.S. experts and technical knowledge of the type required by LDCs, and to make that pool of expertise and knowledge more directly relevant to LDC application and more readily available to A.I.D. programs.

The Title XII legislation includes, by definition, the minority land-grant institutions. These seventeen agricultural colleges and one or two others who may also qualify are eligible to apply for the special minority institution preliminary strengthening program designed to expand minority participation in Title XII field activities. The minority strengthening program provides one-time, five-year grants which do not require matching funds from the university. Its purpose is to bring the minority institutions to the point where they can participate in the matching formula mode. Two minority institutions have already submitted proposals for the matching formula program.

All activities in the strengthening programs, whether funded by A.I.D. or the universities, are to strengthen the universities' capability to carry out A.I.D. foreign assistance efforts as specified by Title XII.

Under the strengthening program, universities will do such things as:

- provide U.S. graduate student training and overseas experience specifically designed to fit LDC circumstances and, therefore, future A.I.D. technical assistance requirements;

- modify U.S. university curricula to be more relevant to LDC needs by addition of new courses and/or modification of old courses, at both undergraduate and graduate levels;
- improve university administrative and organizational arrangements and policies to increase availability of faculty to A.I.D. programs;
- develop specific, technical, regional/country and problem area background and expertise;
- develop appropriate LDC language skills among the U.S. faculty members most needed in A.I.D.'s technical assistance activities and build language skills in graduate training programs to meet future manpower needs.

Since the last report to the Congress, guidelines for the preparation and submission of proposals for the matching formula and minority institution strengthening grants were prepared jointly by BIFAD and A.I.D., and published and distributed to all eligible Title XII institutions. A peer review and evaluation procedure has been developed to assist the Board in making its recommendations to the Agency regarding the award of these grants.

Of the 75 institutions which met the criteria necessary to apply for the matching formula strengthening program, 51 institutions submitted proposals within the deadline for FY-79 funding. The initial screening rated none of these as immediately actionable, 27 required minor revisions, 10 required major revisions, and 14 required major reworking. Forty-four institutions submitted revised proposals. Of these, twenty-eight have thus far been recommended by the BIFAD to A.I.D. for action at this time.

These figures reflect the fact that carefully-developed criteria have been applied rigorously to the proposals for these matching grants to insure that these strengthening programs at each university, financed in large part by the institutions themselves, will directly and effectively serve Agency and LDC needs.

There are several elements of the formula funding which limit the size and determine the life of these strengthening grants:

- a. The A.I.D. grant is always limited to matching, dollar-for-dollar, the university's contribution. (In addition, all of the campus overhead costs are borne by the university.)

b. In addition, the A.I.D. grant is limited to 10 percent of the university's level of Title XII-type contract technical assistance with A.I.D. (computed as a moving average of the previous three years) or \$100,000 for each of the first five years, whichever is greater.

c. The A.I.D. grant is limited to a maximum of \$300,000 per year in any event.

The budgetary requirements of the Strengthening Program for FY-79 and FY-80 are as follows:

first

- The/18 recommended for immediate funding: \$2.1 million, average \$117,000 each. The estimate for the remainder for this fiscal year (including Minority Grants): \$2.9 million, for a total requirement in FY-79 of \$5.0 million.

- The total requirement for FY-80 will be \$9.0 million.

3. International Agricultural Research Centers (IARCs)

The U.S. share of support (25%) of the ten IARCs, amounting to \$29.6 million in FY-80, is funded under the Food and Nutrition Account. Support to all but two of these centers (the Asia Vegetable Research and Development Center - AVRDC, and the International Fertilizer Development Center - IFDC) is provided through the Consultative Group on International Agricultural Research (CGIAR). This is an organization of major donor representatives that coordinates funding and provides program guidance to those centers under its aegis.

The IARCs focus on applied research on problems affecting production of crops and livestock in developing countries. These centers link with national research programs of developing countries and appropriate research activities of selected institutions of developed countries in an international network of scientific activities that extends from the farm level in LDCs to research scientists throughout the world. A.I.D. and the JRC, in planning and implementing the CRSPs, work closely to avoid overlap and, more importantly, to utilize in a complementary way the resources of both the universities and the centers.

