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**DEVELOPMENT SUPPORT BUREAU**

**OFFICE OF AGRICULTURE**

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## OFFICE OF AGRICULTURE

### BACKGROUND

By all accounts, the major problem of the world's less developed countries (LDCs) is poverty and its product, hunger. For every eight people on earth, one does not get enough to eat. About 15 million people die of hunger or hunger-related diseases each year. In recent years, the low-income countries as a whole have achieved significant gains in their own food production. However, during that time the gap between food supply and food demand has been steadily widening due to population growth and rising income disparities. This problem is particularly acute in the less developed countries of the world where approximately two-thirds of the earth's malnourished people live.

As of June 1981, the U.S. Department of Agriculture reported that after two consecutive years of drawdown to meet current consumption needs, world food stocks had fallen to 158 million tons, or 10.8% of total world consumption--the lowest level recorded since 1974-75. Fortunately, a record-breaking U.S. wheat crop is expected in 1981-82, moving the world one step back from the brink of danger. However, such low stock levels still leave the world precariously dependent on U.S. production and on the hope of favorable weather in the rest of the world.

Food production statistics tell only part of the story. By the year 2000, nearly half-a-billion more people will have entered the labor force in the LDCs. But when they do, they will face massive unemployment and under-employment. Much of this population increase will occur in the rural areas, where unemployment rates already range seasonally from 25% to 60%. Given the unavailability of services and social infrastructure in the countryside, and the fact that rural income levels average only one-third to one-eighth those of urban areas, it is hardly surprising that virtually all LDCs have been experiencing large-scale migration from country to city. Because this route often continues across national borders, international migration and refugee problems are becoming increasingly commonplace in many parts of the globe.

In short, the lives of millions of people are now circumscribed by a series of interlocking problems which characterize the rural areas of the LDCs--malnutrition, low agricultural productivity, antiquated farming methods, low incomes, lack of jobs, large families, and depleted natural resources.

### INTRODUCTION

5. The Office of Agriculture (DS/AGR) strategy has been designed with one central objective in mind: to achieve the maximum possible impact on hunger and malnutrition in the shortest possible time. This strategy is premised on the convictions, best articulated in TPCA Statement 1, that "the

elimination of hunger requires increasing food production and purchasing power," that "developing a viable small-scale agricultural sector is the AID orientation most likely to accomplish both goals," and that "AID's most productive role will be in assisting LDCs develop those human and institutional resources required to generate and sustain dynamic small-scale agricultural production and marketing systems."

Where does DS/AGR fit into this overall framework?

DS/AGR's primary functions are to generate and facilitate the exchange of improved methodologies, information, knowledge, science and technology (See the attached "Decision Tree"). Its major responsibility is to provide technical, scientific, methodological and informational support to Missions (hereafter referred to as USAIDs) and to the LDC national institutions that interface with small producers in response to perceived needs. Secondly, DS/AGR also explores new ideas and technologies which could form the basis of future development activities. In budgetary terms, this latter function is a relatively small proportion of the total. However, this has always been a legitimate and important Central Bureau function and will be maintained.

Within AID, human and institutional resource development is largely the responsibility of our field Missions. Therefore, DS/AGR must define its role clearly. DS/AGR cannot work at the "retail" level, that is, directly with the millions of small farmers it hopes will ultimately benefit. This office must deal with, and work through, Regional Bureaus, individual USAIDs and LDC institutions. This reality conditions the manner in which DS/AGR must structure its own activities and program priorities.

What DS/AGR can and must do is to work at the "wholesale" level, first, to develop more effective agricultural methods, techniques and production systems for problems that cut across national boundaries. Second, DS/AGR should help to expand the LDC and international networks through which this constant flow of information can be transmitted to the intended beneficiaries throughout the developing world.

For example, DS/AGR can develop improved production recommendations. These, when tested locally and transmitted through local extension services, can enable larger numbers of small farmers in remote areas to use their own natural, human and financial resources more efficiently and more profitably for the production of food and cash crops. By the same token, the development of climatological and soil analogs and their incorporation into transfer systems will enhance the development of more broadly acceptable extension methods. These, in turn, will enable research results obtained in one country to become available for use by large numbers of producers in other countries where similar conditions prevail.

The institutional need of greatest relevance to DS/AGR is the "ability to provide what the client needs"--either from on-shelf technology by calling upon the international network for help, or through innovative efforts of our own. The most frequent needs are for substantive research and technical assistance in DS/AGR's particular program areas. Other needs are managerial and administrative--matters to which DS/AGR gives relatively little attention, but which remain of major concern to USAIDs. The strategy presented here emphasizes substantive needs, but corrects to a certain extent the previous neglect of the other areas.

DS/AGR discharges its responsibilities through four major mechanisms:

1. It funds the U.S. share of the International Agriculture Centers and monitors their programs. At least 75% of the cost of these centers comes from non-AID sources;

2. It maintains, develops and monitors centrally funded research and technical services development contracts and grants;

3. It supports collaborative research grants. These fall largely within the Collaborative Research Support Programs (CRSPs), in which the Title XII Institutions, comprising primarily U.S. land-grant colleges and universities, contribute at least 25% of total costs. These CRSP programs focus on research for easing or eliminating major constraints in LDC rural development systems;

4. It utilizes both contracts and cooperative agreements to maintain centers of technical competence to serve AID's Regional Bureaus and USAIDs. These represent an array of expertise for undertaking high priority tasks which is unavailable in the LDCs and most economically provided by this office.

#### THE ONGOING RESEARCH AND TECHNICAL ASSISTANCE PROGRAM

The Office of Agriculture has one of the largest and most extensive research and development programs in the Agency. The oldest project, begun under the Technical Assistance Bureau (plant and seed materials) dates back to 1955. Projects have continued to be added, modified or deleted in response to changes in Agency policy and LDC needs or when they attained their intended goals.

At the present time this office provides 25% of the total donor contribution to the 13 International Research Centers through the Consultative Group on International Agricultural Research (CGIAR) in support of research programs. In addition we contribute to the International Fertilizer Development Center (IFDC) and the International Center for Living Aquatic Resources Management (ICLARM). In FY 1981 there are also three Collaborative Research Support Projects and 26 other research projects being carried out through over 30 universities, the USDA and USDI. In FY 1981

field research financed by DS/AGR was conducted in over 35 countries involving field studies by over 400 U.S. scientists and more than 1,500 LDC research collaborators.

Through this "system", research is being carried out on specific problems affecting most of the major food commodities consumed in the developing world--rice, wheat, corn, sorghum, pulses, potatoes, cassava, barley and millet. This research program also studies weed problems, storage of grain, fruits and vegetables, control of rats and birds that destroy large quantities of food, insect and disease problems and, in addition, conducts forage and fodder analysis of feedstuffs for ruminant and other animals grown by small producers. Too, in FY 1981, research is being carried out on alternative agricultural policy options; the economics, design and management of irrigation and water systems; soils; biological nitrogen fixation; and tissue culture.

As USAIDs have reduced their own technical staff during the past ten years, they and developing countries have increasingly called on DS/Agriculture to supply the senior technical expertise needed to solve problems in program design, implementation and evaluation. DS/AGR, consequently, has some 22 technical assistance projects with U.S. universities, USDA, NOAA and TVA to provide these technical services. In addition, our direct hire senior staff spends considerable time with the Regional Bureaus and field Missions providing the professional input required for new and adaptive projects needed to improve national institutions that serve the small farmer. Because our staff and consultants work worldwide, we are frequently the only technical memory of the Agency, spanning all AID-assisted field regions. Consequently, our staff and technical assistance projects provide the inter-bureau and inter-hemispheric linkage between research and field experience in most of the agricultural disciplines used by the Agency.

In FY 1981, technical assistance was provided by our direct hire and consultant staff for project design on many different grants including grains; pulses, livestock; pest management; soils; irrigation; fresh water and marine fisheries; agroindustry; seed industry; plant and seed materials required for research; pre- and post-harvest loss prevention; erosion and water control, and similar projects being designed and financed through USAIDs. From May 1980 to April 1981, 10,386 days of technical expertise were provided to USAIDs and LDCs for project design and development, evaluation and the solution of specific technical problems. Of this, 1,752 days were provided by staff assigned to DS/AGR and 8,634 days were provided by DS/AGR through its arrangements with other U.S. agencies and institutions. This includes 6,348 days on site in LDCs and 4,038 days to USAIDs and Bureaus through work carried out in the USA. The largest user of DS/AGR's technical expertise in this past year was the Latin American Bureau (3,900 days), followed by Asia (2,960 days), Africa (2,796) and the Near East Bureau (728).

Training, in addition to technical assistance, is a major element of our program. Short courses in commodity research methods, integrated pest and pesticides management, crop nutrient utilization, aquaculture, commercial seed, post harvest food loss prevention, biological nitrogen fixation, and soil management have been and will continue to be held in LDCs as well as in the U.S. In addition, workshops to coordinate programs operating in various countries in different parts of the world are held annually to improve the technical quality and effectiveness of national, regional and DS/AGR projects. Still another dimension of these programs is on-the-job training for LDC technicians which frequently occurs when our technicians work with Bureau and USAID agriculturists, anthropologists and others in project design and implementation or while conducting DS/AGR research. These training programs are vital and will continue.

The ways in which science and technology can contribute to problem solving at the small farm level must be continually recognized and, at the same time, strengthened. National institutions--research, extension, credit, marketing and agroindustry--all play important roles in this effort. DS/AGR's own program can, in turn, help these institutions, through and collaborating with USAIDs, to perform their own roles more effectively.

Because of the breadth, quality and depth of our ongoing R & D program, we do not plan to undertake many new lines of commodity or disciplinary research or technical assistance in FY 1983. At this stage, we are more concerned with bringing about better integration, as well as strengthening the linkages and feedback of existing assistance at the national and international levels. The Agency must start where the farmer is, if it is to help meet the awesome challenge facing the rural sectors in most LDCs. Much is already known and available to be put into practice today. DS/Agriculture must provide leadership, strategy, scientific and technical excellence to this process.

#### LONG RANGE STRATEGY

In designing a strategy that would best enable this office to meet its responsibilities--that is, to provide timely and relevant technical support, while simultaneously keeping on top of developments with potential merit for future USAID or LDC undertakings--DS/AGR is formulating its research and technical assistance approach in accordance with three principal guidelines:

- I. Maintain a strong dual emphasis on agricultural production and income generation, including farm cash income as well as off-farm employment, through quality research and technical assistance.
- II. Integrate and Coordinate Program Activities and Information Dissemination.
- III. Improve the integration of DS/AGR research and technical assistance efforts at worldwide, regional and country levels.

Each of these guidelines will be discussed below. In the aggregate, this long-range strategy will be increasingly targeted on large numbers of people in the rural sector. Where feasible, additional adjustments in strategy will be made before FY 1983 in collaboration with Regional Bureaus and USAIDs in order to further increase program relevance to field problems, to reflect continuing dynamic changes in the world situation, to enhance small farm utilization of research and technical results, and to make the use of U.S. human and financial resources more relevant and effective in the LDCs.

Both the strategic emphases and new program activities described below are consistent with (indeed, are partly in response to) Mission interests as presented in their FY 1983 CDSS submissions.

I. Maintain a Strong Dual Emphasis on Agricultural Production and Income Generation

Both the on-going research and technical assistance programs and the new activities to be initiated in FY 1982 and FY 1983 are based upon our concern for simultaneously raising agricultural output and rural incomes. This central focus will be further strengthened in view of the urgent needs to intensify production as new lands become more scarce, to expand domestic markets in order to increase production incentives, and to create employment opportunities so that the malnourished rural poor can participate in the market.

Most of the DS/AGR program is currently in the field of food production, natural resource management, agroindustry and policy planning. As previously mentioned, production-wise we currently finance research and development projects on most of the important cereal, livestock, fish and other basic foodstuffs used in the developing world. This critical work will be continued.

Work will be increased in:

A. Irrigation - in order to rapidly enhance the productivity of existing farmlands, and reduce the risk for the small farmer, we are doubling our technical capacity to provide support to USAIDs and LDCs in the area of water management. In addition, a new project to evaluate the economics, design and operation of small irrigation systems (FY 1983-\$600,000) will be initiated in order to improve our ability to help LDCs through Regional Bureaus and USAID Missions design and manage growing numbers of these systems.

B. Rainfed agriculture - because almost three-fourths of LDC farmers grow crops almost exclusively under rainfed conditions using empirical techniques, we are expanding our technical expertise in rainfed agriculture and in water management for assisting the LDCs, through USAIDs.

C. Crop Production - to meet the increasing demands for technical and scientific assistance, we are expanding our resource base by drawing on the vast expertise of the USDA in cereal grains and grain legumes. Cereal grains provide the most important source of human food and supply, about three-fourths of human energy needs and half of protein needs. Grain legumes are sorely needed as sources of food protein to balance human diets and also are important sources of nitrogen in the cropping systems.

New work will be initiated in:

A. Integrated crop farming systems and combined cropping-livestock systems (FY 1983-\$2,400,000). The integrated crop farming systems and combined cropping-livestock systems research will develop methods for incorporating commodity and discipline research conducted in LDCs, IARCs and DS/AGR projects into improved sequential and poly-systems for use by small producers. Through applied research this program will evolve more effective methods of using small farm resources, raising incomes and reducing producer risk.

In most rural settings, small farm agriculture cannot be limited exclusively to the small-scale monoculture of basic food crops (rice excepted). Generally, the production of basic food crops, especially basic grains, simply cannot generate adequate profits or sufficient employment opportunities to meet the needs of small scale producers and rural laborers. Consequently, our new crop research work on farming systems will also, where possible, explore various approaches that have the potential to dramatically boost farm output and income.

In order to move toward higher value, mixed-production systems for small farms, in which the residues from food crops can be used as feedstock for animals. This initiative, in addition to the integrated crop production research, will feed into the FY 1982 technical assistance project in farming systems. It will also strengthen the U.S. technical capacity to work in mixed, sequential and polycultural systems on small farms in LDCs. Products--both research recommendations and methodologies--will be available to strengthen USAID funded national programs.

B. Agriculture Research and Information Systems (FY 1983-\$1.4 million): An activity strongly requested by Regional Bureaus will develop integrated approaches for the collection, storage and processing of high quality and timely agricultural information for various end users. Systems developing both baselines and dynamic production marketing, quality of life and other relevant data will be accented. A special element of this process will be methods for handling research data and the production of recommendations for field verification and transfer to extension agents. Training and technical assistance in modernizing national systems in support of USAID activities will be stressed.

C. Selected Problems of Agricultural Economics: Before significant improvements can be made in the quality of rural life, both AID and LDC policy makers need a better understanding of the complex relationships among food needs, agricultural production, technology, income, food consumption, private investments, and public policies. Consequently, our new research activities for FY 1983, will focus on: (1) The economics of food security (FY 1983-\$500,000), the development of food security strategies, and ways of improving post-harvest food conservation; and (2) The economics of alternate approaches to research (FY 1983-\$680,000) in order to better understand the linkages, costs and benefits of alternate types of institutional organization and approaches that can have more impact on the small producer. The use of research results by small farmers will be emphasized.

D. Employment Generation: DS/AGR supports AID's objectives of increasing agricultural production and generating employment by utilizing the private sector, and focuses on small-scale agribusiness enterprises located in the rural areas. Two new projects will be initiated in FY 1982: the Center for Intermediary Services (CIS), and International Small Business Investment Companies (ISBIC). CIS will transfer technology and managerial expertise from the U.S. private sector to LDC small and medium-sized agroindustry enterprises. ISBIC will assist in setting up several international small business investment companies for the purpose of facilitating the flow of private capital and managerial expertise to small and medium enterprises in the LDCs.

## II. Integrate and Coordinate Program Activities and Information Dissemination

Historically, DS/AGR projects have encompassed a wide variety of important, diverse and often fairly localized problems. The range of local needs, all pressing and all falling within AID's broad geographic scope, make this approach understandable and tempting. However, in light of the increasingly limited funding and staff resources of DS/AGR and the Agency as a whole, a sharpening of relevance and a stronger concentration in high priority areas are clearly necessary. Consequently, we are, for FY 1983, endeavoring to restrict DS/AGR programs, both conceptually and operationally, to concentrate on those activities with the highest potential returns for the largest numbers of people in rural areas.

To enable DS/AGR personnel and projects to achieve a greater cumulative impact, we are making major efforts on two fronts:

A. Establishing and/or Upgrading Agricultural Information Systems

The existing AID research system--consisting of Mission support to LDC research institutions, the international agricultural research centers, central contract research, the CRSP network, and AID's science advisors--represents a loosely interlocked information network through which, ideally, each can benefit by gaining access to the world's store of science, technology and experience. If this research system is to attain its maximum possible impact,--in rural villages, households and fields--constant care is needed both to strengthen linkages among the institutions involved, and to assure that institutional development does not become an end in itself but in fact results in increased production and rural income.

With these considerations in mind, we are undertaking a major new Agricultural Research and Information project (FY 1983-\$1.4 million). This project will develop methods to integrate the best systems now available for collecting, processing, recording, storing and packaging farm, consumer, research, baseline and other essential information for the major end-users, and to assist LDC national networks to improve their effectiveness. On the basis of these techniques, we hope to develop many more--and more useful--recommendations to improve agricultural production. More effective mobilization of on-shelf technology for on-farm use will go hand in hand with training programs to enable national technicians to continue the process on their own.

Still further, the data to be collected on production, employment, income, marketing, land use and environmental issues will enable sounder decision-making on many additional issues by a wide range of people (national planners, researchers, extension agents, and other international donors, for example, as well as farmers). Today many hundreds of millions of dollars are spent annually by LDC governments based upon improper decisions resulting from poor quality or inappropriate data. This Agricultural Research and Information project should greatly improve the quality, timeliness and scope of data on which national policies are made within the LDCs.

This project also has tremendous implications for the Agency's own activities. It will permit AID to improve the allocation of its own funds to help resolve bottlenecks in LDC production and consumption systems. As USAIDs better determine their needs, it will allow them to more effectively target U.S. assistance. Finally this project should significantly enhance DS/AGR's ability to provide systematic support to the rest of the Agency, including the Missions and the Regional Bureaus, in their own efforts to improve national agricultural institutions and to capture the positive and negative experience of LDC institutions and USAIDs worldwide.

B. Strengthening DS/AGR's Program Focus

We cannot do everything, in conceptual terms. We cannot be everywhere, in operational terms! First, the number of countries in which DS/AGR will conduct research will be gradually reduced, and new projects will, increasingly, be concentrated in fewer countries on a smaller number of critical problems. Moreover, because institution-building is fundamentally a national endeavor, we will insist that new central research and technical assistance problem solving activities continue and, where possible, increasingly complement on-going USAID programs.

Second, we will direct our efforts toward assisting particular types of institutions, specifically, those that are engaged in various facets of food production, income generation and job creation. (a) Within this thrust, priority will be given to working with those institutions, public and private, which comprise the technology systems, i.e., research, extension and agroindustry. Simultaneously, we will collaborate, as feasible, with those national planning and policy agencies which are being assisted by USAIDs. (b) Also essential in addressing the needs of small farm commercial agriculture are those institutional sets which promote the development of non-farm enterprises related to agriculture. In FY 1983 we plan to continue our efforts to help develop small and medium sized national and joint venture agroindustries which supply small producers and/or which purchase part of the small farmer's harvest as raw materials for processing. We also will be coordinating DS/AGR technology transfer efforts with commercial activities, as feasible, to assure mutually-reinforcing effects among the private sector's production of agricultural inputs (e.g., expanding private sector seed industries and the use of nitrogen fixing bacteria to reduce chemical fertilizer needs), and the development of new markets. (c) A third set of institutions critical to the food-income nexus are those dealing with sector analysis and policy formulation. I. FY 1983, in conjunction with DS/AGR's new research projects in agricultural economics, we will increase our linkages with those institutions involved in exploring the economic effects of alternative public policy options, the economics of food security, and other aspects of national planning which involve the rural sector.

Of necessity, this concentration of resources and program focus leaves several important areas less well-attended than we would like. Three such areas of special concern are:

1. Agricultural Diversification. We recognize that in order to expand fully the production base of the rural sector, large numbers of additional jobs must be created annually to match population growth. This goal cannot be fully realized by focusing on food production alone. In part, rural/urban migration, off-farm employment and agroforestry are answers. However, major impacts on the employment situation will also require increased attention to the production of non-food crops such as oilseed,

flavorings, latex, medicinals, plant-based pesticides, fruits and beverages. Many LDCs have significant comparative advantages for growing such products within their tropical, semi-temperate and low rainfall conditions. Many of these products can generate high levels of income and employment per area, and good world markets are available. In our farming systems work we will give some attention to some of these products, using on-shelf production methods wherever possible. However, this does not constitute as aggressive an initiative as we would like. Should additional funds and project design capacity become available, we feel further non-food tropical and semi-arid crop research is justified and could have major impacts on the rural sector of many developing countries.

2. Marine Fisheries. Without assured resources, we cannot adequately address this important area programmatically. The low cost, large potential quantity, high food quality, and acceptance of fish as human food by the rural poor makes this an unfortunate omission. We plan to increase somewhat our assistance to aquaculture, and may initiate work in coastal marine stock assessment in response to opportunities created by the 200-mile limit of national jurisdictions. However, to provide more significant technical assistance for increased marine fisheries harvesting and marketing, we would need at least two projects above the proposed level--one in the harvest of coastal marine products by large numbers of artisanal fishermen, and the second in the processing and marketing of fresh and preserved fish and mollusks from both fresh and coastal marine sources. However, given our in-house personnel and funding constraints, the lack of fisheries advisors posted in USAIDs and the worldwide scope of the problem, we can make no more than a modest effort in this field within proposed budget levels.