Identification of the centers, the dates of their establishment and the major research programs and accomplishments of each are shown below:

- International Rice Research Institute (IRRI), Philippines, 1960 to improve rice and rice-based cropping systems. High-yielding varieties of rice, developed by IRRI and national programs, were planted in 1976-77 on about 62 million acres representing 28 percent of the total rice acreage of developing countries.

- International Maize and Wheat Improvement Center (CIMMYT), Mexico, 1964, to improve corn and wheat with some research on barley and triticale (a wheat and rye cross). High-yielding varieties of wheat, developed by CIMMYT and national programs, were planted on about 73 million acres in the developing countries in 1976/77, or over 44 percent of their total wheat acreage.

- International Institute of Tropical Agriculture (IITA), Nigeria, 1967, to improve cowpeas, yams, sweet potatoes, cassava, maize, rice and farming systems. Farming systems that reduce erosion and increase production have been developed. Insect and disease-resistant cowpea varieties have been identified. Higher-yielding cassava and maize have been developed and distributed, and a promising zero-tillage system for maize production has been developed.

- International Center for Tropical Agriculture (CIAT), Columbia, 1968, to improve beans, cassava, beef production, rice and maize. CIAT is working on cassava and beans in rotation with corn and on pastures and forage to increase beef production. Improved disease-resistant cassava varieties have been identified.

- International Potato Center (CIP), Peru, 1972, to improve white (Irish) potatoes. Progress has been made in developing varieties with greater resistance to climatic factors and disease. Low-cost solar dryers are under development.

- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India, 1972, to improve sorghum, pearl millet, pigeon peas, chickpeas, peanuts and farming systems. The major development has been the design of an improved water management system. Other accomplishments include: identification of sorghum varieties with resistance to pests and diseases, and breeding of superior pulse varieties.

- International Laboratory for Research on Animal Diseases (ILRAD), Kenya, 1974, to develop control methods for trypanosomiasis, (sleeping sickness) and theileriosis (east coast fever) in livestock. A major accomplishment has been the development of a method of growing trypanosomes outside a host animal, a significant step on the way to developing a cure for trypanosomiasis.

- Asian Vegetable Research and Development Center (AVRDC), Taiwan, 1971, to improve potatoes, tomatoes, soybeans, Chinese cabbage, and mungbean. AVRDC has developed an improved variety of tropical tomato which is both heat- and disease-resistant.

- International Livestock Center for Africa (ILCA), Ethiopia, 1974, to support efforts of countries to improve systems for production of livestock and marketing of livestock products.

- International Center for Agricultural Research in Dry Areas (ICARDA), Syria, 1976, to study farming systems in countries with Mediterranean-type and cold-winter climates. It serves as a world center for improvement of barley, lentils, chickpeas, broadbeans and forage legumes.

- West African Rice Development Association (WARDA), Liberia, 1971, as a cooperative intergovernmental regional organization aimed at increased rice production in 14 countries of the region. Emphasis is placed on importing, testing and identifying improved varieties for the region.

- International Board for Plant Genetic Resources (IBPGR), Rome, 1974, to encourage and assist the collection, preservation and exchange of plant genetic material. The number of genetic resource centers working with IBPGR now number more than 50, and a computer-based classification system has been completed.

- International Fertilizer Development Center, Muscle Shoals, Alabama, 1974, to develop new and more efficient fertilizers especially for the tropics, and to develop the technology for the use of new or conventional fertilizer products in the developing countries.

IV. PROJECTION OF TITLE XII ACTIVITIES

A. General

The Agency's projections of annual funding requirements to meet Food and Nutrition Program goals are shown in Table 5. Column A projects requirements under the Food and Nutrition Account, and Column B projects requirements for food and nutrition activities for the African Sahel region.