3. Natural Resources Management and Conservation. The degradation of resources (including the deforestation of hillsides, soil erosion, increasing groundwater runoff from watersheds, and salt buildup of coastal lands) constitutes a serious and growing problem in developing countries. Current recommendations are based largely on U.S. practices, many of which appear to be only partially effective under LDC soil, rainfall and groundcover conditions. Neglect of these problems may lead to irreversible damage or destruction of the production base in many LDCs--with potentially global consequences. Here, too, we simply do not have the financial or managerial capability to be as active as we would like.

### III. Improving the Integration of DS/AGR Research and Technical Assistance Activities

DS/AGR occupies a specific position in a complex worldwide agricultural development network. A significant component of that network is the ATD agricultural development system, including the Missions, their contractors, their institutional clients, the international agricultural research centers and DS/AGR contractors and grantees.

The FY 1983 DS/AGR strategy aims to improve the integration of activities of all participants involved, so that the network actually performs more as a system and develops the synergism one should expect of such a system. Initially, accomplishing this integration will involve more a style of operation than it will substance, although over time it will inevitably influence substance as well. DS/AGR is handicapped by being quite far removed from actual field operations. We are at one end of a long chain of intermediate players, and the farmer is at the other end. Thus, follow-through is difficult for many activities and requires continued special attention at various levels. If this office is to successfully shorten the effective distance between our projects and end-use operations, we will have to increase contact and collaboration both within AID/W and between AID/W and the field, in order to speed the rate at which research results are put to use.

Our activities in information management and farming systems, when added with the large numbers of ongoing projects, should help assure that the results of DS/AGR-funded activities will be integrated with available national and international technology, and be disseminated promptly and energetically. This aim will be further emphasized as we endeavor to promote greater coordination between CRSPs and other research and technical assistance funded by this office. We also will continue our dialogue with the CGIAR and the International Agricultural Research Centers, to more effectively integrate our respective contributions toward small producer food and income generation.

With the goal of bringing research results to the field as expeditiously and sensitively as possible, we will increase our overall attention to methods of forging closer links among researchers, extension workers and farmers. Working with the Regional Bureaus, USAIDs and LDC institutions themselves, we expect to expand DS/AGR leadership and increase our effectiveness in solving problems and transferring knowledge. DS/AGR is the only office in AID with the technical and operational capacity to transfer solutions effectively among bureaus and ultimately to Missions and LDCs.

DS/AGR's Washington-based activities primarily involve relationships with other DSB offices and with the Regional Bureaus. During FY 1983, this office plans to further strengthen our operational relationships with DSB's Offices of Nutrition, Health, Rural Development and Forestry, Education and Environment and Natural Resources. We are now carrying out the development of two projects--Rural Marketing Systems and Integrated Systems for Small Farmers--through joint office review, participation and implementation with DS/RAD. This permits us to jointly integrate technical, social and economic concerns in these two project areas, in a manner not previously possible. We plan in FY 1983 to set up joint office reviews of other elements of our portfolio.

Obviously, Mission needs are crucial from the standpoint of integrating research with technical assistance. Research can be disseminated through technical assistance, extension services, the private input sector and institutional networking only to the extent that this knowledge is (a) relevant to local needs; (b) can be implemented with the existing institutional or managerial resources that those officials and institutions command; and, (c) can be disaggregated for appropriate application in solving local constraints.

Consequently, in an effort to improve DS/AGR's operational relevance to important LDC rural sector problems, and as background for developing the FY 1983 DS/AGR portfolio, this office requested (through the TPCA\*) that the Regional Bureaus canvas the USAIDs. We requested that they evaluate and prioritize our ongoing programs and suggest new areas for future initiatives. As a result, a number of low priority activities are being terminated or phased down in both FY 1982 and FY 1983. In addition, several suggestions for new high priority activities were incorporated in this ABS. We plan to continue to work with the TPCA, Regional Bureaus and USAIDs to enhance the links between Washington and the field.

As Mission officials realize, at least as well as we, sustained efforts to strengthen local institutions, along with complementary training programs, have the most lasting impact on national agricultural development. We are concerned that our institution-building efforts enhance local capabilities to understand the changing rural environment, and to deal with its multiple problems in an integrated, synergistic way.

One additional issue deserves mention here. DS/AGR continues to fund a series of technical assistance activities dating back to 1965-1970, which continue to rank high on USAID priority lists. These activities include projects on seed industry development, seed and plant materials, pest management, improvement of post harvest grain systems, fertilizer technical assistance and weed control activities. Our continuation of these is cost-effective to the Agency and extremely important to continued strengthening of national institutions. Out of this office's budget, we have funded travel and per diem for up to 30 days for each USAID request, as well as core staff financing for these trips. We feel that these activities should remain centrally funded. We also now believe, however, that USAIDs should cover a greater proportion of travel costs in order to assure that the technical support we are providing is being most effectively used. We plan to continue core budget funding for these activities through our office

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\* Technical Program Committee for Agriculture comprises the senior Agricultural Officer from each Regional Bureau, PPC and BIFAD.

and will expect further USAID cooperation in assuming financial responsibility in these areas as they develop bilateral projects. In FY 1983, to the extent possible and consistent with good management practices, Missions will be requested to cover per diem and travel costs of DS/AGR funded scientists and experts. Where possible, we will also attempt to plan several technical assistance trips "back-to-back", to reduce overall travel costs.

#### Decision Package Narrative

The proposed FY 1983 budget levels for the Office of Agriculture for the Minimum, Current and Proposed Levels are \$62.0 million, \$78.25 million, and \$84.45 million, respectively.

##### A. Minimum Decision Package - \$62.0 Million

At this level, only the external commitments can be funded. The Presidential commitment to the IARCs and the IFDC will total \$46.5 million or 75% of the Minimum Level. In addition, CRSP programs for Sorghum/Millet, Beans and Cowpeas, and Small Ruminants will be funded at \$10.5 million or 17% of the Minimum Level, leaving only \$5.0 million for high priority technical assistance and research projects. At this level, many of our ongoing high priority projects designed to meet the needs of the Missions and LDCs would have to be terminated.

##### B. Current Decision Package - \$78.25 Million

At this level, 14 ongoing technical assistance and research projects will be incrementally funded (cost \$6.1 million), the Soils Management CRSP will be extended (cost \$2.3 million), eight technical assistance and research projects to be initiated in FY 1982 will be extended (cost \$6.2 million); and two new research projects in Impact of Food Policy on Food Supply (\$0.25 million), and Agricultural Research Information Systems (\$1.4 million) will be initiated. These projects will make it possible for AID to draw on the vast resources of the USDA and the university community to provide the assistance of scientists and experts to the Missions and LDCs. This increase in project activity will require increased portfolio management time in comparison with the Minimum Level.. It will result in a substantial increase in field support using collaborating institutions and scientists.

C. Proposed Decision Package - \$84.45 Million

At this level, ongoing projects totaling \$2.3 million could be incrementally funded, including all of the ongoing Fisheries and Aquaculture projects. While this is an extremely important area, very few Missions are sponsoring projects in fisheries and aquaculture. Thus, to be responsive to the needs of the majority of the Missions, we have been forced to place these projects at the Proposed Level.

If we receive the \$84.45 million, we will be able to initiate five new projects in FY 1983 and incrementally fund two new FY 1982 projects. The new FY 1983 projects in this decision package are in the important, but neglected, areas of Food Security, Economics of Alternative Approaches to Production Research, Peanut Research, Stock Assessment and Small Farm Water Management.

Out-year Mortgaging of the Program

The DS/AGR program and budget is based on several tentative assumptions regarding support levels for the International Research Centers and CRSPs.

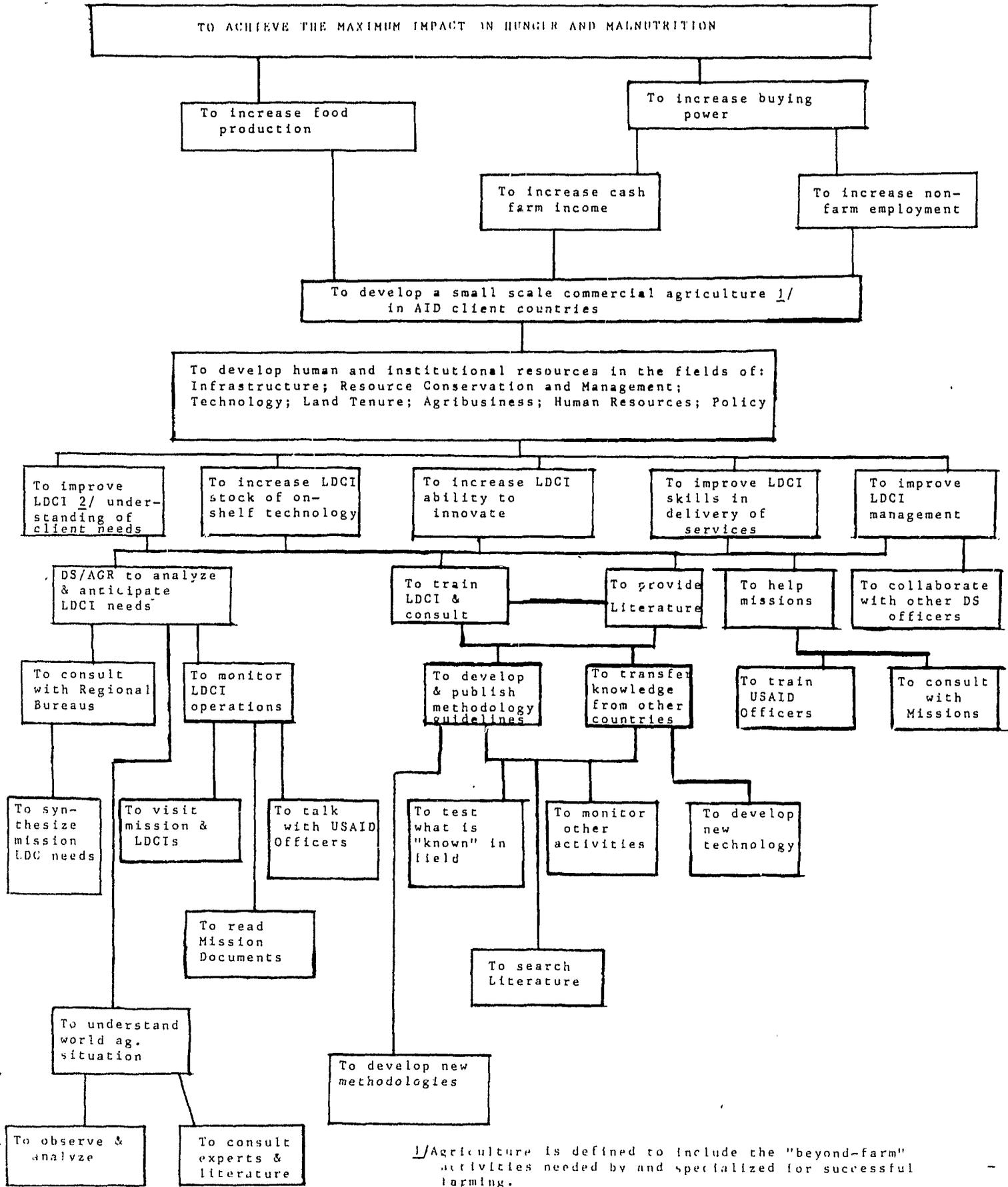
These figures are under intensive review as this budget is being prepared. The FY 1982 and forward-year financing levels for these two major elements of our budget are being completed and will soon be presented to the Administrator. His approval or revision of these levels will occur within the next two months. However, until these figures have been determined, DS/AGR's budget for FY 1983 cannot be completed.

As a tentative funding level we have projected FY 1983 funding for the International Centers at \$42.5 million. Options now being considered by the Administrator may raise this cost as high as \$51.0 million, due to inflation and further funding needs, to bring certain newer centers up to their full projected operating levels.

In March 1981, the Administrator established a level of \$11.0 million for the Collaborative Research Support Programs for FY 1982. The allocation of these funds has been under review by a joint AID/BIFAD group (Joint CRSP Work Group). This group is examining the three ongoing CRSPs (Small Ruminants, Beans and Cowpeas, and Sorghum and Millet), two new CRSPs that have been proposed (Nutrition and Soil Management), and other CRSPs that are presently in various stages of planning. Decisions on which CRSP projects will be funded in FY 1982, FY 1983 and beyond await the Administrator's final decision.

Decisions on each of these major budget items have significant implications for the rest of the DS/AGR research and technical assistance portfolio. Inflation alone could increase funding for the International Research Centers by as much as 10% annually. In the case of CRSPs, depending on the number and scope of the new CRSPs implemented in FY 1983 and beyond, the outfunding required could reach a maximum of \$23.5 million in FY 1983. In FY 1983 and beyond, the Agency could be committed to funding annual increases of as much as 20%.

In the most extreme case, these continuing commitments could eliminate most of DS/AGR's proposed decision package, creating an enormous loss of opportunity to address some of the LDCs' most urgent food and agricultural needs.



1/ Agriculture is defined to include the "beyond-farm" activities needed by and specialized for successful farming.

2/ LDCI - Less Developed Country Institution.

### A. T. International Strategy

The strategy adopted by A. T. International (ATI) is derived from Section 107 of the Foreign Assistance Act of 1961 as amended December 20, 1975 and from the subsequent proposal submitted to Congress. Section 107 required a Proposal from the Agency for International Development on how the Agency proposed to carry out "...activities in the field of intermediate technology, through grants in support of an expanded and coordinated private effort to promote the development and dissemination of technologies appropriate for developing countries."

The Proposal for a Program in Appropriate Technology submitted by the Agency to Congress June 30, 1976 recommended the establishment of an independent non-profit corporation to carry out a program in support of the over-all goal "...to assist developing countries strengthen their own capacities to develop, adapt, and utilize appropriate technologies." The proposal set forth a program that would "...focus on the small scale sector in LDCs - small farms and small and medium scale enterprises." The proposal made it clear that "The concentration on the small scale sector is not intended to be exclusive. In terms of jobs and improving income distribution, the program is also concerned with appropriate technical choice in larger enterprises and government public works as well as with exploiting subcontracting and other complementarities between the large and small scale sectors."

These broad goals and program guidelines were further refined in the present grant program description under terms that provide ATI with the greatest possible flexibility and independence while permitting the Agency to prudently manage the funds entrusted to it by Congress. The ATI program assumes that it is a significant part of a much larger Agency program in appropriate technology. As a result, ATI has chosen to concentrate in a few program areas and to adopt a relatively narrow range of methodologies.

#### MISSION STATEMENT

ATI promotes the development and dissemination of technologies appropriate for developing countries in order to increase the productivity of the poor within the context of locally sustainable socio-economic development. For this purpose, productivity is measured not only in economic terms, e.g. employment, income generation and worker productivity but is also viewed qualitatively in social terms, e.g. local participation, ownership, operational control, and in cultural terms, e.g. conformity to indigenous values and indigenously perceived quality of life. Within this broad context, ATI seeks to help generate the strategic understanding, the indigenous institutional infrastructure, the diffusion of technologies and the resources that are necessary and appropriate for the development of the poor in developing countries.

## APPROACH AND METHODS

As a development assistance organization whose mandate is focused on directly strengthening local institutional capacities to disseminate technologies, ATI concentrates its efforts and resources on reinforcing, expanding and, where necessary, helping to create delivery systems within developing countries which generate access to technology appropriate for improving the productivity of the poor. To do this, ATI interfaces with private sector organizations (PVOs, business enterprises, research institutes, etc.) and public agencies (local, national and international) in order to discern the constraints to technology access at the local level. It provides organizations with financial and technical assistance in order to strengthen their capacity to break these constraints, relying primarily on their initiative and their willingness to invest themselves and their resources in meeting the needs of local communities. In providing this assistance, ATI stresses collaborative working relationships which respect local aspirations and enable indigenous institutions to support a locally self-sustaining process of development. Throughout its operations, ATI seeks to learn what works and to document and promote that learning throughout the U.S. and the international development communities. ATI's project selection reflects this overall approach -- with respect to local initiative, local constraints to development, the generation of local delivery systems and documenting what works.

## STRATEGIC PLAN OUTLINE 1980-85

The following outline presents the highlights of a detailed five year Strategic Plan for ATI that contains a broad range of elements and implementing actions. The order of presentation is not presented chronologically or programatically.

### (I) Leveraging Development Alternatives

#### A. Documented Development Approaches

- I. Effective Development Strategies ATI intends to document some of the alternative paths to development based on specific experience, geography and local values. These strategies should illuminate, for instance, the broad social context of economic development, its people-intensive/community orientation, the relationship of bottom-up development to macro approaches, the origin and self-sustaining momentum of development and the nature of its impact on the increased productivity of the poor as seen from their economic social and cultural perspectives.

2. Integrated Development Infrastructure ATTI also intends to document the range of institutions, institutional linkages and organizational (and inter-organizational) dynamics which make up the infrastructure of effective local technology delivery systems as they are found in developing countries. ATTI will also document the institutional networks - national, regional and international -- which support these local delivery systems.
3. Technology Diffusion Schemes ATTI intends to document the various means by which specific proven technology is effectively disseminated and appropriated by the poor within their geography and social contexts.

B. Mobilized Development Support

1. Targeted Promotional Activities ATTI intends to promote its documentation of development approaches that work with a variety of public agencies and private organizations as a means to mobilize further support.
2. Brokered Follow-On Resources ATTI intends to seek out, so far as possible, from other agencies and organizations the additional resources necessary for institutions which are effective in technology delivery to continue along their reasonably anticipated growth path, especially where the needs of that institution go beyond ATTI's resources or fit closely the rationale of other financing or funding organizations.
3. Empowered Local Capability ATTI intends also to assist organizations with development approaches that work to become self-sustaining through the mobilization of local resources. This may be done through:
  - a. Project Expansion - which enables the local organization to achieve a profitable production volume or to generate income-producing services.
  - b. Local Funding Schemes - which channel local savings into operating capital.
  - c. Organizational Development - which enables the organization to operate on a sound basis.
  - d. Market Development - which assists the organization to establish a market position.

(II) Generating Concerted Support for Local Development

A. Institutionalized AT Delivery Capacity

1. Local Delivery Systems ATTI intends to support the development of a variety of institutional infrastructures at the local level which are able to deliver technology to the poor on a self-sustaining basis.
  2. Local Generated Enterprise ATTI intends to support the development of a variety of institutional frameworks that generate and sustain small/micro enterprise at the local level. This institutional framework will include:
    - a. Small/Micro Enterprise Centers
    - b. Venture Capital Companies
    - c. Management/Diagnostic Assistance
    - d. Marketing Services
  3. Resource Access Schemes ATTI intends to support the development of a variety of institutional frameworks which link latent local demand to the existing sources of alternative technology.
  4. Indigenous Technology Capacity ATTI intends to support the development of a variety of institutional infrastructures which provide local capacities to test and adapt technology.
- B. Expanded Resource Base
1. U.S. Government Support ATTI intends to broaden its base of support with U.S. Congress and with AID.
  2. Alternative Funding Sources ATTI intends to develop both public and private funds (for itself and for activities of others) from non-U.S. government sources,
  3. New Resource Mechanisms ATTI intends to examine and, where feasible and useful to its mission, establish or support the establishment of alternative means to develop resources for development. These mechanisms could take the form of:
    - a. ATTI Consulting Services
    - b. ATTI small/Micro Business Center
    - c. ATTI Investment Arm
    - d. Third World Funding Intermediaries

C. Coordinated Constituency Involvement

1. Private Sector Involvement ATI intends to enlist the private sector in all its forms, and especially the business community, to support and to participate in development activities, whether directly or through complementary business operations.
2. Improved Climate ATI intends to encourage the emergence of a climate of opinion among world leaders which favors local development.
3. ATI Outreach Services ATI intends to offer a number of services which both have value for and will initiate feedback from a wide variety of organizations with a working interest in development. These may take the form of:
  - a. ATI Newsletter
  - b. AT Inquiry Services
  - c. Organizational Capacity Registry
  - d. Resource Brokering

The Implementation of the Strategic Plan will require organizational and program refinements. ATI has begun this process by establishing a Small Enterprise Group and is studying the formation of two subsidiary corporations, AT Services, Inc. and AT Investment Funding, Ltd. to broaden their resource base and to permit them to provide services and financing to commercial entities. The program refinements will include a larger emphasis on assisting commercial organizations who use the free market and profit mechanisms to attain the ability to be self-sustaining and to expand.

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Roger Moeller

TITLE A. T. International (ATI)			FUNDS Agriculture, Rural Development and Nutrition and Selected Development Activities		PROPOSED OBLIGATION (In thousands of dollars) FY 83 4,500		LIFE OF PROJECT 45,000	
NUMBER 931 1071	NEW <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 1981, Annex V Centrally Funded Programs p. 210		INITIAL OBLIGATION FY 78/Continuing	ESTIMATED FINAL OBLIGATION FY Continuing	ESTIMATED COMPLETION DATE OF PROJECT FY Continuing	

**Purpose:** To assist poor people of developing countries improve their ability to chose among alternate technologies and to make better use of local resources.

**Background and Progress to Date:** This project provided funding to A. T. International to develop, adapt, and disseminate appropriate technologies as well as to support indigenous LDC organizations in these efforts. A. T. International (ATI) was organized in December 1976 and was funded in June 1977 with a grant of \$1,000,000 to organize, staff, and start their program. Under the first grant, ATI financed a small program with Volunteers in Technical Assistance (VITA) to train local people in the techniques and methods of disseminating appropriate technology. ATI also negotiated subgrants for a small-scale cement plant project in India, a small-enterprise financial service fund in northeast Brazil, and a Haitian appropriate technology development project.

A second grant for three years was made on August 31, 1978, with initial funding of \$5,000,000. ATI implements its program principally through subgrants to local development organizations in the LDCs. During the first year of the new grant, ATI increased its portfolio to 50 subgrants and expanded the list of host countries to 14, including Colombia, the Dominican Republic, Papua/New Guinea, the Solomon Islands, and Tanzania. Assistance was provided, for example in demonstrations of micro-hydro power (Lesotho, Solomon Islands) and the use of a simple, efficient wood-burning kitchen stove (Honduras, Guatemala). A review of ATI's current status and operations was completed and issued in report form during July 1979. The report made a number of constructive recommendations dealing with present and future operations, including recommending that A.I.D. obligate FY 1979 funds.