TABLE 5

Five-Year Projections -
Food and Nutrition Budget Requirements
(Millions \$)

YEAR	Food/Nutrition Account (A)		Sahel Development Program (B)	
	Total	Title XII	Total	Title XII
1980	715	400	105	50
1981*	789	450	130	70

* Authorized amounts requested for FY-81

These estimates are for carrying out programs which are based on broadening A.I.D.'s policy commitment to reach the poor majority through people-oriented projects. Although agricultural producers at all levels may benefit from A.I.D.-assisted programs and projects, the food consumption benefits through increased production and the improved equity benefits through increased employment should extend throughout the population. A.I.D.'s agricultural policy explicitly endorses the view that equity concerns can be effectively addressed over the long run only if there is economic growth. Participation of the poor in the growth process is recognized as a fundamental requirement for improvement of their welfare.

A.I.D.'s agricultural policy also recognizes the necessity for the development of appropriate LDC agricultural institutions for research, education and extension, and for implementing programs in a well-designed policy framework which foster agricultural development, necessary for economic growth, and aim to achieve equity in the distribution and use of resources.

It is expected that U.S. universities will play increasingly important roles, under the Title XII mandate, in helping to achieve these policy objectives and program goals. It is anticipated that the proportion of funds going into Title XII will likewise increase.

B. Country Programs

Future financial requirements of country missions for Title XII activities are, at best, rough estimates. Selection of programs and projects is determined by many factors and conditions including the mission's appraisal of host country needs, requirements and capacity effectively to absorb resources, U.S. capability to provide the needed resources, other donor inputs and, more important, the views and desires of the host country government. However, host governments as a whole are expected to continue to show a keen interest in expanded U.S. assistance in their agricultural development programs.

C. Collaborative Research Support Programs (CRSPs)

It is anticipated that during the next five years sufficient funds will be allocated to implement 18 CRSPs and to provide planning grants for three additional ones.

D. Centrally-Funded Contract Research

There will be a continuing need for centrally-funded contract research, even with the expansion of the CRSPs. Research which focuses on specific key problems will continue at about the same or slightly higher level. High payoff has resulted from several

of these projects. For example, a team representing two international agencies estimated that if the results of the vampire bat research in Latin America were generally applied, as has been done in Nicaragua, the savings to the livestock industry in Latin America alone would amount to \$250 million per year. The total cost of this project was only \$750,000.

E. University Strengthening

The Agency's intention is to establish the matching grant strengthening program as a continuing relationship with the universities as a component of Title XII activities. Each grant will be reviewed annually to assure that it is contributing to the basic objectives of expanding, improving and making more accessible the pool of expertise available for assistance programs to developing countries.

Application of the established criteria and formulae should result in the total cost of the program leveling off at slightly above the level requested for FY-80:

- the total number of institutions which can meet the requirements for participation, by virtue of their capabilities in agricultural research, teaching, extension and other attributes, may be expected not to increase greatly;

- the special program for minority institutions, which does not require matching budget contributions by the university, is limited to five years;

- after five years, the ceiling on the A.I.D. matching contribution may not exceed 10 percent of the university's volume of business with A.I.D., or \$300,000, whichever is the smaller.

This will probably reduce the A.I.D. contribution to many universities for which the 10 percent criterion is waived for the first five years.

F. International Research Centers

A.I.D.'s support to the Centers, amounting to \$29.6 million in FY-79, represents a significant item in the Food and Nutrition Account. Although the JRC has been in contact with the Directors of the Centers, particularly with those whose areas of work relate to the CRSPs, there has been no systematic examination of their programs. It is expected that a closer look at the Centers' programs will be undertaken next year.

V. COMMENTS OF THE BOARD FOR INTERNATIONAL FOOD AND AGRICULTURAL DEVELOPMENT

The Board for International Food and Agricultural Development (BIFAD) has been active for two and one-half years. During this period it has participated with the Agency for International Development in virtually all aspects of the U.S. foreign assistance program in food, nutrition and agricultural development. The top management level of AID has been very supportive of the Title XII program and has encouraged BIFAD's active involvement in AID's policy, budgetary, programming and implementation decisions and processes.

The Board believes that substantial progress has been made in carrying out the Congressional mandates embodied in the Title XII Amendment. AID's food, nutrition and rural development activities in the LDCs are moving in the directions suggested by Title XII, greater involvement of U.S. agricultural colleges and schools is occurring, positive steps toward strengthening of universities for participation in Title XII programs have been taken, support for collaborative research between LDC and U.S. agricultural scientists on priority problems of mutual interest has been initiated and mechanisms for BIFAD participation in the Agency's programming, policy and budgetary processes are operational. While much remains to be done, the BIFAD believes that the Title XII program is well on the way to achieving the fundamental objectives of the legislation.