**Host Country and Other Donors:** ATI subgrants have attracted about one dollar from other sources for each dollar of direct financial assistance provided by ATI. These added resources are supplied from private, host country government, foundation, private voluntary organization, and international financial sources.

**Beneficiaries:** The beneficiaries will be the poor in developing countries whose basic human needs are met through the appropriate use of capital-saving technology to generate income and employment. LDC

appropriate technology organizations also benefit from demonstration projects and advisory services.

**FY 83 Program:** In FY 1983, the rate of ATI commitments will be reduced. The number of active subgrant projects will be 150-160. It is expected that Africa and Asia will receive increasing emphasis.

<u>Major Outputs (and A.I.D. Unit Cost)</u>	(\$ thousands)	
	All Years	(cost)

Subgrants (including technical assistance and administrative costs, in 35-45 developing countries)	180	(125.0)
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<u>A.I.D. Financed Inputs:</u>	FY 81
Subgrants to local development organizations	2,700
Administrative costs and technical assistance	1,800
TOTAL	4,500

<u>Functional Accounts:</u>	
Agriculture, Rural Development and Nutrition	4,500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	15,600	11,840	3,560	6/1/77 to 11/30/81	A. T. International
Estimated Fiscal Year 1981	4,125	7,200			
Estimated through September 30, 1981	19,725	19,040	685		
Proposed FY 1982	4,500	4,500		12/1/81 to 11/30/82	
Estimated through Fiscal Year 1982	24,225	23,540	685	12/1/82 to 11/30/83	
Proposed FY 83	4,500	Future Year Obligations	Estimated Total Cost		
		continuing	continuing		

TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION ACCOUNT  
 FY 1981 TO FY 1983 (\$ THOUSANDS)

OFFICE: USAID

APPROPRIATION ACCOUNT - FA

PROJECT#	PROJECT TITLE	FY 1981 OYB-REVISED	FY 1982 REVISED	FY-83 MINIMUM	FY-83 CURRENT	FY-83 PROPOSED
931-0030.	STERILITY METHOD FOR TSETSE FLY CONTROL	\$250	\$0	\$0	\$0	\$0
931-0050.	IMPROVED FEED NUTRITION INFORMATION	\$90	\$180	\$0	\$0	\$0
931-0054.	INT'L FERTILIZER DEVELOPMENT CTR - CG	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
931-0060.03	AGR SECTOR PLANNING AND SUPPORT - EPP	\$686	\$485	\$700	\$700	\$700
931-0095.	WORLD RHIZOBIUM COLLECTION CENTER	\$150	\$0	\$0	\$150	\$150
931-0203.	SEED PROGRAM AND INDUSTRY DEVELOPMENT	\$0	\$300	\$0	\$360	\$360
931-0236.00	EXPANDED PROGRAM FOR ECONOMIC ANALYSIS	\$150	\$0	\$0	\$0	\$0
931-0236.05	PROGRESS INDICATORS - EL SALVADOR	\$200	\$200	\$0	\$0	\$0
931-0236.07	L.A. PLANNING NETWORK	\$200	\$0	\$0	\$0	\$0
931-0236.19	PLNG ASST: WATER RESOURCES ECONOMICS	\$0	\$250	\$0	\$250	\$250
931-0242.	NOAA ADVISORY SERVICE	\$250	\$200	\$0	\$0	\$400
931-0473.	CONTROL OF VERTEBRATE PESTS	\$345	\$0	\$0	\$0	\$0
931-0525.	AGRO-ECON RESEARCH ON TROPICAL SOILS	\$400	\$0	\$0	\$0	\$0
931-0560.	DEV OF IMP VARIETIES OF SOYBEANS	\$825	\$800	\$0	\$800	\$800
931-0582.	SOIL FAMILIES - HAWAII	\$857	\$500	\$0	\$650	\$650
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	\$250	\$400	\$0	\$0	\$0
931-0610.	N-FIXATION LIMITING FACTORS	\$400	\$650	\$0	\$500	\$500
931-0613.	N-FIXATION - SYMBIOTIC	\$700	\$950	\$0	\$900	\$900
931-0614.	PEST MGT - ROOTKNOT NEMATODE	\$600	\$600	\$0	\$0	\$500
931-0621.	SPRING WINTER WHEAT	\$497	\$0	\$0	\$0	\$0
931-0786.	IMPROVEMENT OF POSTHARVEST GRAIN SYSTEMS	\$750	\$520	\$600	\$600	\$600
931-0829.	PLANT AND SEED MATERIALS	\$150	\$150	\$0	\$175	\$175
931-0832.	FERTILIZER TECHNICAL ASSISTANCE (TVA)	\$175	\$150	\$0	\$200	\$200

TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION ACCOUNT  
FY 1981 TO FY 1983 (\$ THOUSANDS)

OFFICE: IS/AGR

931-0930.	PEST MGT - RELATED ENV. PROTECTION	\$1,086	\$825	\$1,450 <u>b/</u>	\$1,450	\$1,450
931-1004.	N-FIXATION NON SYMBIOTIC ASSOCIATIVE	\$0	\$150	\$0	\$300	\$300
931-1005.	DETERMINANTS OF IRRIGATION PROBLEMS	\$90	\$0	\$0	\$0	\$0
931-1007.	SYNTHESIS OF WATER MANAGEMENT	\$0	\$0	\$400	\$400	\$400
931-1026.	AGRICULTURAL MECHANIZATION	\$264	\$0	\$0	\$0	\$0
931-1050.	ICLARM - FISHERIES DEVELOPMENT - CG	\$300	\$0	\$0	\$0	\$320
931-1121.	SEED: COMMERCIAL SEED INDUSTRY	\$120	\$100	\$0	\$120	\$120
931-1149.	LIVESTOCK PRODUCTION CAPABILITY	\$200	\$200	\$0	\$200	\$200
931-1181.	AFLATOXIN REDUCTION IN MAIZE	\$0	\$0	\$0	\$0	\$200
931-1229.	SOILS MANAGEMENT SUPPORT SERVICES	\$820	\$550	\$0	\$1,000	\$1,000
931-1254.	CRSP - PROGRAM SORGHUM/MILLET	\$1,858	\$3,500	\$3,500 <u>c/</u>	\$3,500	\$3,500
931-1310.	CRSP - PROGRAM BEANS AND COMPEAS	\$2,000	\$2,500	\$3,600 <u>c/</u>	\$3,600	\$3,600
931-1311.	CRSP - PROG: SOIL MANAGEMENT	\$750	\$1,900	\$0	\$2,300 <u>c/</u>	\$2,300
931-1314.	AQUACULTURE TECHNOLOGY DEVELOPMENT	\$320	\$360	\$0	\$0	\$360
931-1318.	CONTROL OF BARKLEY DISEASES FOR LDCS	\$97	\$340	\$0	\$0	\$290
931-1322.	FARM LVL POSTHARVEST GRAIN STORAGE LOSS	\$0	\$150	\$0	\$400	\$400
931-1323.	STORAGE/PROCESSING OF FRUITS/VEGETABLES	\$250	\$250	\$0	\$450	\$450
931-1328.	CRSP-PROG: SMALL RUMINANTS	\$650	\$3,100	\$3,400 <u>c/</u>	\$3,400	\$3,400
931-1398.	SEED: AGRIBUSINESS DEVLPMT AND SUPPORT	\$160	\$200	\$225	\$225	\$225
936-4021.*	DRYLAND AGRICULTURE SUPPORT SERVICE	\$500	\$400	\$510	\$510	\$510
936-4023.	POND DYNAMICS RESEARCH	\$0	\$400	\$0	\$0	\$500 <u>c/</u>
936-4024.	FISHERY DEVELOPMENT SUPPORT SERVICES	\$0	\$270	\$0	\$0	\$300
936-4026.	FISHERIES STOCK ASSESSMENT RESEARCH	\$0	\$0	\$0	\$0	\$500 <u>c/</u>
936-4048.	PEANUTS RESEARCH	\$0	\$0	\$0	\$0	\$800 <u>c/</u>
936-4049.	INTEGRATED PEST PROTECTION RESEARCH	\$50	\$0	\$0	\$0	\$0
936-4050.	TROPICAL LEGUMES INOCULANT SERVICE	\$0	\$150	\$0	\$150	\$150

TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION ACCOUNT  
FY 1981 TO FY 1983 (\$ THOUSANDS)

OFFICE: D/S/AGR

936-4053.	SEEU: INTERMEDIARY AGRIBUSINESS	\$0	\$400	\$0	\$500	\$500
936-4054.	AGRICULTURE RES TRANSFER METHODOLOGIES	\$0	\$400	\$0	\$1,300 <u>f/</u>	\$1,300
936-4055.	TISSUE CULTURES FOR FOOD PROD.	\$0	\$0	\$0	\$0	\$250
936-4071.	PEST MANAGEMENT CAPABILITY (R55A)	\$95	\$125	\$165	\$165	\$165
936-4078.	SEEU: INT'L SMALL BUSINESS CORP	\$0	\$400	\$0	\$500	\$500
936-4083.	IMMUNOLOGY OF TICKS	\$0	\$200	\$0	\$300	\$300
936-4084.C1	AGRICULTURAL POLICY ANALYSIS	\$0	\$600	\$450	\$450	\$450
936-4099.C1	INTEGRATED SYSTEMS FOR SMALL FARMERS	\$0	\$400	\$0	\$2,400 <u>d/</u>	\$2,400
936-4109.	CROP PRODUCTION TECHNICAL ASSISTANCE	\$350	\$500	\$500	\$500	\$500
936-4111.	INT'L AGR RESEARCH CENTERS	\$35,000	\$42,500	\$42,500 <u>a/</u>	\$42,500	\$42,500
936-4115.	ECON OF ALTERNATIVE APPR TO PROD RES	\$0	\$0	\$0	\$0	\$680
936-4116.	AGR RESEARCH AND INFORMATION SYSTEMS	\$0	\$0	\$0	\$1,400 <u>e/</u>	\$1,400
936-4117.	ECONOMICS OF FOOD SECURITIES - RES	\$0	\$0	\$0	\$0	\$500
936-4120.	POSTHARVEST RODENT AND BIRD CONTROL	\$0	\$400	\$0	\$695	\$695
936-4121.	SMALL FARM WATER MGT SYSTEMS	\$0	\$0	\$0	\$0	\$600
936-4125.	IMPACT-AGR POLICIES ON FOOD SUPPLY	\$0	\$250	\$0	\$250	\$250
TOTALS FOR FN		\$57,685	\$71,855	\$62,000	\$78,250	\$84,450

\* \* OFFICE TOTAL: \$57,685 \$71,855 \$62,000 \$78,250 \$84,450

a/ Estimated U.S. contribution. The final decision will be made by the Administrator after the due date of this ABS submission. The levels will be adjusted, as required after the Administrator's final decision is made.

b/ Includes \$450,000 for Research and Development activities in the area of weed control.

c/ Estimated levels of programs originally proposed as Collaborative Research Support Programs. Final decision on the level for each CRSP will be dependent on the Administrator's approval of the analysis currently being prepared to establish FY 1982 levels.

d/ Includes \$700,000 for Farming Systems for Small Farmers (initiated in FY 1982 at \$400,000); \$800,000 for Integrated Crop Production Research; and \$900,000 for Mixed Farm Livestock Systems to be initiated in FY 1983 as a supportive research activity.

e/ Includes \$400,000 for Research Results Packaging for Small Farmers.

f/ Includes \$800,000 for International Benchmark Soils and \$0.5 million for Analogue .

AID PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

021 - OFFICE OF AGRICULTURE

BUDGET FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG	DATE	TOTAL COST		ESTIMATED U.S. DOLLAR COST (\$000)										FY ITEM NO	
			ACTUAL	PLAN	FY 80 PIPE- LINE	FY 1981 OBLIG- ATIONS	FY 1981 EXPEND- ITURES	FY 1982 OBLIG- ATIONS	FY 1982 EXPEND- ITURES	FY 83 AAPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG		
AGRICULTURE, RURAL DEV. AND NUTRITION																
9310030																
9310030																
9310050																
9310054																
9310056																
9310060																
9310069																
9310075																
9310095																
9310127																

05/29/81

AID PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

05/29/81

021 - OFF. OF AGRICULTURE

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER	AND TITLE	OBLIG		TOTAL COST		ESTIMATED U.S. DOLLAR COST (\$000)										ITEM NO		
		DATE	FIN	AMT	PLAN	FY 80 PIPE- LINE	FY 1981		FY 1982		FY 83 APPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG		FUT OBLIG	
9310128	TROPICAL SOILS - PUERTO RICO	G	76 80	1140	1140	154	---	130	---	24	---	---	---	---	---	---	---	364
9310129	TROPICAL SOILS - HAWAII	G	76 80	1375	1375	215	---	185	---	30	---	---	---	---	---	---	---	363
9310130	TROPICAL SOILS - NCSU	G	76 80	911	911	153	---	140	---	13	---	---	---	---	---	---	---	362
9310203	SEED PROGRAM AND INDUSTRY DEVELOPMENT	G	58 87	3545	4944	455	---	221	300	270	360	360	360	360	360	---	---	361
9310206	WEED CONTROL UTILIZATION	G	76 80	2398	2648	784	---	419	---	365	---	---	---	---	---	---	---	360
9310236	EXPANDED PROGRAM OF ECONOMIC ANALYSIS	G	76 82	7225	7601	43	550	430	450	313	250	280	279	---	---	---	---	359
9310242	NOAA ADVISORY SERVICES	G	76 87	1341	3541	194	250	275	200	250	400	400	400	400	400	---	---	358
9310309	INT INST FOR TROPICAL AG (IITA)	G	67 C	29680	---	938	4700	---	---	---	---	---	---	---	---	---	---	357
9310310	INT LAB FOR RES ON ANIMAL DISEASES-ILRAD	G	74 C	17202	---	713	3100	---	---	---	---	---	---	---	---	---	---	356

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AID PROGRAM IN FY 1983  
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021 - OFC. OF AGRICULTURE

TABLE IV - PROJECT BUDGET DATA

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG		TOTAL COST		FY 80		FY 1981		FY 1982		ESTIMATED U.S. DOLLAR COST (\$000)					FUT YR ITEM NO			
	DATE	INIT FIN	AUTH	PLAN	PIPE- LINE	OBLIG- ATIONS	EXPEND- ITURES	OBLIG- ATIONS	EXPEND- ITURES	OBLIG- ATIONS	EXPEND- ITURES	FY 83 AAPI	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG		FY 87 OBLIG		
9310311																			
INT LIVESTOCK CTR FOR AFRICA (ILCA)																			
	G	74 C	14990	---	562	2400	---	---	---	---	---	---	---	---	---	---	---	---	355
9310463																			
WATER CONTROL SYSTEMS IN THE DEV CTRYS																			
	G	66 81	4289	4539	446	---	300	---	146	---	---	---	---	---	---	---	---	---	354
9310473																			
CONTROL OF VERTEBRATE PESTS																			
	G	67 80	6761	10106	675	345	676	---	350	---	---	---	---	---	---	---	---	---	353
9310525																			
AGRO-ECON RESEARCH ON TROPICAL SOILS																			
	G	69 81	4030	4030	121	400	121	---	400	---	---	---	---	---	---	---	---	---	352
9310560																			
DEV OF IMPROVED VARIETIES OF SOYBEANS																			
	G	73 87	6086	10050	123	825	835	800	875	800	800	800	800	800	800	800	---	---	351
9310562																			
SOIL FAMILIES - HAWAII																			
	G	74 83	7073	7073	1339	857	1087	500	1090	650	---	---	---	---	---	---	---	---	350
9310600																			
GENERAL STUDIES WITH RUMINANT ANIMALS																			
	G	75 82	1400	2199	263	250	250	400	263	---	---	---	---	---	---	---	---	---	349
9310601																			
BENCHMARK SOILS - PUERTO RICO																			
		75 79	2110	2110	206	---	186	---	20	---	---	---	---	---	---	---	---	---	348
9310610																			
FIXATION PROBLEMS AND LIMITING FACTORS																			
	G	76 87	3100	6050	550	400	550	650	700	500	500	500	500	500	500	500	---	---	347
9310613																			
FIXATION - SYMBIOTIC TROPICAL LEGUMES																			

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AGRICULTURE PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

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021 - AGRICULTURE

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG		TOTAL COST		ESTIMATED U.S. DOLLAR COST (\$000)		ESTIMATED U.S. DOLLAR COST (\$000)							FUT YR OBLIG	ITEM NO	
	G DATE	L INTY FIN	Auth	PLAN	FY 80 PIPE-LINE	FY 1981 OBLIGATIONS	FY 1982 EXPENDITURES	FY 83 AAPT	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG				
	G	75 87	3630	9080	555	700	800	950	1000	900	900	900	900	900	---	346
9310614	PEST MGT - ROOTKNOT NEMATODE															
	G	75 87	2900	4953	130	600	600	600	500	500	500	500	500	500	---	345
9310621	SPRING WINTER WHEAT															
	G	76 81	2255	5114	381	497	570	---	308	---	---	---	---	---	---	344
9310786	FOOD GRAIN STORAGE AND MARKETING															
	G	67 87	9937	9937	931	750	877	520	720	600	600	600	600	601	---	343
9310826	INTERNATIONAL RICE RESEARCH INST (IRRI)															
	G	60 C	26403	---	963	4300	---	---	---	---	---	---	---	---	---	342
9310829	PLANT AND SEED MATERIALS															
	G	55 87	2927	3627	152	150	150	150	150	175	175	175	175	175	---	341
9310832	FERTILIZER TECHNICAL ASSISTANCE															
	G	65 87	4202	5352	230	175	230	150	175	200	200	200	200	200	---	340
9310840	CIMMYT															
	G	81	---	---	---	5600	---	---	---	---	---	---	---	---	---	425
9310855	INTERNATIONAL CTR FOR TROPICAL AG (CIAT)															
	G	68 C	25544	---	912	4350	---	---	---	---	---	---	---	---	---	338
9310887	INTERNATIONAL AG ECONOMIC SEMINARS															
	G	70 80	2190	2190	65	---	65	---	---	---	---	---	---	---	---	337

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AID PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

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021 - OFC. OF AGRICULTURE

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG		TOTAL COST		FY 79		FY 1981		FY 1982		ESTIMATED U.S. DOLLAR COST (\$000)					FUT YR OBLIG	ITEM NO
	G DATE	INIT FIN	AUTH	PLAN	PIPE- LINE	OBLIG- ATIONS	EXPEND- ITURES	OBLIG- ATIONS	EXPEN.)- ITURES	FY 83 AAPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG			
9310930	PEST MGT AND RELATED ENV PROTECTION																
G	71	87	8102	13182	665	1086	925	825	1000	1450	1450	1450	1450	1450	---	336	
9310972	INT CRP PES INST S. MI-ARID TROPS-IVRISAT																
G	72	C	18796	---	405	2900	---	---	---	---	---	---	---	---	---	335	
9310973	INTERNATIONAL POTATO CENTER (CIP)																
G	72	C	13393	---	425	2200	---	---	---	---	---	---	---	---	---	334	
9311004	N-FIXATION NONSYMBIOTIC ASSOCIATIVE																
G	77	87	927	2578	369	---	180	150	200	300	300	300	300	301	---	333	
9311005	DETERMINANTS OF IRRIGATION PROBLEMS																
G	77	81	350	432	---	90	90	---	---	---	---	---	---	---	---	332	
9311006	FARMING SYSTEMS R AND D METHODOLOGY																
G	78	81	1199	1199	288	---	288	---	---	---	---	---	---	---	---	114	
9311007	SYNTHESIS OF WATER MANAGEMNT IMPR																
G	78	87	2000	3969	697	---	300	---	300	400	400	400	400	400	---	331	
9311026	AGRICULTURAL MECHANIZATION																
G	77	81	1033	1033	214	264	260	---	218	---	---	---	---	---	---	122	
9311038	PHYSIOLOGY AND ECOLOGY OF TICKS																
G	78	80	364	364	118	---	118	---	---	---	---	---	---	---	---	330	

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TABLE IV - PROJECT BUDGET DATA

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021 - OFC. OF AGRICULTURE

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG DATE	TOTAL COST		ESTIMATED U.S. DOLLAR COST (\$000)						FY 83 APPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG	FUT YR OBLIG	ITEM NO	
		INIT	FIN	PIPE-LINE	OBLIG-ATIONS	EXPEND-ITURES	OBLIG-ATIONS	EXPEND-ITURES									
9311050	ICLARM - FISHERIES DEVELOPMENT	G	79 C	300	---	208	300	300	---	200	320	320	320	320	---	329	
9311121	COMMERCIAL SEED INDUSTRY	G	79 85	825	825	160	120	180	100	50	120	120	125	---	---	---	328
9311149	LIVESTOCK PRODUCTION CAPABILITY	G	79 87	955	2155	265	200	300	200	200	200	200	200	200	---	327	
9311181	AFLATOXIN REDUCTION IN MAIZE	G	77 87	414	1414	208	---	100	---	100	200	200	200	200	---	326	
9311229	SOIL MANAGEMENT SUPPORT SERVICE	G	79 87	2127	7677	700	820	710	550	810	1000	1000	1000	1000	---	325	
9311254	CRSP: SORGHUM/WHILET	G	79 C	14500	---	4116	1858	2050	3500	3500	3500	3500	3500	3500	---	324	
9311291	SOILS COOPERATIVE AGREEMENT PLANNING CRT	G	79 80	400	400	175	---	155	---	20	---	---	---	---	---	323	
9311299	COMPREHENSIVE PLANNING FOR RURAL DEV	G	77 77	830	830	344	---	206	---	138	---	---	---	---	---	322	
9311302	SMALL FARMER TECH AND MARKET ANALYSIS	G	77 77	750	750	291	---	150	---	141	---	---	---	---	---	321	
9311306	CRSP: FISHERIES/POOD DYNAMICS																

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AID PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

BUREAU FOR DEVELOPMENT SUPPORT

05/29/81

PROJECT NUMBER AND TITLE	ESTIMATED U.S. DOLLAR COST (\$000)													FUT YR OBLIG	IT-4 NO	
	OBLIG	TOTAL COST	FY 80	FY 1981		FY 1982		FY 83	FY 84	FY 85	FY 86	FY 87				
DATE	INIT	FIN	ALPH	PLAN	PIPE- LINE	OBLIG- ATIONS	EXPEND- ITURES	OBLIG- ATIONS	EXPEND- ITURES	APPL	OBLIG	OBLIG	OBLIG	OBLIG		
	79	C	703	---	120	---	120	---	---	---	---	---	---	---	---	125
9311310	CRSP: BEANS AND COMPEAS															
	80	C	16700	---	715	2000	2465	2500	2500	3000	3000	3600	3600	3600	---	320
9311311	CRSP-PROGRAM: SOILS															
	81	C	---	---	---	750	250	1900	2200	2300	2300	2300	2300	2300	---	406
9311314	AQUACULTURE TECHNOLOGY DEVELOPMENT															
	78	87	1438	3598	128	320	400	360	360	360	360	360	360	360	---	318
9311318	CONTROL OF BARLEY DISEASES FOR LDOS															
	78	87	821	2611	182	97	200	340	325	290	290	290	290	290	---	317
9311322	FARM LEVEL POSTHARVEST GRAIN LOSSES															
	82	87	---	2150	---	---	---	150	1	400	400	400	400	400	---	59
9311323	STORAGE AND PROCESSG OF FRUITS AND VEGS															
	80	87	2250	2950	200	250	200	250	250	450	450	450	450	450	---	316
9311328	CRSP-PROGRAM: SMALL RUMINANTS															
	76	C	15579	---	3776	650	2000	3100	3000	3400	3400	3400	3400	3400	---	314
9311398	AGRI-BUSINESS DEVELOPMENT AND SUPPORT															
	77	87	954	2429	404	160	442	200	182	225	300	300	300	350	---	313
9364002	CRSP INTEGRATED CROP PROTECTION OF FOODS															
	81	81	---	---	---	50	50	---	---	---	---	---	---	---	---	407

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ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

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021 - DEPT. OF AGRICULTURE

BU-FAD FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	ESTIMATED U.S. DOLLAR COST (\$000)														
	OBLIG DATE	TOTAL COST AULI	COST PLAN	FY 80 PIPE- LINE	FY 1981 OBLIG- ATIONS	EXPEND- ITURES	FY 1982 OBLIG- ATIONS	EXPEND- ITURES	FY 83 AAPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG	FY YR OBLIG	ITEM NO
9364013 CRSP-PL: PEANUTS	G 80 80	366	366	325	---	325	---	---	---	---	---	---	---	---	311
9364021 DRYLAND AGRICULTURAL SUPPORT SERVICES	G 81 87	500	3450	---	500	100	400	600	510	510	510	510	510	---	310
9364023 CRSP: POND DYNAMICS	G 82 87	---	2900	---	---	---	400	300	500	500	500	500	500	---	408
9364024 FISHERIES DEVELOPMENT PLANNING ASST	G 82 87	---	1770	---	---	---	270	150	300	300	300	300	300	---	309
9364026 STOCK ASSESSMENTS RESEARCH	G 83 87	---	2500	---	---	---	---	---	500	500	500	500	500	---	409
9364048 PEANUTS - CRSP	G 83 87	---	4000	---	---	---	---	---	800	800	800	800	800	---	410
9364050 TROPICAL LEGUME INOCULANT SERVICE	G 82 87	---	900	---	---	---	150	100	150	150	150	150	150	---	306
9364053 INTERMEDIARY AGRIBUSINESS	G 82 86	---	2500	---	---	---	400	134	500	500	550	550	---	---	305
9364054 AGR RESEARCH: TRANSFER METHODOLOGIES	G 82 87	---	6900	---	---	---	400	350	1300	1300	1300	1300	1300	---	304

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AID PROGRAM IN FY 1983  
ANNUAL BUDGET SUBMISSION  
TABLE IV - PROJECT BUDGET DATA

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021 - OFC. OF AGRICULTURE

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER	AL.) TITLE	ESTIMATED U.S. DOLLAR COST (\$000)															
		OBLIG	TOTAL COST		FY 80	FY 1981		FY 1982		FY 83	FY 84	FY 85	FY 86	FY 87	FUT YR	ITEM	
	G DATE	INIT	FIN	AOIH	PLAN	PIPE-	OBLIG-	EXPEND-	OBLIG-	EXPEND-	APPL	OBLIG	OBLIG	OBLIG	OBLIG	OBLIG	NO
9364055	TISSUE CULTURES FOR FOOD PRODUCTION																
	G 80 87			500	1750	500	---	190	---	170	250	250	250	250	250	---	303
9364061	INTL SERVICES FOR NATIONAL AG RESEARCH																
	G 80 C			1500	---	150	600	---	---	---	---	---	---	---	---	---	302
9364062	INTL FOOD POLICY RESEARCH INSTITUTE																
	G 80 C			2150	---	138	800	---	---	---	---	---	---	---	---	---	301
9364071	PEST MANAGEMENT CAPABILITY (RSSA)																
	G 79 87			271	1396	81	95	110	125	125	165	200	200	200	235	---	299
9364078	INTERNATIONAL SMALL BUSINESS INVEST CORP																
	G 82 86			---	5000	---	---	---	400	100	500	1000	1000	1000	1100	---	297
9364083	IMMUNOLOGY OF TICKS																
	G 82 87			---	1700	---	---	---	200	25	300	300	300	300	300	---	296
9364084	AG POLICY ANALYSIS																
	G 82 87			---	5100	---	---	---	600	400	450	1000	1000	1000	1050	---	307
9364099	SMALL FARMING SYSTEMS RESEARCH AND EXT																
	G 82 87			---	12450	---	---	---	400	300	2400	2400	2400	2400	2450	---	295
9364103	CGIAR REVIEW																
	G 81 81			---	100	---	100	50	---	50	---	---	---	---	---	---	121
9364109	CROP PRODUCTION TECHNICAL ASSISTANCE																

021 - DEPT. OF AGRICULTURE

 AID PROGRAM IN FY 1983  
 ANNUAL BUDGET SUBMISSION  
 TABLE IV - PROJECT BUDGET DATA

BUREAU FOR DEVELOPMENT SUPPORT

PROJECT NUMBER AND TITLE	OBLIG DATE LIMITEE	TOTAL COST ACTUAL PLAN	ESTIMATED U.S. DOLLAR COST (\$000)												
			FY 80 PIPE- LINE	FY 1981		FY 1982		FY 83 APPL	FY 84 OBLIG	FY 85 OBLIG	FY 86 OBLIG	FY 87 OBLIG	FUT YR OBLIG	LINE NO	
	81 87	350 3350	---	350	88	500	450	500	500	500	500	500	---	43	
9354111															
	68	---	---	---	---	33580	42500	41000	42500	42500	42500	42500	42500	---	415
9364115															
	83 84	---	900	---	---	---	---	---	680	220	---	---	---	---	418
9354116															
	83 87	---	5000	---	---	---	---	---	1400	900	900	900	900	---	419
9354117															
	83 87	---	3000	---	---	---	---	---	500	600	600	650	650	---	420
9354120															
	82 87	---	3475	---	---	---	400	---	695	695	695	695	695	---	423
9364121															
	83 87	---	3000	---	---	---	---	---	600	600	600	600	600	---	424
9364125															
	82 85	---	600	---	---	---	250	200	250	250	50	---	---	---	435
APPROPRIATION TOTAL		375708	247330	33399	57685	28373	71555	31252	84450	83955	83589	83185	82870	---	
OFFICE TOTAL		375708	247330	33399	57685	28373	71555	31252	84450	83955	83589	83185	82870	---	

TABLE V - FY 1983 PROPOSED PROGRAM RANKING  
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OFFICE 021 DS/AGR

RANK	DECISION PACKAGES/PROGRAM ACTIVITY	TERM/			PROGRAM FUNDING		WORK FLO - C E		ITEM	
		NEW/ CONT	LOAN/ GRANT	APPROX ACCT.	(\$000) INCR	CUM	USDH INCR	FNDH CUM		
DECISION PACKAGE - FINANCIAL										
1	9351489	LS/AGR STAFF REQUIRED TO OPERATE OFFICE	C	G	FN			448	448	3300
2	9310236.07	L.A. PLANNING NETWORK	C	G	FN				448	3553
3	9310600	MINERAL STUDIES WITH RUMINANT ANIMALS	C	G	FN				448	3552
4	9310030	STERILITY METHOD FOR TSETSE FLY CONTROL	C	G	FN				448	3551
5	9365313.01	RURAL MARKETING SYSTEMS	C	G	FN				448	3550
6	9364111	INT'L AGR RESEARCH CENTERS	C	G	FN	42500 <sub>a/</sub>	42500		448	3395
7	9310054	INT'L FERTILIZER DEVELOPMENT CTR - CG	C	G	FN	4000	46500		448	3394
8	9310786	IMPROVEMENT OF POSTHARVEST GRAIN SYSTEMS	C	G	FN	600	47100		448	3266
9	9310060.03	AGR SECTOR PLANNING AND SUPPORT - EPP	C	G	FN	700	47800		448	3253
10	9311007	SYNTHESIS OF WATER MANAGEMENT	C	G	FN	400	48200		448	3271
11	9311398	SEEU: AGRIBUSINESS DEVLPMNT AND SUPPORT	C	G	FN	225	48425		448	3257
12	9310430	PEST MGT - RELATED ENV. PROTECTION	C	G	FN	1450 <sub>b/</sub>	49875		448	3268
13	9364084.01	AGRICULTURAL POLICY ANALYSIS	C	G	FN	450	50325		448	3254
14	9364109	CROP PRODUCTION TECHNICAL ASSISTANCE	C	G	FN	500	50825		448	3261
15	9364071	PEST MANAGEMENT CAPABILITY (RSSA)	C	G	FN	165	50990		448	3262
16	9364021	DRYLAND AGRICULTURE SUPPORT SERVICE	C	G	FN	510	51500		448	3272
17	9311310	CRSP - PROGRAM BEANS AND COMPEAS	C	G	FN	3600 <sub>c/</sub>	55100		448	3376
18	9311328	CRSP-PROG: SMALL RUMINANTS	C	G	FN	3400 <sub>c/</sub>	58500		448	3377
19	9311254	CRSP - PROGRAM SORGHUM/MILLET	C	G	FN	3500 <sub>e/</sub>	62000		448	3380
DECISION PACKAGE - CURRENT (30)										
20	9364125	IMPACT AGR POLICIES ON FOOD SUPPLY	C	G	FN	250	62250		448	3546
21	9310203	SEED PROGRAM AND INDUSTRY DEVELOPMENT	C	G	FN	360	62610		448	3296
22	9310236.19	PLNG ASS: WATER RESOURCES ECONOMICS	C	G	FN	250	62860		448	3287
23	9311149	LIVESTOCK PRODUCTION CAPABILITY	C	G	FN	200	63060		448	3302
24	9364099.01	INTEGRATED SYSTEMS FOR SMALL FARMERS	C	G	FN	2400 <sub>d/</sub>	65460		448	3417
25	9310829	PLANT AND SEED MATERIALS	C	G	FN	175	65635		448	3295
26	9311322	FARM LVL POSTHARVEST GRAIN STORAGE LOSS	C	G	FN	400	66035		448	3309
27	9311323	STORAGE/PROCESSING OF FRUITS/VEGETABLES	C	G	FN	450	66485		448	3307
28	9364116	AGR RESEARCH AND INFORMATION SYSTEMS	N	G	FN	1400 <sub>e/</sub>	67885		448	3525
29	9310582	SOIL FAMILIES - HAWAII	C	G	FN	650	68535		448	3320
30	9311311	CRSP - PROG: SOIL MANAGEMENT	C	G	FN	2300 <sub>e/</sub>	70835		448	3384
31	9311229	SOILS MANAGEMENT SUPPORT SERVICES	C	G	FN	1000	71835		448	3316
32	9364054	AGRICULTURE RES TRANSFER TECHNOLOGIES	C	G	FN	1300 <sub>e/</sub>	73135		448	3565
33	9364120	POSTHARVEST RODENT AND BIRD CONTROL	C	G	FN	695	73830		448	3533
34	9311121	SEEU: COMMERCIAL SEED INDUSTRY	C	G	FN	120	73950		448	3290
35	9364053	SEEU: INTERMEDIARY AGRIBUSINESS	C	G	FN	500	74450		448	3291
36	9310560	DEV OF IMP VARIETIES OF SOYBEANS	C	G	FN	800	75250		448	3299
37	9364078	SEEU: INT'L SMALL BUSINESS CORP	C	G	FN	500	75750		448	3292
38	9364050	TROPICAL LEGUMES INOCULANT SERVICE	C	G	FN	150	75900		448	3326
39	9310295	WORLD RHIZOBIUM COLLECTION CENTER	C	G	FN	150	76050		448	3549
40	9310610	N-FIXATION LIMITING FACTORS	C	G	FN	500	76550		448	3328
41	9311004	N-FIXATION NON SYMBIOTIC ASSOCIATIVE	C	G	FN	300	76850		448	3327
42	9310513	N-FIXATION - SYMBIOTIC	C	G	FN	900	77750		448	3329
43	9364083	IMMUNOLOGY OF TICKS	C	G	FN	300	78050		448	3303

TABLE V - FY 1983 PROPOSED PROGRAM RANKING  
06/01/81

06/01/81

06/01/81 05/AGR

RANK	DECISION PACKAGES/PROGRAM ACTIVITY	TERM/ NEW/ CONT	LOAN/ GRANT	APPROP ACCT. FN	PROGRAM FUNDING (\$000)		WORK FORCE USOR		ITEM
					INCR	CUM	INCR	CUM	
43	DECISION PACKAGE - FERTILIZER TECHNICAL ASSISTANCE (IVA)	C	G	FN	200	76250	448		3324
DECISION PACKAGE - PROPOSED (50)									
45	9364117 ECONOMICS OF FOOD SECURITIES - Res	H	G	FN	500	78750	448		3528
46	9364121 SMALL FARM WATER MGT SYSTEMS	V	G	FN	600	79350	448		3536
47	9311314 AQUACULTURE TECHNOLOGY DEVELOPMENT	C	G	FN	360	79710	448		3363
48	9310242 NOAA ADVISORY SERVICE	C	G	FN	400	80110	448		3365
49	9364115 ECON OF ALTERNATIVE APPR TO PROD RES	N	G	FN	680	80790	448		3524
50	9364055 TISSUE CULTURES FOR FOOD PROD.	C	G	FN	250	81040	448		3359
51	9311050 ICLARM - FISHERIES DEVELOPMENT - CG	C	G	FN	320	81360	448		3402
52	9310614 PEST MGT - ROOTKNOT NEMATODE	C	G	FN	500	81360	448		3355
53	9364024 FISHERY DEVELOPMENT SUPPORT SERVICES	C	G	FN	300	82160	448		3364
54	9311181 AFLATOXIN REDUCTION IN MAIZE	C	G	FN	200	82360	448		3352
55	9364048 PEANUTS RESEARCH	N	G	FN	800 <u>c/</u>	83160	448		3394
56	9311318 CONTROL OF BARLEY DISEASES FOR LDCS	C	G	FN	290	83450	448		3371
57	9364023 POND DYNAMICS RESEARCH	C	G	FN	500 <u>c/</u>	83950	448		3390
58	9364026 FISHERIES STOCK ASSESSMENT RESEARCH	C	G	FN	500 <u>c/</u>	84450	448		3392

ITEMS RETRIEVED 58

- a/ Estimated U.S. contribution. The final decision will be made by the Administrator after the due date of this Table. The levels will be adjusted, as required, after the Administrator's final decision.
- b/ Includes \$450,000 for R&D activities in the area of weed control.
- c/ Estimated levels of programs originally proposed as Collaborative Research Support Programs. Final decision on the levels will be dependent on the Administrator's approval of the analysis currently being prepared to establish the FY 1982 levels for the CRSPs.
- d/ Includes \$700,000 for Farming Systems for Small Farmers (initiated in FY 1982 at \$400,000); \$800,000 for Integrated Crop Production Research; and \$900,000 for Mixed Farm Livestock Systems to be new supportive research activities initiated in FY 1983.
- e/ Includes \$400,000 for Research Results Packaging for Small Farmers.
- f/ Includes \$800,000 for International Benchmark Soils and \$0.5 million for Analogues.

FY 1983 ABS  
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REL

FPP

AGRICULTURAL PRODUCTION  
18,385

Table 5-A

PERSONNEL AND  
RESOURCES UNIT

Table V - Priority Project Listing by Division and Cluster

No.	Project #	Title	Amount	Cum	AGRICULTURAL PRODUCTION										PERSONNEL AND RESOURCES UNIT		
					IARCS Nutrition CRSP	DS/AGR Managed Projects	Rural Enterprise & Employment	Economic & Policy Planning	Crop Production	Past & Pasture Management	Postharvest Food Losses	Livestock	PERSONNEL UNIT	RESOURCES UNIT	...		
		Decision Package - Minimum	62,000	62,000	46,500	-	225	1,150	7,600	1,615	600	3,400	910	-	-	(10,700)	
		Decision Package - Current	16,250		-	-	1,120	4,300	1,335	-	1,545	500	5,250	2,200	-	(2,300)	
		Total Minimum & Current		78,250	46,500	-	1,345	5,450	8,935	1,615	2,145	3,900	6,160	2,200	-	(12,800)	
		Decision Package - Proposed	6,200		-	-	-	1,180	1,090	500	200	-	850	-	2,380		
		GRAND TOTAL		84,450	46,500	-	1,345	6,630	10,025	2,115	2,345	3,900	7,010	2,200	2,380	(12,800)	
		a/ Original proposed as CRSPs - Now being considered for research projects															
		DS/AGR: Revised 5/21/81															

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Table V - Priority Project Listing by Division and Cluster

No.	Project #	Title	Amount	Cum	Page -2-		REE	EPP	AGRICULTURAL PRODUCTION					RENEWABLE NATURAL RESOURCES MGT.			PSP
					IARCS Nutrition CRSP	DS/AGR Combined Managed Projects	Rural Enterprise & Employment	Economic & Policy Planning	Crop Production	Pest & Pesticide Management	Postharvest Food Losses	Livestock	Soils and Water	Fertilizer and Related Activities	Forest and Wildlife Resources		
Decision Package - Minimum																	
1.		Minimum Staff Time Required to Operate Office															
2.	0230	L.A. Planning Network															
3.	0600	Mineral Studies with Ruminant Animals															
4.	0030	Tsetse Fly Control															
5.	5313	Rural Marketing Systems (DR/RD)															
6.	4101	International Agr. Research Ctrs	42,500	42,500	42,500												
7.	0054	International Fertilizer Dev. Ctr.	4,000	46,500	4,000												
8.	0700	Improvement of Post Harvest Food Losses	600	47,100							600						
9.	0000	Agriculture Sector Planning and Support	700	47,800				700									
10.	1007	Synthesis of Water Management	400	48,200										400			
11.	1308	Agribusiness Devl. & Support	225	48,425			225										
12.	0900	Pest Management and Related Environmental Protection	1,450 <sup>a</sup>	49,875						1,450							
13.	4084	Agr. Policy Analysis	450	50,325				450									
14.	4109	Crop Production & Utilization T.A.	500	50,825					500								
15.	4071	Pest Management Capability	165	50,990						165							
16.	4021	Dryland Agriculture Support Serv.	510	51,500										510			
17.	1310	CRSP-Beans and Cowpeas	3,600	55,100					3,600							(3,600)	
18.	1328	CRSP-Small Ruminants	3,400	58,500								3,400				(3,400)	
19.	1254	CRSP-Sorghum Millet	3,500	62,000					3,500							(3,500)	
Total Decision Package - Minimum			62,000		46,500	-	225	1,150	7,600	1,615	600	3,400	910	-	-	(10,500)	
<sup>a</sup> includes \$450,000 for weed activities																	
DS-AGR: Revised 5/21/81																	

FY 1983 ABS  
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Table V-Priority Project Listing by Division and Cluster