Initially, the Board and its subordinate committees concentrated on developing effective working relationships with and between AID and the Universities. This involved identification of appropriate points in the AID policy and programming processes for participation of the Board and its subordinate groups; development and implementation of new Title XII programs as prescribed by the legislation; and the development of procedures and operational guidelines to carry out these activities. The Board also involved itself in continuous interaction with eligible universities towards the end of achieving broader, deeper and more effective involvement of these institutions in the AID agricultural development assistance program. Much of this has been accomplished. Most of the mechanisms for effective implementation of Title XII are in place.

Participation in these processes has constituted an intensive learning experience for BIFAD, reaching deeply into the substance of AID's food and nutrition program, the structure and operations of the Agency, and the constraints to greater impact on agricultural development in the poor nations. As a result, the Board has arrived at a series of observations relevant to each of these areas, which we believe should be shared with the Congress.

-- Investment in Physical Infrastructure and Institutional and Human Resources Development

In recent years, AID has been investing a relatively large share of its food and nutrition budget in capital transfer activities such as the creation of physical infrastructure and financing off-farm production inputs, farm credit systems and the like in the LDCs. A relatively small share of its total budget has been utilized for the specific purpose of helping develop indigenous institutional capacities to serve the agricultural education, extension, research and planning needs of these nations. The BIFAD believes that increased emphasis is warranted on projects designed specifically to develop LDC institutional capacities to train agricultural personnel; generate adapted, high-payoff agricultural technology; and disseminate technical and other information useful to farm-level decision-makers. These activities are essential to a highly-productive agricultural sector capable of contributing maximally to increased food production as well as to economic growth and development--rural and non-rural. Most of the developing nations do not have adequate institutional capacities in these areas. If our U.S. development assistance program is to contribute most effectively to the alleviation of global poverty, such programs must be given priority. The BIFAD is pleased to note that since the Title XII Amendment was enacted the Agency has been moving in this direction. It believes that this trend should continue.

Similarly, AID investment in the training of developing country nationals appears to be quite small relative to the need for well trained agriculturalists. In 1978, the Agency supported 880 degree-level candidates and 338 special trainees to study agriculture in the United States. It is commonly agreed that the most serious constraint to rational agricultural development in the developing nations is the lack of appropriately trained professionals. Those nations which have made sustained progress in agriculture have done so on the firm foundation of soundly trained agriculturalists. There is no substitute. Few LDCs have adequate indigenous capacity to train such people. Thus, there is no short-run alternative to training a relatively large number in the United States or in third countries having the capacity to do so. Taking into account the demand for trained agriculturists and those in training under other auspices, the BIFAD believes that the Agency should review its agricultural participant training programs, country-by-country, to determine what additional training investments should be made.

BIFAD believes that the U.S. objectives of increased food production, improved nutrition and sustained agricultural development in the developing nations would be greatly enhanced by allocating a much higher proportion of the AID food and nutrition budget to institutional and human resource development activities. This conclusion is based on two factors. First, there is empirical evidence that returns

to investment in institutional and human resource development activities tend to be substantially greater than in the case of capital transfer (infrastructure) activities. Secondly, the U.S. given the expertise of its Title XII and similar institutions, has a significant comparative advantage, relative to other donor organizations, in human and institutional resource development. Indeed, there exists a number of other assistance organizations created for the specific purpose of providing the capital needs of LDCs for physical infrastructure.

-- Research and Development

Agricultural progress, both at home and abroad, has demonstrated that technical change is the primary source of increased resource productivity, higher rural incomes and the potential for improved income distribution patterns. Technical change flows principally from research. Virtually all physical/biological agricultural technology, while potentially relevant to the LDCs, must be adapted to local circumstances.