No.	Project #	Title	Amount	Cum	AGRICULTURAL PRODUCTION										FEDERAL CAPITAL RESOURCES		
					IARCS IFDC Nutrition CRSP	DS/AGR Combined Managed Projects	Rural Enterprise & Employment	Economic & Policy Planning	Crop Production	Pest & Pesticide Management	Postharvest: Food Losses	Livestock	Soils and Water	Extension and Research	Other		
Decision Package - Current																	
20.	4084.02	Impact of Agr. Policies on Food Supply	250	62,250				250									
21.	0203	Seed Program & Ind. Dev.	360	62,610					360								
22.	0236	Basic Planning-Water Resources	250	62,860				250									
23.	1149	Livestock Production Capability	200	63,060									200				
24.	4099	Integrated Systems for Agr. Prod.	2,400 <sup>a</sup>	65,460				2,400									
25.	0829	Plant and Seed Material	175	65,635					175								
26.	1322	Farm Level Post Harvest Grain Losses	400	66,035								400					
27.	1323	Storage Processing of Fruits & Veg.	450	66,485								450					
28.	4116	Agr. Research & Information Systems	1,400 <sup>b</sup>	67,885				1,400									
29.	0582	Soil Families - Hawaii	650	68,535										650			
30.	1311	CRSP-Soils Management	2,300	70,835										2,300			
31.	1229	Soil Management Services	1,000	71,835										1,000	(2,300)		
32.	4054	International Benchmark Sites	1,300 <sup>c</sup>	73,135										1,300			
33.	4120	Postharvest Rodent & Bird Control	695	73,830										695			
34.	1121	Commercial Seed Industry	120	73,950				120									
35.	4053	Agribusiness Intermediary	500	74,450				500									
36.	0560	Improved Varieties of Soybeans	800	75,250					800								
37.	4078	Int. Small Business Inv. Corp	500	75,750				500									
38.	4050	Trop. Legume Inoculant Service	150	75,900										150			
39.	0095	World Rhizobium Collection Ctr.	150	76,050										150			
40.	0610	N-Fixation Limiting Factors	500	76,550										500			
41.	1004	N-Fixation Associatives	300	76,850										300			
42.	0613	N-Fixation Symbiotic	900	77,750										900			
43.	4083	Immunology of Ticks	300	78,050										300			
44.	0832	Fertilizer Tech. Assistance	200	78,250										200			
Total Decision Package - Current			16,250		-	-	1,120	4,300	1,335	-	1,545	500	5,250	2,200	-	(2,300)	
a/ includes \$700,000 for Farming for Small Farmers, \$800,000 for Integrated Crop Production Research, and \$950,000 for Mixed Farming Livestock Systems																	
b/ includes \$400,000 for Research Results Packaging for Small Farmers																	
c/ includes \$800,000 for International Benchmark Soils and \$0.5 million for Analogues																	
DS/AGR: Revised 5/21/81																	

Table V - Priority Project Listing by Division and Cluster

No.	Project #	Title	Amount	Cum	IARCS IFDC Nutrition CRSP	DS/AGR Combined Managed Projects	Rural Enterprise & Employment	Economic & Policy Planning	AGRICULTURAL PRODUCTION					PERMANENT NATURAL RESOURCES PROJ.			
									Crop Production	Pest & Pesticide Management	Postharvest Food Losses	Livestock	Soils & Water	Recreation	Wildlife	Other	
<u>Decision Package Proposed</u>																	
45.	4117	Economics of Food Securities-Res	500	78,750				500									
46.	4121	Small Farm Water Mgt. Systems	600	79,350								600					
47.	1314	Aquaculture Tech. Dev.	360	79,710											360		
48.	0242	NOAA Advisory Service	400	80,110											400		
49.	4115	Economics of Alternative Approaches to Prod. Res	680	80,790				680									
50.	4055	Tissue Culture for Imp. Farm Crops	250	81,040								250					
51.	1050	ICLARM	320	81,360											320		
52.	0614	Pest Mgt. Rootknot Nematodes	500	81,860						500							
53.	4024	Fisheries Dev. Planning Ass't	300	82,160											300		
54.	1181	Aflatoxin Reduction in Maize	200	82,360							200						
55.	4048	Peanuts Research	800	83,160					800								
56.	1318	Control of Barley Disease	290	83,450					290								
57.	4023	Pond Dynamics	500	83,950											500		
58.	4026	Stock Assessment	500	84,450											500		
<b>Decision Package - Proposed</b>			<b>6,200</b>		-	-	-	<b>1,180</b>	<b>1,090</b>	<b>500</b>	<b>200</b>	-	<b>850</b>	-	<b>2,380</b>	-	

DS/AGR: Revised 5/21/81

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER

James L. Walker

TITLE International Agricultural Research Centers (IARCs)		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	Continuing
NUMBER 936 4111	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982, Annex V	FY 83 42,500	INITIAL OBLIGATION FY 68	ESTIMATED FINAL OBLIGATION FY Continuing	ESTIMATED COMPLETION DATE OF PROJECT FY Continuing
GRANT <input type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input type="checkbox"/>	Centrally Funded Program p. 18 - 23			

**Purpose:** To generate, through research, urgently needed technology for increasing production of the major food crops and livestock in developing countries.

**Background and Progress to Date:** This program includes fourteen international agricultural research centers and programs. All but one (The Asian Vegetable Research and Development Center, AVRDC) are supported through the Consultative Group on International Agricultural Research (CGIAR). The International Agricultural Research Centers (IARCs) link with LDC national programs to form a key element in a global research network to supply the technology needed to expand food production.

CGIAR is an organization of donors that coordinates funding and provides program guidance to the IARCs under its aegis. CGIAR was established in 1971 and first coordinated funding in 1972. Total contributions were \$20 million in 1972 and rose to nearly \$140 million in 1981. AID helped establish CGIAR and has pledged about 25% of its required total annual funding. In 1979 the United States and other major donors of the CGIAR agreed to try to finance a forward plan for the IARCs that would hold the older centers to a three percent real growth, complete the currently developing centers, and take up some additional high priority activities. In 1980 the three percent real growth was not attained. During 1982 the U.S. is advising that the older centers be held to essentially no real growth and that lower priority or less successful programs in each center be scaled down or out. A.I.D. and other CGIAR members have encouraged the IARCs to focus on the problems of small farmers and poor consumers. The IARCs are now giving greater emphasis to the less favored production areas in the developing nations.

Individual IARCs, their locations, year of establishment, approximate 1983 budget in millions of dollars, major research programs, and some accomplishments are listed below. The U.S. contribution to each center will depend on the final CGIAR-approved budget, contributions of other donors and U.S. priority for the center's program. The total U.S. contribution will be about 25 percent of the total available from all donors.

- International Rice Research Institute (IRRI), Philippines 1960, \$26.4, rice and rice-based cropping systems. High yielding varieties of rice, developed by IRRI and national programs, were planted on about 62 million acres in the non-communist developing countries in 1976/77, or about 28% of the total rice

areas of IDCs. An IRRI variety, IR-36, resistant to one of the major biotypes of the brown planthopper, has been adopted on about 50% of the HYV area in Indonesia. A new IPPI variety, IP-41, performs well under relatively low fertility and with less than ideal water control. In 1979, 19 lines of rice developed by IRRI were named as varieties by seven national programs. In 1980, three varieties (IR-50, IR-52, and IR-54) were named as varieties by the Philippine Seed Board. Increased collaborative research with the People's Republic of China has led to a strengthening of research on hybrid rice which holds promise of further yield increases.

- International Maize and Wheat Improvement Center (CIMMYT) Mexico, 1964, \$27.1, corn and wheat with some work in 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, over 44% of the total wheat area in the non-communist developing countries in 1976/77. In 1979, collaborators in other countries released varieties containing CIMMYT-derived germplasm as follows: over 50 varieties of bread wheat in 19 countries; 8 varieties of durum wheat in 6 countries; 13 varieties of triticale in 7 countries (3 in the U.S.); and 4 varieties of barley in 3 countries. Research is underway to develop wheat and corn varieties better suited to tropical regions. Short-stalked corn populations are being selected which have greater drought tolerance, resistance to lodging, and earlier maturity. High-lysine corn varieties have been developed with yields equal to normal varieties; some are now ready for commercial production. Crosses have been made between corn and sorghum to increase drought resistance in corn.

- International Institute of Tropical Agriculture (IITA), Nigeria 1967, \$23.2, cowpeas, yams, sweet potatoes, cassava, maize, rice and farming systems. New minimum- and no-tillage systems have been developed which promise to reduce both energy use and loss of topsoil. Methods of forest clearing and soil management have been developed to minimize soil degradation and erosion. Two early maturing, high-yielding lines of cowpeas have been developed and are being tested in 30 countries; a variety with improved insect resistance is being released in 5 countries. Yam varieties have been developed with resistance to major insect pests. Two disease-resistant cassava varieties are expected to form the basis for a major production breakthrough in Nigeria. Two corn varieties suited to lowland conditions are being extensively grown in Nigeria; another is finding increasing use as a second crop in Nigeria.

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	136,073	126,207	9,866	1/1/81-12/31/81	IRRI, CIMMYT, IITA, CIP, CIAT, ICRISAT, ILCA, ICAPDA, IFPRI, WARDA, IBPGR, ISNAR, AVRDC, ILRAD
Estimated Fiscal Year 1981	36,500	33,580	12,786		
Estimated through September 30, 1981	172,573	159,787	14,286	1/1/82-2/31/82	
Proposed FY 1982	42,500	41,000			
Estimated through Fiscal Year 1982	215,073	200,787		1/1/83-12/31/83	
Proposed FY 83	42,500	Future Year Obligations	Estimated Total Cost		
		Continuing	Continuing		

PROGRAM: CENTRALLY FUNDED

PROJECT MANAGER: James L. Walker

International Agricultural Research Centers

936 4111

- International Center for Tropical Agriculture (CIAT), Colombia, 1968, \$23.2, cassava, beans, rice, forage and maize. Cassava: simple agronomic practices developed at CIAT can increase yield 50 to 60% at the farm level; high-yielding varieties developed by CIAT are now in regional trials in Latin America and Asia; cropping systems with cassava and beans are being tested. Beans: sources of genetic resistance to most pests have been identified and bred into new lines (three varieties with virus resistance have been named and are undergoing seed multiplication in Guatemala); greater nitrogen-fixing ability is being bred into new varieties. Rice: a new variety, CIAT 8, has been widely adopted in Latin America; it is taller than previous varieties, has lower fertilizer requirements, and does better under pland conditions. Forages: improved forages for pastures are under extensive pre-release testing.

- International Potato Center (CIP), Peru, 1973, \$11.6, white (Irish) potatoes. CIP is developing the use of true seed rather than tubers for the propagation of potatoes by small farmers to cut production costs and control diseases. True seed is expected to be used in one or two developing nations by 1982. CIP is also broadening the area where potatoes can be grown by developing varieties for the lowland tropics and for low temperature, high altitude regions. It has developed a simple and inexpensive method of seed storage which is widely used by small farmers in the Philippines.

- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India, 1972, \$22.5, sorghum, pearl millet, pigeon peas, chickpea, groundnut, and farming systems. Improved lines of ICRISAT's major crops have been developed and widespread farm testing is underway in country programs. Several lines are undergoing seed production prior to release. ICRISAT is expanding its work on sorghum and millet in West Africa. In the case of farming systems, a new intercropping system involving broad beds and furrows has been tested and is ready to extend to national programs. Another system makes it possible to raise a second crop on certain soils during what used to be the fallow season.

- International Laboratory for Research on Animal Diseases (ILRAD), Kenya, 1974, \$14.2, control of trypanosomiasis and theileriosis (East Coast Fever). ILRAD has made significant scientific breakthroughs in research on trypanosomiasis and expects to soon be ready to field test possible vaccine materials. In the case of East Coast Fever, ILRAD hopes that it will be able to develop a useful general vaccine within the next five years. More specific vaccines would have to then be tailored for individual areas.

- International Livestock Center for Africa (ILCA), Ethiopia, 1974, \$11.6, systems of livestock production. ILCA's new headquarters facilities were completed in the fall of 1980. The main research program is carried out in four ecological zones. A study of trypanotolerant breeds of livestock in Africa has been prepared and work is underway to collect data on the productivity of different trypan tolerant breeds. Work in Ethiopia has demonstrated the usefulness of improved practices in milk production.

- International Center for Agricultural Research in the Dry Areas (ICARDA), Lebanon, Syria, 1976, \$15.5, barley, lentils, broad beans, and drought-tolerant systems. Field research is well underway on a new research station in Syria and in several cooperative national programs. Selection and development of improved cereals, food legumes, and forages is underway. The farming systems research program has been established. Promising lines of drought-resistant broad beans have been identified. Disease resistant chickens have been selected, allowing chickens to be grown as a winter crop. Practices that substantially increase farmers' yields of wheat and barley have been widely demonstrated.

- International Food Policy Research Institute (IFPRI), Washington, 1976 (joined CGIAR in 1980), \$1.9, identification and analysis of alternative national and international strategies and policies for meeting food needs in the world, with particular emphasis on low-income countries and on the poorer groups within those countries. IFPRI's research has concentrated on defining the magnitude and composition of food problems in the developing countries, generating a series of indicators for needed actions; and food policies in these countries. A substantial and increasing number of research reports have been issued.

- West African Rice Development Association (WARDA) Liberia, 1971, \$3.9. WARDA is an inter-governmental association of 15 West African nations, established to help achieve self-sufficiency in rice. The CGIAR supports the part of WARDA's effort concerned with the introduction, initial evaluation, and coordinated trials of new varieties. In 1980 about 225 sets of seeds and chemicals were distributed to 61 sites throughout the region for testing. The initial evaluation tests identified 21 superior upland lines and 22 promising irrigated lines for further testing. Coordinated trials were carried out in each member country. AID will recommend formation of a special donors group for WARDA and unification of its total program.

PROGRAM: CENTRALLY FUNDED

PROJECT MANAGER: James L. Walker

International Agricultural Research Centers

936 4111

- International Service for National Agricultural Research (ISNAR), Netherlands, 1980, \$5.8, technical assistance for detailed planning of national research systems and programs, given at the request of the developing countries. ISNAR became functional in September 1980.

- International Board for Plant Genetic Resources (IBPGR), Rome, 1973, \$4.5, collection, conservation and utilization of plant genetic resources. Three regional programs have been established and over 50 genetic resource centers are working with IBPGR. In 1979, over 200 consultants provided technical advice. Field missions were also utilized. The genetic resources information program was reorganized. Analysis of the world's genetic resources for wheat is well advanced.

- Asian Vegetable Research and Development Center (AVRDC), Taiwan, 1971, \$4.0, tomatoes, soybeans, Chinese cabbage, and mungbean. AVRDC has developed a tropical tomato which is both heat and disease resistant; lines have been released and are now in production in Asia and elsewhere. Improved varieties of soybeans are undergoing seed multiplication in Indonesia and are expected to boost yields dramatically in East Java. Hybrid Chinese cabbage varieties incorporating AVRDC parent material have been released in South Korea.

- International Water Management Center. 1982, (\$5.0) During 1982 a group of donors and involved developing countries will probably develop a center for training and research on on-farm water management. The primary objective will be to train developing country people in how they can monitor the physical, biological and social elements of an irrigation system; try changes intended to improve efficiency of water use; and get successful changes widely adopted. Investments in irrigation systems in developing nations will approach \$100 billion during the next 25 years. A small investment will be made to try to improve the efficiency of use of irrigation water. We expect to build up to a \$3 million annual operation, and the capital structures are expected to cost \$4-5 million.

- Host Country and Other Donors: A.I.D. provides about 25% of total core funds, the other 75% is provided by other donors. In 1981, A.I.D.'s contributions to CGIAR centers (excluding AVRDC) totaled \$35.0 million, while total contributions were nearly \$140 million. The other \$105.0 million was provided by 32 other donors.

Other major donors among the developed nations and international organizations were: World Bank, Germany, Canada, Inter-American Development Bank (IDB), United Kingdom, Japan, United Nations Development Program, Commission of the European Communities, Belgium, Sweden, Australia, International Fund for Agricultural Development, Netherlands, Norway, Switzerland, Rockefeller Foundation, Denmark, Ford Foundation, and International Development Research Center. The IDB contribution (\$7.4 million) used Social Progress Trust Fund money in Mexico, Columbia, and Peru and was directed to IARCs in those countries. The list of developed country contributors was enlarged in 1981 with the addition of Spain. Austria and Finland are expected to join in 1982.

Host countries have provided the sites for the IARCs. Nigeria is also a donor since 1975 and substantially increased its contribution in 1981. Two other developing nations - Mexico and the Philippines - became donors in 1980. India became a member in 1981.

Beneficiaries: Farmers who will benefit from higher yields, and consumers who will have access to greater food supplies at lower unit prices.

FY 1983 Program: The IARCs will continue their work to develop improved technology for increasing food production in LDCs, with increasing attention to technology relevant to small farmers and less-advantaged production areas. Research will continue on insect and disease problems that threaten to lower current production levels. The training of developing country scientists, extensionists and research administrators will continue as a major center function.

Major Outputs: New technologies suitable for use by small farmers; technologies using new high-yielding strains, disease and climatic resistant varieties, and farming systems to increase crop and animal production while economizing on scarce farm resources. The technologies developed by the IARCs come into use in the LDCs first in national testing programs and then in nationwide farm use.

A.I.D.-financed Inputs:

	(\$thousands)
	FY 83
Grants to International Agricultural Research Centers and Programs	42,500

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER John L. Mitchell

TITLE International Fertilizer Development Center - IFDC		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)	
NUMBER 931-0054	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 18	FY 83 4000	LIFE OF PROJECT Continuing
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 75	ESTIMATED FINAL OBLIGATION FY Continuing
	CONTINUING <input checked="" type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY Continuing

**Purpose:** To assure a dependable supply of better fertilizer at lower cost to farmers of the developing countries.

**Background and Progress to Date:** Between 40 and 50 percent of the increased farm output needed in developing countries over the next 20 years will result from the use of fertilizer. For the densely populated land-scarce parts of the world fertilizer use offers the only real hope to increase food production. The poor soils of sparsely populated areas require fertilizer before they can be made productive. High and rising energy costs will make conventional fertilizer too costly for many farmers. A.I.D. will probably contribute from \$80 to \$100 million toward the purchase of fertilizer during the current fiscal year.

Since it became functional in 1975, IFDC has been working on ways to make fertilizer more efficient. Current efforts are focused on nitrogen, phosphorus and sulfur. Sulfur-coated urea and supergranules can almost double the yield of rice per pound of nitrogen. Rock phosphates or partially treated rocks offer low cost and energy saving alternatives to fully processed fertilizers but the ore, process and end use must be fully compatible.

Means of exploiting small phosphate deposits as cottage industries demonstrated by IFDC will provide employment, and give farmers access to local sources of this important fertilizer. Granulation has produced nitrogen, phosphorus and potash fertilizers which are as easy to use as the premium grades but much less costly to prepare.

IFDC improved the operating efficiency of fertilizer factories in developing countries by training and by direct technical assistance. More than 1050 engineers and managers have been trained by IFDC. The trainees have become trainers extending impact. Over 100 projects in 49 countries are in progress or have been completed by IFDC.

**Host Country and Other Donors:** Australia, Bangladesh, Brazil, Canada, Colombia, Israel, The Netherlands, Nigeria, Philippines, Senegal, West Germany, Venezuela, and UNDP, to name a few, are all sponsoring work at IFDC which is in addition to that covered by A.I.D. grant.

**Beneficiaries:** Farmers, chemical factory, transport workers and retailers all benefit directly from the work of IFDC.

**FY 83 Program:** Research on programmed release nitrogen fertilizers and non-conventional phosphates will continue. A special effort will be made to get farm test demonstrations on new products. Technical assistance will continue on a self-financing basis wherever possible. Full advantage will be taken of FVA facilities and staff when providing technical assistance.

Major Outputs and A.I.D. Units:	All Years Units
New and modified fertilizers	12
Phosphate rocks characterized	130
Training (individuals)	2200
Preinvestment surveys	21
Technical Assistance Missions	210
Publications	54

A.I.D. Financed Inputs in \$000s:	FY 83
Personnel (1020 work months)	\$2320
Operations	1160
Logistics	220
Maintenance, Repair and Equipment Modification	300
<b>TOTAL</b>	<b>\$4000</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	28700	25699	3001		International Fertilizer Development Center - IFDC
Estimated Fiscal Year 1981	4000	4000		7/1/81 to 6/30/82	
Estimated through September 30, 1981	32700	29699	3001		
Proposed FY 1982	4000	4000		7/1/82 to 6/30/83	
Estimated through Fiscal Year 1982	36700	33699	3001		
Proposed FY 83	4000	Future Year Obligations	Estimated Total Cost	7/1/83 to 6/30/84	
		Continuing	Continuing		

TITLE Commercial Seed Industry		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 931-1121 GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>		PRIOR REFERENCE FY 1982, Annex V Centrally Funded Program, P. 21	FY 83 120	LIFE OF PROJECT 825
NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>			INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY 85
				ESTIMATED COMPLETION DATE FY 86

Purpose: To promote development of commercial seed industries in less developed countries utilizing private sector personnel as advisors.

Background and Progress to Date: Quality seed of adapted, improved crop varieties is the lowest-cost major input used to increase crop production. In developed countries, effective commercial seed enterprises, whether in the public or private sector, ensure a reliable supply of this input to agricultural producers. In developing countries, seed systems often are totally absent or are not capable of delivering high quality seeds on a timely and economic basis to a majority of small farmers.

The commercial seed industries of developed countries could be an important source of expertise and service for seed program development in other countries, but have not been effectively utilized for this purpose by most development agencies. A major constraint to such utilization has been the lack of an effective mechanism to link activities of development agencies with the commercial seed trade, on one hand, and developing country institutions on the other.

The existence of the Industry Council for Development provides an effective mechanism for establishing direct linkages between commercial seed firms in developed countries and appropriate agencies in the developing countries. A.I.D., through a five year grant funded service project with the Industry Council as the executing agent, supports an effort designed to establish, strengthen and utilize such linkages.

Host Countries and Other Donors: The United Nations Development Program and the Food and Agricultural Organization are incorporating the private sector seed technology transfer concept into their programs. The Agri-business Council has a working agreement with the United Nations system and the Canadian International Development Agency (CIDA) to further this concept. Host country governments have taken an active interest in establishing seed industries, and many have obtained assistance from Mississippi State University. There have also been linkages established to obtain foundation seed from the International Research Centers.

Beneficiaries: Small farmers in specific developing countries will benefit from increased access to quality seed. Persons gaining employment as a result of the various projects, and market town agribusiness entrepreneurs who will be assisted in improving their enterprises will benefit also.

FY 1983 Program: This activity will continue to assist developing countries in the identification, selection and development of three or more seed projects and programs and to provide training and technical assistance to their seed enterprises. An initial survey has started in the Caribbean Region and work is underway to provide training and managerial assistance to seed enterprises in two countries of the Caribbean Common Market (CARICOM). During FY 83 the expansion of seed inoculant services to cooperating country firms will be accelerated.

<u>Major Outputs:</u>	<u>All Years</u>
	<u>Unit</u>
Seed enterprise surveys	50
In-country training programs	6
Participants trained	3
Seed enterprises initiated	10
<u>A.I.D. Financed Inputs in \$000s:</u>	<u>F.Y. 83</u>
Personnel (10 person months)	60
Training (18 person months)	54
	.
TOTAL	120

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	240	80	160	9/30/80 - 11/30/81	Industry Council for Development
Estimated Fiscal Year 1981	120	180			
Estimated through September 30, 1981	360	260	100	12/1/81 - 11/30/82	
Proposed FY 1982	100	80			
Estimated through Fiscal Year 1982	460	340	120	12/1/82 - 11/30/83	
Proposed FY 83	120				
		Future Year Obligations	Estimated Total Cost		
		245	825		

TITLE Agribusiness Development and Support			FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars) FY 83 225			LIFE OF PROJECT 2429
NUMBER 931-1398	NEW <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 1982, Annex V Centrally Funded Programs, P. 22	INITIAL OBLIGATION FY 77	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88	

Purpose: To expand agricultural production and at the same time increase income and employment opportunities of the rural target group through the economic development of the private sector.

Background and Progress to Date: Increasingly the role of the rural private entrepreneur is gaining recognition as an important element in the development of economically viable agricultural systems in many IDCs. This project has as its objectives the expansion of employment opportunities for the rural poor in agribusiness through labor-intensive and capital-saving technologies and at the same time increase the purchasing power of the rural areas through the promotion of agribusiness. These enterprises process and distribute farm produce, manufacture implements, and provide goods and services for local consumption. Collaborative programs in several IDCs of Latin America, Africa and Near East are under various stages of development.

Other work under way focuses on agribusiness design strategies, (Jamaica), evaluation and improvement of existing agribusiness/rural enterprises, (Paraguay), and assistance to less developed countries in establishing new rural industries based on agriculture. Impact evaluations have been conducted in Paraguay and Peru to ascertain the effect of rural enterprise projects on small farmers and rural employment. Results will be used to improve the design and implementation of future projects.

Host Country and Other Donors: Many IDC's have recognized the potential contribution of the rural private sector to their development efforts and have allocated resources in the form of manpower and credit to the promotion of new rural enterprises. Host countries will continue to provide logistical support for in-country surveys and evaluations.

Beneficiaries: Small entrepreneurs and persons gaining employment as a result of the growth of new, rural agricultural businesses and agriculturally based market town enterprises, will benefit. Also, small farmers will benefit from increased availability of farm inputs and better markets for their produce.

FY 83 Program: Under a USDA RSSA the Agency will continue to draw upon the large pool of USDA resources for assistance in specialty areas where very little direct hire capability exists.

FY-83 activities under this project will include the design of agribusiness strategies for at least one selected country. Evaluation of two agribusiness projects; conduct of surveys to ascertain agribusiness and enterprise needs and design up two projects to address these needs. These activities will be in direct response to Mission and Host country requests.

<u>Major Outputs</u>	<u>All Years</u> <u>Unit</u>
Agribusiness Design Strategies	20
Impact Evaluations	20
Agribusiness Promotion Intervention Designs	25
Feasibility Studies	20
Agribusiness Surveys	15
Training Material	12
<u>A.I.D. Financed Inputs In \$000s:</u>	<u>FY 83</u>
Personnel (24 person months)	200
Logistic Support	25
Total	225

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	594	130	464	10/1/81 - 9/30/82	U.S. Department of Agriculture (USDA)
Estimated Fiscal Year 1981	160	442			
Estimated through September 30, 1981	754	572	182		
Proposed FY 1982	200	182		10/1/82 - 9/30/83	
Estimated through Fiscal Year 1982	954	872	200		
Proposed FY 83	225			10/1/84 - 9/30/85	
		Future Year Obligations	Estimated Total Cost		
		1250	2429		

TITLE Agribusiness Intermediary			FUNDS Agriculture, Rural Development, and Nutrition		PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 936-1053			PRIOR REFERENCE FY 82, Annex V		FY 83 500		LIFE OF PROJECT 2500
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>			Centrally Funded Program, P. 34		INITIAL OBLIGATION FY 82		ESTIMATED COMPLETION DATE OF PROJECT FY 87
NEW <input checked="" type="checkbox"/> CONTINUING <input type="checkbox"/>					ESTIMATED FINAL OBLIGATION FY 86		

Purpose: The project purpose is to improve food systems and generate additional income for the rural poor through encouraging the transfer of U.S. private sector managerial expertise and technology to LDC small and medium-sized agroindustry enterprises.

Background and Progress to Date: This project primarily addresses the problem of employment and income generation. There is a need to maximize rural employment opportunities in LDCs, especially where the landless and near landless constitute a majority of the labor force. At prevailing rates of population growth, this rural labor force will be rapidly increasing. Effective means of maximizing productive employment and income opportunities in these areas must be found. Generating additional income for small farmers is also critical. In many LDCs this group is locked into low value crops due to limited access to the credit, post-harvest processing, and efficient market links which make production of higher value cash crops possible. Small and Medium Enterprises (SMEs) are one of the most effective means of addressing the problems of unemployment and low income. To achieve the growth necessary to provide benefits to the rural poor, however, IDC SMEs often require outside assistance. They suffer from poor management, lack of access to technical and marketing information, limited credit, poor infrastructure, government disincentives and difficulties in purchasing raw materials and equipment. Contact with successful U.S. SMEs would enable these firms to overcome some of these obstacles to growth.

The project will accomplish its purpose through establishing the Center for Intermediary Services which will have two main functions:

- (1) Providing the delivery of managerial expertise and technology of U.S. SMEs to LDC agroindustry projects, programs, and firms, and
- (2) Acting as an informational clearinghouse for U.S. SMEs to acquaint them with development opportunities in LDCs. These functions have two objectives. The first is to overcome the negative perception U.S. SMEs have of the LDC business environment and their lack of knowledge of specific business opportunities. This will be accomplished through seeking out U.S. SMEs with appropriate expertise and facilitating their direct participation in IDCs, primarily through developing and coordinating management and technical support contracts. In addition, the center will provide U.S. SMEs with information not now easily available which will allow them to obtain much of the knowledge needed to explore and evaluate business opportunities in AID-assisted countries.

Host Country and Other Donors: Host countries will contribute to the costs of and provide logistical support for in-country surveys, feasibility studies and training.

Beneficiaries: Primary beneficiaries will be small rural entrepreneurs and rural laborers. They will have access to increased amounts of goods and services as well as greater employment opportunities.

FY-83 Program:

- 1) Identify LDC agroindustrial projects, programs, and subsectors which could benefit significantly from U.S. technical and managerial expertise.
- 2) Identify U.S. agroindustry firms capable of and willing to provide relevant technical and managerial assistance.
- 3) Identify and establish liaisons with organizations, such as development banks, FMOs and others, engaged in development, collection, and dissemination of technology and other information relevant to LDC agroindustry problems.
- 4) Establish links to computer data banks of needs for and sources of technology and managerial assistance.

Major Outputs:

	All Years
	Unit
Rural Enterprise Surveys	10
Agribusiness Management Systems	20
Feasibility Studies and Project Designs	20
Evaluations	10
<u>A.I.D. Financed Inputs In \$000s:</u>	
Personnel (40 months)	275
Logistics	125
Equipment and Supplies	100
Total	500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	0	0	0		Contractor to be selected
Estimated Fiscal Year 1981	0	0			
Estimated through September 30, 1981	0	0	0		
Proposed FY 1982	400	134		6/1/82 - 5/30/83	
Estimated through Fiscal Year 1982	400	134	266		
Proposed FY 83	500	Future Year Obligations	Estimated Total Cost	1/83 - 5/30/84	
		1600	2500		

TITLE Int'l Small Business Investment Corp. (ISBIC)		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT 5000
NUMBER 936-4078		PRIOR REFERENCE FY 1982, Annex V	FY 83 500		
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>	NEW <input checked="" type="checkbox"/> CONTINUING <input type="checkbox"/>	Centrally Funded Programs, P. 36	INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 86	ESTIMATED COMPLETION DATE OF PROJECT FY 87

Purpose: To develop a net work of financially viable, self sustaining venture capital institutions which focus on providing debt and equity financing tied to appropriate technical and managerial assistance and training for small and medium size enterprises.

Background and Progress To Date: A major constraint to business and employment growth in the LDC's is the lack of institutional sources of debt and equity financing, technical assistance and training. To a large extent, financing from a formal market -- mostly commercial banks -- is debt only, fully collateralized, very short-term in nature, and offered without close analysis of and assistance to the borrowing enterprise. The only substantial sources of equity, or long-term debt financing in most LDCs are family/friends.

This project proposes to fill the void between commercial banks and family/friends by establishing a network of venture capital institutions, International Small Business Investment Company Associates (ISBIC Associates), operating worldwide. The ISBIC Associates will be privately owned and capitalized companies, for the most part domiciled in the LDCs, which will receive leverage loan financing, and technical assistance through the ISBIC program.

Host Country and Other Donors: Initial equity capitalization of each ISBIC Associate will be by its owners, and leverage loan funds from the ISBIC program will only be drawn down as that initial equity is invested. Other sources of leverage loan funds are expected to develop from various international and national development funds as the ISBIC program proves successful.

Beneficiaries: Small entrepreneurs (and their employees) who receive direct assistance from ISBIC venture capital companies directly, and related enterprises (and their employees) which sell to or buy from the direct beneficiaries. The primary indirect impact is the job creation both from new and expanded enterprises.

FY 83 Program: The FY 83 program calls for the implementation of the ISBIC program in a pilot mode in each of the following four geographic areas; Africa, Asia, Latin America, and the Near East. Funding will be required for individual country assessments, surveys and feasibility studies.

Major Outputs	All Years Unit
Assessment and Surveys	30
Feasibility Studies	30
Project Designs and Strategies Formulated	30
In-country Programs initiated	20
Evaluations	15
<u>A.I.D. Financed Inputs In \$000s:</u>	<u>FY 83</u>
Personnel (55 person months)	360
Equipment and supplies	55
Travel transportation and per diem	70
Other direct cost	15
TOTAL.	500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	0	0	0		To be determined
Estimated Fiscal Year 1981	0	0		-	
Estimated through September 30, 1981	0	0	0		
Proposed FY 1982	400	100		7/1/82 - 6/30/83	
Estimated through Fiscal Year 1982	400	100	300		
Proposed FY 83	500	Future Year Obligations	Estimated Total Cost	7/1/83 - 6/30/84	
		4100	5000		

TITLE Agricultural Sector Planning and Support			FUNDS Agriculture, Rural Development and Support	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 931-0060	NEW [ ]	CONTINUING [X]		FY 87 700	LIFE OF PROJECT 6379	
PRIOR REFERENCE FY 1982 Amex V Centrally Funded Program, p. 18			INITIAL OBLIGATION FY 74	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88	

**Purpose:** To provide the assistance of agricultural economists and other agricultural specialists for project design activities, evaluations, special studies, country development strategy statements, and sector analyses to less developed countries through A.I.D. field missions.

**Background and Progress to Date:** This project has proven to be an effective means of delivering high quality expertise well suited to meeting the Agency's needs for short term consultations in the subject area of agricultural economics. The cooperating agency has shown considerable flexibility in its ability to identify and provide short term consultants to meet mission requests. As a result field missions and their respective regional bureaus have continued to increase their demand for the technical support services available through this project. During FY 1980 and the first half of FY 1981 specialists provided through this project undertook design, assessment, and evaluation tasks in Latin America, Asia, and Africa. Services provided include: technical reports for an agricultural sector loan paper in Honduras, a review of a Philippine marketing program, a feasibility study on a new herbicide application technique in El Salvador and Costa Rica, a cost-benefit analysis of Striga weed control methods in the Sudan; an evaluation of the Social Progress Indicators - El Salvador project, a report identifying and classifying the Agency's agricultural activities according to functional subject areas for the purpose of estimating additional technical assistance requirements for the Agency's agricultural program, a survey of future agricultural and rural development staffing requirements; a technical review of all country development strategy statements according to functional areas to determine the nature of the major interventions in the Agency's country specific agricultural program, and an evaluation of the U.S.A.I.D./Honduras Small Farmer Farming Systems Research project. Short term services supporting the development of a proposed "Small Farmer Farming Systems Research and Extension" project were provided. Also, food policy specialists were sent to Tanzania and Senegal and a team of policy specialists are scheduled to assist a Latin American country with an impact analysis of its national agricultural policy on food production and consumption.

**Host Country and Other Donors:** Host country agricultural planning agencies and development institutions will provide facilities and staff to facilitate and complement the work of cooperating specialists.

**Beneficiaries:** This project will ultimately benefit the rural poor in IDCs through improved project design and evaluation activities. Primary beneficiaries are agricultural planning offices or agencies in IDC governments.

**FY 83 Program:** During FY 83 state of the art and case studies will be commissioned in support of Agency-wide agricultural development projects. Areas of study will include the benefit-cost (incidence of small farms systems research, food policy, and the impact of mechanization on employment, draft power use, and production. Other studies will be completed as needs arise out of project development efforts.

Major Outputs:

	All Years
Project Design Activities	70
Case Studies	15
Evaluations	15
Special Projects, including country analyses	15
<b>A.I.D. Financed Inputs in \$000:</b>	
Personnel (70 person months)	450
Logistical Support	240
Printing and other costs	10
<b>Total</b>	<b>700</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	2108	1623	485		United States Department of Agriculture, Office of International Cooperation and Development.
Estimated Fiscal Year 1981	686	836		10/1/81 - 9/30/82	
Estimated through September 30, 1981	2794	2459	335		
Proposed FY 1982	485	485		10/1/82 - 9/30/83	
Estimated through Fiscal Year 1982	3279	2944	335		
Proposed FY 83	700	Future Year Obligations 2400	Estimated Total Cost 6379	10/1/83 - 9/30/84	

TITLE Basic Planning - Water Resources		FUND Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 250		LIFE OF PROJECT 1.600
NUMBER 931-0236-09	NEW <input type="checkbox"/>	PRIORITY FY 81, Annex V	INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY 85	ESTIMATED COMPLETION DATE OF PROJECT FY 86
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	Centrally Funded Programs, p. 19			

**Purpose:** To assist in the determination of alternative methods of problem analysis and the data requirements for an improved understanding of water use in the IDCs, and to provide technical assistance to AID/W, USAID missions and the various IDC governments in analyzing policies for water resources development and utilization.

**Background and Progress to Date:** In early 1980 trips were made to five countries in Asia, Africa and Latin America to identify possible project activities in collaboration with mission and host country officials. Scopes of work were later developed for three country studies. In India, an economic analysis of the rehabilitation and improvement of tank irrigation in Tamil Nadu is to be conducted. In Egypt, the economic impacts of pricing irrigation water are to be analyzed. The third country study is an analysis of the operation and management of small scale irrigation projects in northeast Thailand. Data collection has started in Egypt and Thailand and is expected to start later in 1981 in India. In addition, a review of irrigation studies in West Africa and an evaluation of issues in future irrigation development in that region are being conducted.

**Host Country and Other Donors:** Host countries include Egypt, India and Thailand. The World Bank, ICRI/SAT and other donors are involved in the analysis of water resource problems.

**Beneficiaries:** Small farmers in IDCs are the ultimate beneficiaries. Intermediate benefits will accrue to IDC planning institutions and USAID missions in the form of improved project planning, design, implementation, and evaluation.

**FY 83 Program:** Case studies in Egypt, India and Thailand will be completed. Workshops will be held in these countries and in Washington to discuss the findings. Short term technical assistance will be provided in three other countries.

**Major Outputs:**

	AU Years
	Units
Reports on case studies	12
Synthesis and issues papers	8
Seminars and Workshops	10
Short term technical assistance	6

<b>A.I.D. Financed Inputs: In \$000:</b>		
Personnel (25 person months)		100
Commodities		125
Other Costs		25
<b>Total</b>		<b>250</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	541	200	241	10/1/80 - 3/31/82	Colorado State University (CSU) University of Minnesota (U)
Estimated Fiscal Year 1981	- 0 -	200			
Estimated through September 30, 1981	541	400	141	4/1/82 - 3/31/83	
Proposed FY 1982	250	200			
Estimated through Fiscal Year 1982	791	600	91		
Proposed FY 83	250	Future Year Obligations	Estimated Total Cost	4/1/83 - 3/31/84	
		559	1,600		

TITLE Agricultural Policy Analysis		FUNDR Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 81 450		LIFE OF PROJECT 5,100
NUMBER 936-4084.01 GRANT 4 LOAN 11	NEW <input checked="" type="checkbox"/> CONTINUING <input type="checkbox"/>	PHON REFERENCE FY 81, Annex V Centrally Funded Programs, p.38		INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87
				ESTIMATED COMPLETION DATE OF PROJECT FY 88	

**Purpose:** To expand and strengthen the agricultural planning and policy analysis capacities of the less developed countries (LDCs).

**Background and Progress to Date:** Agricultural policy is important to AID for two reasons. Policies of the host country are often crucial to the success or failure of AID funded agricultural projects. More importantly, these policies are very significant determinants of the performance of LDC economies, which are usually dominated by agriculture.

It would be foolhardy to try to simply transfer U.S. agricultural policies to LDCs. There is no universal "best" policy, and many aspects of U.S. agricultural policies are inappropriate for other countries.

Without attempting to transfer predetermined policies, AID can help the LDCs do a better job analyzing their own policies and planning agricultural development. This means working with and assisting LDC economists, other social scientists and other professionals to analyze their policies, devise policy changes when appropriate, and effectively implement these policies.

The basic strategy of the project is to provide specialized inputs to several country programs and to synthesize and document the lessons learned for distribution world wide. The project will provide assistance tailored to the needs of the selected countries in three areas: (1) Strategy for strengthening agricultural policy analysis and planning systems; (2) Agricultural price and income analysis; and (3) Agricultural resource and production analysis.

**Host Country and Other Donors:** Host countries will contribute to the project cost by providing professional counterparts and facilities, short-term consultants and design teams. Other donors, like the World Bank and its regional affiliates, have developed and are implementing relatively large scale projects designed to provide financial support to national agricultural sector planning entities. A specific example is the recently inaugurated World Bank project designed to establish and strengthen sector planning agencies in several African countries. The Organization of American States, through its Inter American Institute of Agricultural Sciences, has established and will maintain an agricultural sector planning network for the Latin American and Caribbean Region.

**Beneficiaries:** Farmers and consumers in the less developed countries will benefit from better performance of the agricultural sector. LDC policy analysts will be the intermediate beneficiaries.

**FY 83 Program:** Develop strategies for strengthening agricultural policy analysis and planning systems in four countries; provide assistance in agricultural price and income analysis in four countries; provide assistance in agricultural resource and production analysis in three countries.

**Major Outputs:**

	All Years Unit
Increased agricultural policy analysis capability in ten countries	10
Reports on country specific activities	16
Reports for world-wide distribution	7

**A.I.D. Financed Inputs in \$000:**

	FY 83
Personnel (100 person months)	\$ 400
Training	250
Commodities	25
Other Costs	25
<b>Total</b>	<b>\$ 700</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	- 0 -	- 0 -	- 0 -		Tentative/potential contractors - U.S. Department of Agriculture and Universities.
Estimated Fiscal Year 1981	- 0 -	- 0 -	- 0 -		
Estimated through September 30, 1981	- 0 -	- 0 -	- 0 -		
Proposed FY 1982	600	400		7/1/82-6/30/83	
Estimated through Fiscal Year 1982	600	400	200		
Proposed FY 83	450	Future Year Obligations 4050	Estimated Total Cost 5,100	7/1/83-10/31/83	

TITLE Integrated System for Small Farmers		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)		
NUMBER 336-1499	NEW <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 1982 - Annex V Centrally Funded Programs, p. 39	FY 83 2,400	LIFE OF PROJECT 12450	
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input type="checkbox"/>	INITIAL OBLIGATION FY 81	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop applied research, technical assistance and extension in preparing improved farming and cropping systems including integration of livestock for food production and employment of rural people.

**Background:** There is a great need to develop investigations and technical transfer projects that take into account existing physical, technical, and socio-economic conditions in order to improve inter-cropping and multicropping systems with the livestock production.

Farmers in tropical environments often plant crops in such a manner that there is an interaction between the multiple species cultivated. Livestock production and the by products may also be an important part of the system, since it may compliment the utilization of land by furnishing draft power, fuel and fertilizer as well as saleable products such as milk, meat, eggs and animal fibers. Multi-species cropping systems are presently being studied at several national and international research institutions. These studies have shown that the potential of these systems is much greater than a system which encompasses only single crops.

The first phase would identify those integrated farming systems of specific regions which could result in marked increases in productivity of the agriculturists. The proposed project will assist missions and LDC institutions to design, operate and evaluate farming systems research and development strategies by providing the following services from a cooperating university or consortium of cooperating universities, consulting and applied research in LDCs in close cooperation with missions and LDC researchers, and research on key organizational and methodological issues related to farming systems research.

The second phase of the project would direct adaptive research and technology transfer and training at the immediate production needs of the farmers. A collaboration of research activities would include but not be limited to relevant DS/AGR projects such as Soils CRSP, Small Ruminants CRSP, Sorghum Millet CRSP, Bean and Cowpeas CRSP, Improved Varieties of Soybeans, Dryland Agricultural Support Services, Management of Small Irrigation Systems and other agricultural production projects. The expansion of employment and diversity in production would be of primary concern to facilitate the reduction in risk. A process and procedure to allow for an organized transfer of technology from one country to the another would be developed. The present farming system would be studied with the objective of improving it within the economic, social, and physical constraints confronted.

The project will provide regional bureaus and missions an opportunity to assist the IDCs in the development of an adaptive research and technology transfer program which originates at the grass roots level. Concerted efforts would be extended to assist missions develop change agents who could serve as the transmitters of applied research needs to the farmers.