Most of the developing nations, particularly the poorest, do not have the trained researchers and the institutional capacity to materially expand research in the near to mid-term. The United States has at its command a massive agglomeration of problem-oriented agricultural research workers. The International Agricultural Research Centers are conducting applied research on problems affecting production of crops and livestock in the developing countries. They have established working relationships with research and extension programs in both developing and developed countries. The result is the nucleus of an international network of scientific activities that extends from the farm level in LDCs to research scientists throughout the world. The potential for increasing agricultural productivity and rural incomes in the LDCs through the further mobilization of all of these resources to work on critical agricultural problems is tremendous. This is the conviction which lead the BIFAD to emphasize the development and implementation of the Collaborative Research Support Program (CRSP) to serve as a "bridge" between the location-specific information needs of LDC farmers and the scientific reservoir of the U.S. and international research institutions. This new program is still in its infancy. However, it has the potential of being one of the more productive of our efforts to assist the LDCs in their development process. The Board believes that this program should be given every opportunity to evolve and demonstrate its true value. In addition, the Board believes that there is a continuing need for sharply targeted research on short-run specific problems and that the Collaborative Research Support Program should not be taken as a substitute for these more narrowly focused--but highly productive--contract research efforts.

Exclusive of the International Agricultural Research Centers, AID's annual investment in centrally-funded agricultural research has averaged about \$15 million over the FY-76 - FY-80 period. This is slightly less than 2.5 percent of AID's total investment in the food and nutrition program. Given the critical need for significant technical breakthroughs in agriculture in the LDCs, the Board is convinced that the United States could have an enormously significant impact on food production and development abroad by increasing its agricultural research investment either through additional funding or through reallocation of funds from other activities.

-- AID Professional Staffing

Agricultural development is a highly technical business. The BIFAD concurs with the AID policy of utilizing outside organizations (universities, U.S. government agencies, and the private sector) in the conduct of its programs. However, the Agency must, of necessity, retain much of the initiative and responsibility for interacting with host country agricultural officials, identifying opportunities for U.S. interventions in LDC agricultural sectors, establishing priorities, and structuring the total rural development assistance program. Technically, these key decisions, and the programs which derive from them, can be no better than the professional inputs which they receive. This is a serious paucity of in-house AID staff having professional backgrounds, experience and competence in the agricultural and closely related sciences. Many of the staff currently in AID in these fields are either relatively inexperienced or near retirement age. The situation will become even more severe with the recent decision concerning the mandatory retirement of foreign service officers who are 60 years or more in age. BIFAD has serious concerns, given this situation, relative to the technical adequacy of the AID food, nutrition and agricultural development programs. The Board believes that AID should greatly expand the number of agriculturalists on its staff and elevate their role and position in the Agency's decision-making hierarchy. In addition, the Board believes that AID should develop innovative means by which the universities can be given more scope in designing and implementing the agricultural development programs of the Agency.

-- Procurement Methods and Procedures

One of the barriers to full achievement of a true partnership between AID and the universities in foreign agricultural development work is the procurement process (methods, instruments, policies and practices) available to and used by the Agency. These procedures tend to inhibit AID's access to university resources, preclude quick response to Agency needs by universities and militate against certainty of long-term involvement which universities need in order to develop the

specific expertise and mobilize the professional resources required. New and innovative approaches are needed and several are under consideration by AID and the BIFAD. Considerable attention should be given to this matter in the future.

The specter of worldwide poverty continues. The self-interest of the United States in contributing to the solution of this global problem becomes increasingly clear with the growing recognition of the world's finite energy supplies, environmental degradation, rapid population growth and the impact of these phenomena on our own economic and political well-being.

The alleviation of poverty must begin with the creation of a highly productive LDC agriculture. The United States has much to contribute in this arena. The Board believes that substantial increases in budgetary allocations to AID's food, nutrition and agricultural development programs would redound to our national self-interest. The budget for these programs has increased from \$582 million in FY 1976 to a requested \$715 million requested in FY 1980. In nominal terms, this is an average annual increase over the period of about 5.7 percent. Given the general levels of inflation over this same period and the even sharper increases in the cost of foreign assistance work, the annual U.S. investment in foreign agricultural development programs, in real terms, has declined. The funds which the U.S. allocates to these programs are quite small relative to the magnitude of the problem and the importance of its resolution to U.S. national and international objectives. The BIFAD believes that the increase requested by the President in AID's food and nutrition budget is justified.