The final phase of the project would involve the transfer of the process and procedures for development to other regions and countries.

**Host Country and Other Donors:** The project would be integrated with and establish linkages with national and international research centers. It will also initiate activities with national technology transfer institutions or organizations.

**Beneficiaries:** National research and technology transfer systems as well as small farmers.

**FY 83 Program:** (1) Establish programs in four regional centers and establish integrated cropping and livestock systems investigations. Efforts will be extended to assemble and synthesize local knowledge and experiences. (2) National staff will be selected to participate in diagnosis of problems, and development of adaptive research and technology transfer systems, and (3) Assistance will be extended to missions and LDC institutions to assist in the development and improvement of technology and its transfer.

Major Outputs and A.I.D. Units:	All Years Units	A.I.D. Financed Inputs in \$000s.	FY 83
<b>Farming System</b>			
Consulting & applied research	23	Personnel	\$ 375
State of arts and case studies	10	Logistics	225
Dissemination of information	23	Training	100
		SUBTOTAL	\$ 700
<b>Int. Crops and Livestock Res.</b>			
Crop and livestock experiments	46	Personnel	\$1150
Training of LDC staff	75	Logistics	200
Technical publications	10	Operations and equipment	400
Workshops and training course	5		
Crop protection recommendations	20		SUBTOTAL \$1750
Recommendations of F.S.R.	20		
		TOTAL	\$2450

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	400	300	-	3/31/82 - 11/30/82	
Estimated through Fiscal Year 1982	400	300	-		
Proposed FY 83	2,400	Future Year Obligations	Estimated Total Cost	12/1/82 - 11/30/83	
		9,650	12450		

Title: Economics of Alternative Approaches to Production Research		FUND: Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)	
NUMBER: 736-4115	NEW X I	PRIOR REFERENCE: None	FY 83: 680	LIFE OF PROJECT: 900
GRANT A	LOAN D		INITIAL OBLIGATION FY 83: 83	ESTIMATED FINAL OBLIGATION FY 84: 84
	CONTINUING E I			ESTIMATED COMPLETION DATE OF PROJECT FY 85

Purpose: Evaluate the costs and benefits of producing new agriculture technologies.

Background and Progress To Date: Agriculture technology generating research systems are undergoing rapid and important changes. An international network is developing whereby national agricultural research systems are being technically supported and reinforced by the worldwide system of basic-food crop based international agricultural research centers. This innovation, which is increasingly being characterized by on-farm multidisciplinary research systems, is adding an important dimension to international agriculture research and development programs. However, these alternative institutional arrangements which include the participation of the small farmer in the investigative process, are not without their costs.

An extensive set of comparative cost analyses treating the various components of farming systems research inputs, both on-farm and center-based, are needed to enhance the effectiveness of national agricultural research centers. To produce these comparative cost analyses, the project will collect cost data representative of alternative research experiences in the various regions of the world, conduct individual comparative cost analyses, aggregate analytical results when appropriate, and present country-specific recommendations supportive of design and program improvements in national and international agricultural research systems. In addition to providing an analytical framework supportive of efforts directed at the restructuring of national agricultural research priorities, the project will assist researchers and planners with the determination of optimal land usages, cropping combinations, and marketing arrangements particularly as they relate to employment opportunities and income issues. The project is responsive to one of the Agency's stated goals, that of increasing food supplies at prices the poor majority can afford. Shifting the agricultural production function through technological innovation is the principal means of achieving this goal. Implementation of this project will make an important contribution to that process by providing decision makers with reliable cost estimates of alternative research methods, production options given the constraints of the natural resource base and national income/employment policies, and institutional arrangements.

Host Country and Other Donors: The project will draw upon the information resources of national agricultural research institutions and the international centers. These institutions and centers will contribute to project development through the provision of relevant cost data, agronomic

information, and information concerning the institutional settings of national agricultural research and extension services. Project output will help enable national systems to organize their resources to meet country demands for agriculture research and extension services. The project output will also be complementary to the services of the International Service for National Agriculture Research (I.S.N.A.R.), an international agricultural research center mandated to help strengthen national agricultural research capabilities in developing countries.

FY 83 Program: Surveys of national and international agricultural research institutions will commence. Baseline data on research costs will be collected and analysis initiated. Work will also be initiated to gather agronomic data on production practices and their relationship to income and employment issues.

Major Outputs (and A.I.D. Unit Cost):

	All Years Unit
National surveys	15
International surveys	1
Economic analysis projects	16
Information dissemination workshops	5
Publications, information systems	10

A.I.D. Financed Inputs in \$000

	FY 83
Personnel (50 person months)	520
Workshops (2)	30
Commodities	50
Other costs	80
Total	680

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	- 0 -	- 0 -	- 0 -		To be determined
Estimated Fiscal Year 1981	- 0 -	- 0 -	- 0 -		
Estimated through September 30, 1981	- 0 -	- 0 -	- 0 -		
Proposed FY 1982	- 0 -	- 0 -	- 0 -		
Estimated through Fiscal Year 1982	- 0 -	- 0 -	- 0 -		
Proposed FY 83	680	Future Year Obligations	Estimated Total Cost	10/1/82-9/30/83	
		220	900		

PROGRAM: CENTRALLY FUNDED

ACTIVITY DATA SHEET

PROJECT MANAGER: Richard Seltzer

TITLE: Agricultural Research and Information Systems		FUNDS: Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars) FY 83: 1400	LIFT OF PROJECT: 5000
NUMBER: 936-4116 GRANT 83 (DAN E)	NEW? CONTINUING U	PRION REFERENCE: None	INITIAL OBLIGATION FY: 83	ESTIMATED FINAL OBLIGATION FY: 87
			ESTIMATED COST OF PROJECT FY: 88	ESTIMATED COST OF PROJECT FY: 88

**Purpose:** To increase agricultural production education and dissemination through the development and application of methodologies for assessing the benefits and costs of agricultural information in less developed countries.

**Background and Progress to Date:** Most IXC's cannot afford the luxury of a full blown research and extension service similar to those which exist in our Land Grant Universities of the U.S. These same IXC's do have a great need to develop applied research and find a means of disseminating this information to their farmers. These IXC governments strongly support the generation and dissemination of a wide range of agricultural information, including statistical estimates of variables such as production, land use and prices; soil and water inventories; and agronomic research results. Users of this information include planners, researchers, extension agents, farmers and related businesses. Because the need for accurate and timely information far exceeds the capability to provide it, governments allocate their scarce resources to agricultural information generation and dissemination activities on the basis of perceived benefits and costs.

This project is subdivided into two major components:

(1) One component will develop methodologies for assessing the benefits and costs of agricultural information and help selected IXC's apply these techniques. The benefit assessment methodology must be comprehensive so that the relative benefits of different kinds and qualities of information can be compared; it also must be practical to enable governments to continually assess the benefits in their own countries. Detailed specifications will be developed for alternative methods of generating and disseminating information; personnel, computer hardware and software, and other inputs; and characteristics of the products will be specified. These specifications can be used to determine the costs of the alternative methods in particular countries.

(2) For this component DS/AGR will develop among its staff a team of five experts in the areas of soils, irrigation crops, farm management, and animal husbandry who will help the country to develop a cadre of production specialists who will focus on a training program aimed at the diagnosis of farm production problems and the initiation of adaptive research to obtain information on ways and means of removing constraints. The program will test various methodologies in adaptive research. To be useful, these research results then need to be packaged and made available to the farmers through extension agents or whatever means are appropriate to that specific locality.

**Host Country and Other Donors:** Host country will select and recruit young agriculturalists to be trained in the program. Host country will provide

institutional arrangements to assure a permanent and stable group of technicians. Their counterpart contribution over a seven year period will total four million dollars.

**Beneficiaries:** Consumers, small commercial and subsistence farmers will benefit from more efficient agriculture.

**FY 83 Program:** 1. Initiate development of methodologies and make contact with countries that will receive direct assistance.

2. Selection of the institution in the country which has the best capacity of carrying out adaptive research.

3. With government officials, AID mission and research institute decide on the priority areas of production which the program will concentrate on (irrigated corn, dryland wheat, cotton, pork, milk, sorghum.)

4. Initiate the training program aimed at the diagnosis of farm production problems.

Major Outputs:

	All Years Units
Analyses of agriculture production programs	3
Adaptive research trials	150
Benefit assessment documents	2
Cost assessment documents	8
Country applications	10
Staff development	1
Training program	3
Trained people	36
<b>A.I.D. Financed Inputs in \$000:</b>	
Personnel (140 person months)	900
Transportation	100
Supplies and Equipment	150
Other costs	250
<b>Total</b>	<b>1400</b>

U.S. FINANCING (in thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	-	-	-	-	To be determined
Estimated Fiscal Year 1981	-	-	-	-	
Estimated through September 30, 1981	-	-	-	-	
Proposed FY 1982	-	-	-	-	
Estimated through Fiscal Year 1982	-	-	-	-	
Proposed FY 83	1400	Future Year Obligations 3600	Estimated Total Cost 5000	10/1/82-9/30/83	

TITLE Economics of Food Security			FUNDS Agricultural Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars) FY 83 500	LIFE OF PROJECT 3000
NUMRFR 931-4117	NEW OR CONTINUING I	PHON REFERENCE None	INITIAL OBLIGATION FY 83	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE FY 88
GRANT R	LOAN I				

Purpose: To help less developed countries formulate food security strategies.

Background: An important objective of LDC governments is to dampen fluctuations in the available supplies and retail prices of food. Domestic production can change a great deal from one year to the next because of floods, drought or other natural causes. Imports may or may not be adequate to compensate for unexpected production shortfalls. Furthermore, the international markets are subject to a great deal of uncertainty; if a bad harvest coincides with a period of unusually high prices in the international markets, the country may not be able to purchase enough food imports to maintain a stable supply for consumers.

There are a number of ways to cope with the food insecurity problem. A common method is to maintain higher levels of food stocks within the country, either through government operated storage programs or incentives to the private sector. Another is to make domestic production more secure through irrigation and other investments in agriculture. Improvement in port facilities, internal transport and grain handling systems facilitate timely imports of grain to meet emergency situations. Financial risks can be controlled by maintaining greater foreign exchange reserves, hedging in the futures markets, establishing long term food aid commitments, or through IMF or other standby commitments.

This project will evaluate the full range of alternatives for attaining food security. A general evaluation can be developed by reviewing the literature and conducting analyses based on secondary data. With this background, short term consultant services will be provided to selected LDCs to help them assess their food security strategies and to test the practicality of the general evaluation. This project will be closely coordinated with Food Security Management (936-5316), which deals with logistical management of grain marketing and storage and related information systems.

Host Country and Other Donors: The World Bank, Food and Agriculture Organization, and International Food Policy Research Institute sponsor research and technical assistance in the general area of food security. Host country analysts and planners will collaborate in the assessments of their food security strategies.

Beneficiaries: Consumers in the LDCs.

FY 83 Program: A general evaluation of alternatives for attaining food security will be completed. Short term assistance will be provided to

begin the assessments of food security strategies in four countries.

Major Outputs:

	All Years (in \$000)
Country food security assessments	70
General evaluation of alternative strategies	1
Seminars and Workshops	4
<u>A.J.D. Financial Inputs in \$000:</u>	
Personnel (60 person months)	\$ 400
Training	75
Other Costs	25
Total	\$ 500

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	- 0 -	- 0 -	- 0 -		
Estimated Fiscal Year 1981	- 0 -	- 0 -	- 0 -		
Estimated through September 30, 1981	- 0 -	- 0 -	- 0 -		
Proposed FY 1982	- 0 -	- 0 -	- 0 -		
Estimated through Fiscal Year 1982	- 0 -	- 0 -	- 0 -		
Proposed FY 83	500	Future Year Obligations	Estimated Total Cost	10/1/82 - 9/30/83	To be Determined
		2500	3000		

TITLE Impact of Agricultural Policies on Food Supply			FUNDS Agriculture and Rural Development and Nutrition		PROPOSED OBLIGATION (In thousands of dollars) FY 82 250		LIFE OF PROJECT 800	
NUMBER - 936-4125 New <input checked="" type="checkbox"/> CONTINUING <input type="checkbox"/>			PRIOR REFERENCE None		INITIAL OBLIGATION FY 82		ESTIMATED FINAL OBLIGATION FY 85	
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>							ESTIMATED COMPLETION DATE OF PROJECT FY 86	

**Purpose:** To identify major constraints to satisfying food needs in LDCs and to develop alternative strategies and policy options for LDCs.

**Background and Progress to Date:** In most LDCs there are substantial numbers of people who do not have access to adequate food. The problem takes various macro-economic and micro-economic forms: a) insufficient production of basic food commodities coupled with lack of foreign exchange to buy on the international market, b) variation in production from year to year and c) inadequate distribution of available food supplies because of low incomes. The sources of these problems can be a poor resources base, but may also be a function of the agricultural and food policy environment. Many countries pursue policies to satisfy food needs which are costly because the problems and the policies and policy instruments to solve them are mismatched. The sources of this mismatch can be a) inaccurate assessment of the economic and agricultural situation, i.e. comparative advantage, production potential and demand for products due to lack of information and lack of analytical capability, b) lack of resources to implement policies, c) political pressures which make it impossible to match policies and problems.

This project will identify countries which have major food shortages and/or where there is a large sector of the population which does not have access to adequate food. It will identify LDC government interest and their attempts to satisfy basic food needs, determine the costs of various policy options, explain why the least cost policy options are not necessarily chosen and identify strategies which will address the needs of the staple food sector. These options include policy changes but may also include better information systems and analytical capability, better institutional capability to implement policies, food aid in areas where resources are inadequate to meet food needs in both the short and long run.

Work being presently done by the USDA and the University of Minnesota will help to identify any countries that are not able to meet food needs requirements, add insight as to why, and identify costs of inappropriate policy choices.

Two current projects are complementary to the work proposed in this project. "Nutrition: Subsidized Food Consumption (Project 931-1275)" isolates one important policy objective, low cost food, and studies the impacts of pursuing that objective upon various aspects of the economy. "Nutrition: Consumption Effects of Agricultural Policies (Project 931-1274)" concentrates on the impact

of various agricultural policies and programs on nutrition. The proposed project is much broader in scope, looking at both the demand side and the supply side and analyzing several policy objectives rather than just one. An additional dimension of the proposed project is the identification and analyses of the reasons for the economic inefficiency of many food policies in low income countries.

**Host Country and Other Donors:** Host country institutions will collaborate with the provision of facilities and staff to expedite the work of consulting teams in cooperating LDCs.

**Beneficiaries:** Analysis of policy options associated with the attainment of food adequacy in various LDCs will enable those countries to better plan for and manage their national staple food production. Potential benefits will accrue to both small farmers and urban consumers of staple foods.

**FY 83 Program:** Build on background work done by University of Minnesota and USDA. Four major issue papers. Two case studies.

#### Major Outputs:

	All Years Units
Major Issue Papers	5
Reports on Case Studies	10
Major Report on Implication for AID Strategies in LDCs	1
Seminar to Disseminate Findings	4

#### AID Financed Inputs in \$000:

	FY 83
Personnel (24 person months)	200
Commodities	5
Other costs	45
Total	250

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	- 0 -	- 0 -	- 0 -		
Estimated Fiscal Year 1981	- 0 -	- 0 -	- 0 -		
Estimated through September 30, 1981	- 0 -	- 0 -	- 0 -		
Proposed FY 1982	250	200		1/1/82 - 12/31/82	To be determined
Estimated through Fiscal Year 1982	250	200	50		
Proposed FY 83	250			1/1/83 - 12/31/83	
		Future Year Obligations	Estimated Total Cost		
		300	800		

TITLE Seed Program and Industry Development		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 360		LIFE OF PROJECT 4,944
NUMBER 211-0203	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 19	INITIAL OBLIGATION FY 88	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>			

Purpose: To provide technical assistance in seed program and industry planning implementation and evaluation leading to a seed production industry capable of meeting LDC farmers' needs for improved seeds.

Background and Progress to Date: Mississippi State University has developed a comprehensive international seed technology program which has had A.I.D. support since 1958. The project responds to the need for materials, techniques, methodologies, and technical assistance required to design and to implement responsible seed production and supply systems capable of meeting LDC farmers' needs for improved seed. This involves providing technical assistance for LDCs on all phases of seed technology including seed production, harvesting, drying, processing, quality control and distribution. The project conducts in-country training courses and responds to requests for information on a continuous basis. The socioeconomic benefits to LDCs of efforts in crop breeding and improvement are directly proportional to the quantities of improved seed multiplied, distributed and planted by their farmers. The quality and orientation of a country's agriculture are closely related to the availability of improved seed. As of April 1981, there have been 226 consultative visits to 53 countries for 5,520 person days, 31 in-country training courses involving 946 participants, 2,266 person days devoted to responding to technical inquiries for use by LDC technicians. As a result of these activities, 26 seed industries have been established in LDCs and 23 others assisted in their development. There have been 173 graduates from 20 countries from the Mississippi State University Agronomy Seed Technology degree program. There have been 148 participants from 20 countries in non-degree programs in Agronomy Seed Technology at Mississippi State University. These trained personnel have returned to their home countries where they are contributing to the development of local seed industries. There have been 403 participants from 65 countries attend the Annual Short Course in Seeds given by Mississippi State University. The Industry Council for Development provides an effective mechanism for establishing direct linkages between commercial seed firms in LDCs and appropriate agencies in the LDCs. A.I.D.'s service project with the Industry Council support an effort designed to establish, strengthen and utilize such linkages.

Host Country and Other Donors: The host countries provide facilities for training/workshops, local transportation, seed processing equipment and seed analysis laboratories. IARCs provide facilities for training in seed production at the Centers' sites.

Beneficiaries: Small and medium farmers in developing countries, whose access to improved seed increases.

FY 83 Program: Provide technical assistance for approximately ten countries including ones not previously served and ones requesting follow-up work in order to improve efficiency of seed processing. Hold the summer training course in seed processing for 30 participants. Continue graduate training program.

Major Outputs and A.I.D. Units:

	All Years Units
Provided technical assistance in seed industry development and operation in LDCs (consultancies).	300
Training programs.	47
Provided information in seed technology (responses and publications).	3017
Developed appropriate technology essential to seed production and seed operations in LDCs.	33

A.I.D. Financed Inputs in \$000s:

	FY 83 \$ 180
Personnel (50 person months)	150
Logistics	30
Other Costs	30
TOTAL	\$ 360

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	2844	2389	455	Present to 3/31/82	Mississippi State University
Estimated Fiscal Year 1981	-0-	221			
Estimated through September 30, 1981	2844	2610	234	3/31/82 to 3/31/83	
Proposed FY 1982	300	270			
Estimated through Fiscal Year 1982	3144	2880	264	3/31/83 to 3/31/84	
Proposed FY 83	360	Future Year Obligations 1440	Estimated Total Cost 4944		

TITLE Plant and Seed Materials		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 431-0929	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 20	FY 83 175	LIFE OF PROJECT 3,627
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	INITIAL OBLIGATION FY 55	ESTIMATED FINAL OBLIGATION FY 87
			ESTIMATED COMPLETION DATE OF PROJECT FY 88	

**Purpose:** To provide experimental quantities of seed and plant materials and technical information on germplasm to developing countries.

**Background and Progress to Date:** Agricultural production in many developing countries is dependent on cultivars that are indigenous or introduced and have not been improved due to the lack of a broad germplasm base. There continue to be useful plants discovered which can be successfully introduced into other countries. This project provides the service of collection, maintenance, quarantine and distribution of plant and seed materials. The availability of new plant and seed materials is of great importance in increasing agricultural production in developing countries. A free exchange of agricultural source information and plant seed materials is crucial to the development of new agricultural potentials. The Agriculture Research Service Germplasm Resource Laboratory of the U.S. Department of Agriculture's Science and Education Administration (USDA-SEA), is the primary agency responsible for collection, maintenance, quarantine, increase and exchange of needed plant and seed materials. Since this project started, over 100,000 varieties or selections of virtually every known economic crop have been sent to over 100 different countries upon request. This represents more than 4,000 shipments—which is a significant contribution to developing country agriculture programs.

**Host Country and Other Donors:** None

**Beneficiaries:** Farmers, agriculturists and researchers in developing countries who grow crops supported under this project.

**FY 83 Program:** Continue activities in providing plant and seed materials upon request. Increase personnel to improve response capability.

**Major Outputs and A.I.D. Units:**

All Years  
Units

Samples of seed and plant materials sent to developing countries 110,000

**A.I.D. Financed Inputs in \$000s:**

Personnel (30 person months)		FY 83
Logistics	\$ 60	
Commodities	45	
Other Costs	15	
	55	
<b>TOTAL</b>	<b>\$ 175</b>	

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	2452	2300	152	9/30/81 to 9/29/82	United States Department of Agriculture Science and Education Administration, Agricultural Research (USDA/SEA/AR)
Estimated Fiscal Year 1981	150	150			
Estimated through September 30, 1981	2602	2450	152	9/30/82 to 9/29/83	
Proposed FY 1982	150	150			
Estimated through Fiscal Year 1982	2752	2600	152	9/30/83 to 9/29/84	
Proposed FY 83	175	Future Year Obligations 700	Estimated Total Cost 3627		

TITLE Crop Production and Utilization Technical Assistance		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 500		LIFE OF PROJECT 3,350
NUMBER 936-1109	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, pps. 30-32	INITIAL OBLIGATION FY 81	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>			

Purpose: To provide LDCs with cereal grain, grain legume and oilseed crop production and utilization technology.