Country	University, Consortium or Other Contractor	Project	Implementation ^c Mode	Date Contracted	Life-of- Proj. Funding ^b Millions \$	Duration of Proj.
A. <u>Projects for which Contracts have been Signed</u>						
Haiti 0076	USDA	Integrated Resource Management	PASA		3.647	5 years
Domín. Repub. 0117	USDA	Agricultural Planning	PASA		1.350	5 years
Peru	USDA/NC State	Baseline Study	PASA		0.135	6 months
Ecuador	USDA/Okla.State	Baseline Study	PASA		0.115	6 months
Guatemala 0255	Michigan State	Small Farmer Divers. Systems	CA	2/79	5.0 (L) .4 (G)	5 years
B. <u>Projects Approved but Contracts not Signed</u>						
Haiti 0092		Agric. Devel. Support	SU		0.540	5 years
Haiti 0099		Intersectorial Devel.	PASA/SU/PSC		1.450	5 years
ROCAP 0083		Small Farmer Prod. Systems	SU		6.964	5 years
Guatemala 0249		Integrated Area Devel. Studies	SU		0.498	3 years
Honduras 0139		Agri. Research	SU		1.914	5 years
Jamaica		Baseline Study	SU		0.110	6 months

Country	University, Consortium or Other Contractor	Project	Implementation Mode	Date Contracted	Life-of- Proj. Funding Millions \$	Duration of Proj.
<u>C. Projects in Advanced Planning Stage</u>						
Panama 0180		Applied Agri. Res.			0.50 (G) 1.50 (L)	5 years
Peru 0712		Agri. Research, Extension & Education			2.20 (G) 9.00 (L)	6 years
Ecuador 0012		Tech. Access for Small Farmers			4.00 (L)	4 years
Regional 0575	Miss. State U.	Seed Technology	CA		3.00	6 years
Regional 0586		Soc. & Econ. Criteria for Agri. Research	CA		0.405	4 years
Honduras 0150		Agri. Sector II			4.00 17.70 (L)	6 years
E. Caribbean 0017		Improved Agri. Exten.	CA		1.70	5 years
Jamaica 0001		Agri. Planning	SU		2.00	5 years
Paraguay 0118		Minifundio Crop Intensification	SU		1.50	3 years

a. Includes host country contracts

b. Loan funding (L) is for general support including contracts with Latin American institutions, capital costs and salaries.

c. Standard University Contract (SU), Collaborative Assistance (CA), PASA, or other Contract.

NEAR EAST BUREAUPROJECTS SHAPED BY TITLE XII REVIEW AND SELECTION PROCESS^a

<u>Country</u>	<u>University, Consortium or Other Contractor</u>	<u>Project</u>	<u>Implementation Mode</u> ^b	<u>Date Contracted</u>	<u>Life of Proj. Funding Millions \$</u>	<u>Duration of Proj.</u>
A. <u>Projects for which Contracts have been Signed</u>						
Egypt 041	U. of CA.	Agri.Dev. Systems	CA	9/77	11.0	5 years
Tunisia 304	MIAC	Agri.Tech.Transfer	CA	2/78	3.57	3 years
Syria 020	USDA & Univ.	Agri.Sector Study	PASA	5/78	2.0	1.5 years
Portugal 001	U. of Rhode Is.	Univ.Inst. of Azores	CA	'77	0.759	3.0 years
B. <u>Projects Approved but Contracts or PASAs not Signed</u>						
Egypt 064		Aquaculture ^c	Open bidding		27.50	4 years
Egypt 027		Rice Research	SU		8.195	5 years
Morocco 136		Dryland Applied Res.	SU		4.50	4 years
Syria 020		Land Classif. & Soil Survey	Open bidding		2.20	4 years
C. <u>Projects in Advanced Planning Stage</u>						
Egypt 031		Agri.Mechanization ^d	Open bidding		44.0	3 years
Egypt 095		Agri.Coop Marketing	OPG ^g		4.00	4 years
Egypt 070	CID	Major Cereals	CA	10/78 ^e	8.50	5 years
Syria 003	U. of Neb.	Agri. Education	CA	1/78 ^e	7.20	4 years
Yemen 052	CID	Agri.Devel.Support ^f	CA	11/78 ^e	20.00	5 years

^a. Includes host country contracts; ^b. Standard University Contract (SU), Collaborative Assistance (CA), PASA or other contract; ^c. Includes \$20.0 million for capital costs; ^d. Includes \$38.55 for capital costs; ^e. Contract for project design; ^f. Includes capital costs; ^g. Operational grant.

Country	University, Consortium or Other Contractor	Project	Implementation ^{b/} Mode	Date Contracted	Life of Proj. Funding Millions \$	Duration of Proj.
<u>A. Projects for which Contracts or PASAs have been Signed</u>						
Burundi 0102	Auburn	Highland Fisheries Development	SU	1978	1.45	3 years
Mali 0203	USDA	Central Vet. Lab.	PASA	1977	10.3	4 years
Niger 0213	Mich. State	Applied Agri. Res.	SU	1978	4.0	5 years
Chad 0201	CID	Range & Livestock Development	SU	1977	1.5	5 years
Lesotho 0065	Wash. State U.	Farming Systems Research	CA	1978	8.278	5 years
Tanzania 0135	U. of W. Va.	Agric. Education & Extension	SU	1978	0.85	3 years
Botswana 0074	S. Dakota State	Agri. Training School	SU	1978	4.0	5 years
<u>B. Projects which have been Approved but Contracts not Signed</u>						
Chad 0002		Agri. Instit. Devel.	SU		3.5	5 years
Ethiopia 0179		Upper Didesa Devel.	SU		2.4	5 years
Ethiopia 0193		South Gemu Gofa Area, Ext. II	SU		2.2	5 years
Niger		Range and Livestock	CA		5.28	5 years

AFRICA BUREAUPROJECTS SHAPED BY TITLE XII REVIEW AND SELECTION PROCESS

<u>Country</u>	<u>University, Consortium or Other Contractor</u>	<u>Project</u>	<u>Implementation Mode</u>	<u>Date Contracted</u>	<u>Life-of- Proj. Funding Millions \$</u>	<u>Duration of Proj.</u>
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C. Projects in Advanced Planning Stage

Cameroon 0013		National Cereals Res. & Exten.	SU		6.00	3 years
Ethiopia 0208		Agric. Planning, Analysis & Eval.	CA		2.00	2 years
Mali 0210		Operation Haute Vallée	SU		18.395	4 years

a. Includes host country contracts.

b. Standard University Contract (SU), Collaborative Assistance (CA), PASA or other contract.

ASIA BUREAUPROJECTS SHAPED BY TITLE XII REVIEW AND SELECTION PROCESS^a

<u>Country</u>	<u>University, Consortium or Other Contractor</u>	<u>Project</u>	<u>Implementation Mode</u> ^b	<u>Date Contracted</u>	<u>Life of Proj. Funding</u> Millions \$	<u>Duration of Proj.</u>
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A. Projects for which Contracts have been Signed.

Indonesia 0290	U. of Wisconsin	Graduate Agri. School	CA	'79	6.50	5 years
Indonesia 0293	Washington State Univ.	Eastern Island Agri. Education	CA	'79	7.50	5 years
Philippines 0302	Kansas State U.	Integ. Agri. Produc. & Marketing	SU	'77	9.80	5 years

B. Projects Approved but Contracts or PASAs not Signed.

Nepal 0132	S.E. Consortium for Int. Dev.	Resource Conservation & Utilization	CA		6.00	6 years
Philippines 0322	Texas A&M U.	Fresh Water Fisheries Development	CA		1.40	3 years

C. Projects in Advanced Planning Stage.

India 0470		Agri. Res. & Educ.			20.00	5 years
South Pacific 0267	U. of Hawaii	So. Pac. Island Agric. Development	CA		5.00	6 years

a. Includes host country contractsb. Standard University Contract (SU), Collaborative Assistance (CA), PASA, or other Contract.