Background and Progress to Date: Cereal grains provide the most important source of human food and supply, about three-fourths of our energy, and half of our protein. Grain legumes are sorely needed as sources of food protein to balance human diets and also are important sources of nitrogen in the cropping systems. The six major annual oilseed crops are all edible by man and livestock. They are high in total protein and when the high value oil is extracted, the resultant cake or meal has a greater per weight volume as protein food than the original cake. This project will assist in the development of programs in LDCs to adopt the best available current technology and develop improved methods for increased crop production and efficient utilization under LDC conditions. The activity also offers the potential for enhanced nutrition and increased income for LDC poor. It will use the knowledge, technology, and breeding materials developed under DSB and A.I.D. funded research grants/contracts with the universities, from research conducted by USDA and International Agriculture Research Centers (IARCs) to assist LDC farmers increase crop yields and farm incomes. The project's chief purpose will be to provide technical assistance to LDCs on request for all phases of cereal grain production, including harvesting, crop protection, integrated pest management and utilization. Assistance will also be made available for in-country project design and evaluation.

Host Country and Other Donors: The host countries will provide various levels of support services of office space, laboratory and field facilities.

Beneficiaries: Small farmers and consumers in developing countries will benefit worldwide.

FY 83 Program: Provide the regional bureaus and an estimated 20 A.I.D. missions with 25 consulting teams utilizing 300 person days, library and information services, eight training programs in eight countries for an estimated 175 participants; including four workshops, seminars and short and long term training courses. A network will be initiated to assist in coordinating information on crop production and utilization available from research and technical institutions. Two agronomists and one postharvest food loss specialist will be provided to DSB/ACR. USAIDs should anticipate providing per diem, where possible, for all TDYs.

Major Outputs and A.I.D. Units:

	All Years
	Units
LDC crop production and utilization programs	10
Training (short courses)	8
LDC scientists trained in crop production and utilization	9
International crop network operations	1
Information center activities (responses, duplication and publication)	300
Technical assistance to specific LDC crop programs, TDYs	8
<u>A.I.D. Financed Inputs in \$000's:</u>	
	FY 83
Personnel (75 person months)	\$ 300
Training (15 months)	120
Logistics	30
Travel	50
TOTAL	\$ 500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		U. S. Department of Agriculture
Estimated Fiscal Year 1981	350	38		6/1/81 to 9/30/82	
Estimated through September 30, 1981	350	38	262		
Proposed FY 1982	500	450		9/30/82 to 9/30/83	
Estimated through Fiscal Year 1982	850	538	312		
Proposed FY 83	500	Future Year Obligations: 2000	Estimated Total Cost 3350	9/30/83 to 9/30/84	

TITLE Improved Varieties of Soybeans		FUNDS Agriculture, Rural Development and Nutrition
NUMBER 931-0560	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 19
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>

PROPOSED OBLIGATION (in thousands of dollars)		
FY 83	800	LIFE OF PROJECT 10,050
INITIAL OBLIGATION FY 73	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

Purpose: To develop and exploit the potential of soybean edible protein and oil for diets of rural and urban poor worldwide in IDCs.

Background and Progress to Date: This is a continuation of research activities on soybeans initiated in FY 1973 by the University of Illinois. Soybeans offer a greater potential for lessening the IDC protein and calorie shortage than any other grain legume. Experience with this project indicates that the soybean is a far more widely adaptable legume than was previously thought. Satisfactory yields can be obtained over a wide range of agroclimatic conditions following food management and cultural practices. It is now known that the soybean can be developed to be a higher yielding crop at tropical latitudes. Cultivars have been developed which exhibit disease resistance. Pathogens that affect seed quality and germination have been intensively studied through cooperative efforts of the Universities of Illinois and Puerto Rico. Through interdisciplinary work between plant pathology and entomology, excellent progress has been made in the development of model insect control management systems. A key aspect of the improvement of production technology is the expansion of production and use of *Rhizobium japonicum* to improve soybean nodulation in the tropics. Research is underway to extend investigations from the lab to the IDC farmers' field. Computerized information systems are utilized in the management and dissemination of knowledge about soybean production, protection and utilization. 1833 requests were responded to between 1975-1979. A publication series, with 15 titles published, has been an extremely useful means of informing soybean workers about a wide range of subjects. The INTSOY quarterly newsletter published in English, French, and Spanish is distributed to over 1,500 agriculturalists worldwide. To date the project has been instrumental in identifying and introducing the varieties and production technology that has led to average increase of up to 200,000 acres in Egypt, 1,500,000 acres in India, 50,000 acres in Ecuador, 3,000 acres in Peru, 10,000 acres in Sri Lanka and 200,000 acres in Thailand. Countries are improving their soybean research capacity, as the soybean breeders are becoming more active in the international INTSOY soybean testing network. Currently scientists from 150 locations in 70 countries are collaborating in the varietal testing network.

Host Countries and Other Donors: IDC collaborators in 70 countries provide the personnel and the facilities for growing the 1981 international soybean variety experiments. There is close joint collaboration with the International Institute of Tropical Agriculture (IITA), the Asian Vegetable Research and

Development Center (AVPDC), the University of Puerto Rico and the University of Illinois.

Beneficiaries: Small farmers and consumers in developing countries will benefit worldwide.

FY 83 Program: To continue research on (1) developing genetic materials for use in IDC research and production programs; (2) developing improved technology for *Rhizobium japonicum* production and management under tropical conditions; (3) improving the knowledge base for disease, insect, and weed control soybeans produced under tropical environments; (4) developing soybean disease, insect, and weed management systems for tropical and subtropical areas; (5) developing improved production, harvesting, handling, and storage methods for seed and grain under tropical conditions.

Major Outputs and A.I.D. Units	All Years Units
Improved genetic materials and production programs in IDCs.	10
Improved <i>R. japonicum</i> technologies.	4
Improved knowledge base in disease, insect and weed control.	6
Integrated disease, insect, and weed control systems.	3
Production, harvesting, handling and storage methods.	6
<u>A.I.D. Financed Inputs in \$000s:</u>	
	FY 83
Personnel (188 person months)	\$ 225
Logistics	100
Other costs	75
	TOTAL \$ 400

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	4425	4302	123	12/1/80 to 11/30/81	University of Illinois
Estimated Fiscal Year 1981	825	835			
Estimated through September 30, 1981	5250	5137	113	11/30/80 to 11/30/82	
Proposed FY 1982	800	875			
Estimated through Fiscal Year 1982	6050	6012	38	11/30/82 to 11/30/83	
Proposed FY 83	800				
		Future Year Obligations	Estimated Total Cost		
		3200	10,050		

TITLE Control of Barley Diseases		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 290		LIFE OF PROJECT 2, 611
NUMBER 911-1318	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21	INITIAL OBLIGATION FY 78	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>				
	CONTINUING <input checked="" type="checkbox"/>				

**Purpose:** To increase the yield of barley by increasing the resistance to diseases in the developing countries.

**Background and Progress to Date:** Barley is grown on over 15 million hectares in the developing countries and the annual production is over 17 million metric tons. Barley is grown for food in many areas of the world, especially in areas which have a marginal environment, e.g., low rainfall, saline soils and short seasons. It is a major food source for the poorest people in arid developing countries. Major constraints to increased production include yield losses caused by the major diseases of barley, particularly in the developing countries. Although few reliable figures are available, diseases can and do reduce yields 5 to 20%, and in some total crop losses may occur. Disease resistance combined with improved agronomic types can result in an increase of 100% productivity - this would greatly benefit the subsistence farmers who rely on barley for food. The major objectives of this project are to: (1) identify different sources of resistance to the major diseases of barley in LDCs; (2) develop recurrent selection populations (RSPs)\* with multiple resistance to different diseases; (3) assist the International Agriculture Research Centers (IARCs) to establish serodiagnosis programs for the detection of barley stripe mosaic virus; and (4) to develop a simple screening procedure for use with barley scald disease and other diseases.

**Host Country and Other Donors:** Host country institutions provide facilities, scientists and labor for conducting 22 collaborative disease screening trials in 9 LDCs.

**Beneficiaries:** Small farmers and consumers of barley in developing countries will benefit.

**FY 83 Program:** Activities will continue in (1) determining different sources of resistance involving major diseases; (2) developing populations with major and minor gene resistance to specific diseases; (3) combining special populations having specific agronomic traits with disease resistance populations; (4) training barley research workers; (5) working closely with CIMMYT, ICARDA and National Barley Breeding Programs in developing countries.

\*RSPs contain resistance genes for the major diseases. Selections of the most resistant and agronomically acceptable barley types will be repeated in several cycles of recombinations. The RSPs will be grown in the LDCs, selections will lead to broad based resistance to major diseases of barley which will be effective in developing resistant barley cultivars for the LDCs.

**Major Outputs and A.I.D. Units:**

Determine sources of resistance to barley diseases  
Cross lines with multiple disease resistance  
Distribute uniform disease screening nurseries to LDCs  
Train LDC researcher workers  
Develop a procedure for serodiagnosis and gene transfers

All Years  
Units

15  
25  
22  
30  
1

**A.I.D. Financed Inputs in \$000s:**

Personnel (62 person months)  
Travel and Per Diem  
Equipment and Supplies  
Training Costs

FY 83  
\$ 110  
40  
40  
100

TOTAL \$ 290

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	724	542	182		
Estimated Fiscal Year 1981	97	200		6/1/81 to 12/31/81	
Estimated through September 30, 1981	821	742	79		
Proposed FY 1982	340	325		1/1/82 to 12/31/82	Montana State University
Estimated through Fiscal Year 1982	1161	1067	94		
Proposed FY 83	290	Future Year Obligations	Estimated Total Cost	12/31/82 to 11/30/83	
		1160	2611		

TITLE Peanut Research		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 936-4048	NEW <input checked="" type="checkbox"/>	PRIOR REFERENCE None	FY 83 800	LIFE OF PROJECT 4,000
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 83 83	ESTIMATED FINAL OBLIGATION FY 87 87
	CONTINUING <input type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To increase peanut production, utilization and improve research capability in LDCs through cooperative research between U.S. and LDC institutions.

**Background:** Peanuts are one of the basic food legume crops consumed by the poorest segment of the populations in Africa and Asia. This project will develop cooperative relationships between U.S. and about ten LDC institutions to attack constraints to increased production and utilization of peanuts. The immediate objectives will be to: 1) expand the body of knowledge on peanuts as part of small farmer production systems; 2) develop and test appropriate technologies and practices to improve productivity of principal production systems; 3) expand the level of competence of 20 LDC scientists to conduct research on peanut production systems through academic and on-the-job training; and 4) to improve peanut production capability in developing countries through the introduction and adoption of higher yielding, disease and insect resistant cultivars and improved technology. The peanut research planning will be completed by January 1982 and a detailed proposal submitted to A.I.D. A grant should be made during the first half of FY 83. Close coordination of planning of the activities has been maintained with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). ICRISAT is involved in all stages of program planning to avoid duplication and overlap of activities.

**Host Country and Other Donors:** All involved LDC institutions will provide personnel and facilities for conducting research in their respective countries.

**Beneficiaries:** LDC peanut research and production programs initially and the LDC farmer and urban poor will be ultimate beneficiaries worldwide. There is some technology available at U.S. institutions which could be transferred to some of the LDCs and made available for extension service programs as soon as this program becomes operational. In other cases, collaborative research will have to be conducted to determine optimum technology. For example, the development of improved peanut activities will take a considerably longer period.

**FY 83 Program:** Activities will be initiated on applied research problems dealing with solving constraints to increased production and utilization of peanuts, i.e., cropping systems on small LDC farms, development of improved varieties, etc. The U.S. institutions will become more deeply involved in cooperative research with LDC institutions.

Major Outputs and A.I.D. Units:	All Years Units
Self-sustaining peanut production and breeding programs	15
LDC staff trained in production and processing	200
Worldwide network for peanut research	1
Cropping systems and packages of management practices	15
Multiple disease and insect varieties	60
Communication strategies for technology transfer	10
New selection criteria for crop breeding programs	10
High yielding varieties	80
New germplasm sources for disease and insect resistance in peanuts	15

A.I.D. Financed Inputs in \$000s:	FY 83
Personnel (120 person months)	\$ 350
Logistic Support	150
Training (80 person months)	150
Equipment and Facilities	150
Equipment and Facilities	150
TOTAL	\$800

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-	6/30/83 to 6/30/84	To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	-	-	-		
Estimated through Fiscal Year 1982	-	-	-		
Proposed FY 83	800	Future Year Obligations	Estimated Total Cost		
		3200	4000		

TITLE Collaborative Research CRSP - Sorghum and Millet		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	ESTIMATED COMPLETION DATE OF PROJECT
NUMBER 931-1254	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1981 Annex V, Centrally Funded Programs, p. 21	FY 83 3,500		Continuing	
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY Continuing		FY Continuing

Purpose: To increase sorghum/millet production, utilization and to improve research capability in IDCs through collaborative research between U.S. and IDC institutions.

Background and Progress to Date: Sorghum/millet are basic foods consumed by the poorest segment of the populations in much of Africa, the Indian subcontinent and parts of Latin America. This project will develop collaborative relationships between U.S. and IDC institutions to attack constraints to increased production and utilization of sorghum/millet in IDCs. The immediate objectives are to: (1) expand the body of knowledge in sorghum/millet as part of small farmer production systems; (2) develop and test appropriate technologies and practices to improve productivity of target production systems; (3) expand the level of competence of IDC scientists to conduct research on grain sorghum/millet production systems; and (4) to improve sorghum/millet grain production capability of developing countries. This Sorghum/Millet Collaborative Research Support Program (CRSP) was authorized by A.I.D., effective July 1, 1979. Subgrants to the eight participating U.S. and Grant institutions have been made based upon the program plan as set forth to the Basic Grant Document.

Specific plans have been developed for collaborative activities in Egypt, Sudan, Mali, and the Philippines in FY 1981. Efforts are currently being made to identify and to develop specific plans for collaborative activities with IDC collaborators in Latin American and other African countries. A joint agreement has been signed with the Centro Internacional de Agricultura Tropical (CIAT) and the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) for collaborative activities in Latin America. Furthermore, close cooperation of CRSP activities with ICRISAT is being maintained on a world-wide basis. ICRISAT has been involved in all stages of program planning to avoid duplication and overlap of activities.

Host Countries and Other Donors: All IDC collaborative institutions will provide a minimum of two research workers plus supporting staff for conducting research in their respective countries. In addition, they will provide land and laboratory facilities in each country, estimated to be a contribution of \$10,000 at each site. The eight U.S. universities will provide a minimum of 25 percent of the A.I.D. matching funds.

Beneficiaries: IDC sorghum/millet research and production programs initially and the IDC small farmer and urban poor will be the ultimate beneficiaries worldwide.

FY 83 Program: Activities will continue on applied research problems as approved by A.I.D. in FY 1979, dealing with solving constraints to increased production and utilization of sorghum/millet, i.e., cropping systems on small IDC farms and development of improved varieties. The U.S. institutions became more deeply involved in collaborative research with IDC institutions by providing 45 person months in IDCs and training four IDC graduate students at U.S. universities and about 50 students at workshops and on-the-job.

Major Outputs and A.I.D. Units:	All Years Units
Sorghum/millet breeding and research programs in IDCs	10
High yielding varieties	200
Multiple disease and insect resistant varieties	40
Cropping systems and packages of management practices	20
Improved village cooking methods and family nutrition programs	50
Communication strategies for technology transfer	10
New germplasm sources for disease and insect resistance in sorghum/millet	20
<u>A.I.D. Financed Inputs in \$000s:</u>	<u>FY 83</u>
Personnel (500 person months)	\$2200
Logistic Support	350
Training (550 person months)	150
Equipment and facilities	800
ICRISAT	\$3500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	7500	3384	4116	7/1/79 to 6/30/82	Universities of Nebraska, Purdue, Kentucky, Texas A & M, Arizona, Mississippi State, Florida A & M and Kansas State
Estimated Fiscal Year 1981	1858	2050	3924		
Estimated through September 30, 1981	9358	5434		7/1/82 to 6/30/83	
Proposed FY 1982	3500	3500			
Estimated through Fiscal Year 1982	12858	8934	3924	7/1/83 to 6/30/84	
Proposed FY 83	3500	Future Year Obligations	Estimated Total Cost		
		Continuing	Continuing		

TITLE Collaborative Research: CRSP-Beans and Cowpeas		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 931-1310	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21	FY 83 3,600	LIFE OF PROJECT Continuing
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	INITIAL OBLIGATION FY 80	ESTIMATED FINAL OBLIGATION FY Continuing
			ESTIMATED COMPLETION DATE OF PROJECT FY Continuing	

Purpose: To increase bean/cowpea production, utilization and improve research capability in LDCs through collaborative research between U.S. and LDC institutions.

Background and Progress to Date: Common beans and cowpeas are base food legume crops consumed by the poorest segment of the populations in Africa and Latin America. This project will develop collaborative relationships between U.S. and LDC institutions to attack constraints to increased production and utilization of beans/cowpeas. The immediate objectives are to: (1) expand the body of knowledge on beans/cowpeas as part of small farmer production systems; (2) develop and test appropriate technologies and practices to improve productivity of target production systems; (3) expand the level of competence of LDC scientists to conduct research on common bean/cowpea production systems; and (4) to improve bean/cowpea production capability of developing countries.

The CRSP grant was made September 30, 1980. Subgrants are being made to the recommended participating institutions based upon the program plan approved by A.I.D. This program plan contains specific plans for collaborative activities with developing country collaborators in overseas operations. Close coordination for planning of the CRSP activities has been maintained with the Centro Internacional de Agricultura Tropical (CIAT) and the International Institute for Tropical Agriculture (IITA). To avoid duplication and overlap of activities, the developing countries in the CRSP have been involved at all stages of program planning.

Host Countries and Other Donors: All collaborative developing country institutions will provide personnel and facilities for conducting research in their respective countries. The participating U.S. universities will provide a minimum of 25% of the A.I.D. budget in matching funds.

Beneficiaries: Bean/Cowpea research and production programs in developing countries initially, and the small farmer and urban poor will be the ultimate beneficiaries worldwide.

FY 83 Program: Activities will continue on applied research problems as approved by A.I.D. in FY 80, dealing with solving constraints to increased production and utilization of beans and cowpeas, such as cropping systems on small farms, development of improved varieties, multiple disease and insect resistant varieties, etc. The U.S. institutions will become more deeply involved in collaborative research with developing country institutions.

Major Outputs and A.I.D. Units:

	<u>All Years</u>
	<u>Units</u>
Self-sustaining bean and cowpea production and breeding programs	20
LDC staff trained in production and processing	200
Worldwide network for bean/cowpea research	1
Cropping systems and packages of management practices	20
Multiple disease and insect resistant varieties	80
Communication strategies for technology transfer	20
New selection criteria for crop breeding programs	20
High yielding varieties	100
New germplasm sources for disease and insect resistance in beans/cowpeas	

A.I.D. Financed Inputs in \$000s:

	<u>FY 83</u>
Personnel (500 person months)	\$2,000
Training (170 person months)	400
Commodities	700
Other Costs	500
	<hr/>
TOTAL	\$3,600

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	715	-0-	715		Michigan State University-Mgmt. Entity Subcontracts to: Universities of Cornell, Michigan, Puerto Rico, California, Wisconsin, Mississippi State, Nebraska, Washington State, Georgia and Colorado State.
Estimated Fiscal Year 1981	2000	2463		12/31/80 to 11/15/81	
Estimated through September 30, 1981	2715	2465	250		
Proposed FY 1982	2500	2500		11/16/81 to 9/30/82	
Estimated through Fiscal Year 1982	5215	4965	250		
Proposed FY 83	3600	Future Year Obligations Continuing	Estimated Total Cost Continuing	10/1/82 to 9/30/83	

TITLE Livestock Production Capability		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)		
NUMBER 936-1149		PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, P. 21	FY 83 200	LIFE OF PROJECT	2,155
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		NEW <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	ESTIMATED FINAL OBLIGATION FY 87

**Purpose:** To utilize the livestock production expertise of the United States Department of Agriculture to provide problem-oriented technical services to USAID's and to LIC institutions that work with small, low income livestock producers in developing countries as related to feed supply, diseases and pests and livestock production systems.

**Background and Progress to Date:** This project, initiated in July 1979, has provided expertise in animal health and animal nutrition to DS/AGR and has provided poultry management specialists and livestock management specialists to LDCs throughout the world. Recent outbreaks of a subacute form of African Swine Fever in the Dominican Republic, Brazil, Haiti, and Cuba have necessitated an immediate multifaceted information campaign for both the general farm public and technical personnel. In cooperation with the United States Department of Agriculture and FAO, information and training materials are being developed to assist the affected countries of Latin America Caribbean to eradicate African Swine Fever. Also diagnostic reference antigens are being provided to lesser developed countries to assist in diagnosis of livestock diseases that are constraints to the development of their livestock industries.

This project is participating with the U.S. Department of Agriculture in testing in the tropics the effectiveness of vaccines for babesiosis, a devastating blood parasite disease of cattle. The Development Support Bureau has contracted through the U.S. Department of Agriculture for a state-of-the-art study on African Swine Fever and trypanosomiasis to identify technical and research areas that should be addressed by LICs.

**Host Country and Other Donors:** The host countries will provide various levels of support services of office space, laboratory and field facilities.

**Beneficiaries:** The beneficiaries will be small livestock producers in both intensive crop/livestock systems and in extensive grazing systems. Consumers in the LDCs also will benefit from increased supplies of animal products.

**FY 83 Program:** Additional information materials will be produced for extension agents on the prevention and control of important livestock diseases and distributed. Specific analytical laboratory reference services on animal nutrition and health which cannot be carried out in LIC facilities will be provided upon request from the field. Expertise in all phases of livestock development, including feeding, breeding, disease control, herd management and

marketing will be provided on short-term assignments to USAIDs and LIC institutions that work with small low-income livestock producers. These short-term experts will be provided on request for problem-solving to break bottlenecks constraining country livestock development programs.

#### Major Outputs and A.I.D. Units

Lesser developed countries assisted.  
Analytical and field testing support.  
In-service training of lesser developed countries' livestock personnel.  
Lesser developed countries' livestock production workshops.  
Livestock production publications.

#### All Years

##### Units

15  
,  
10  
2  
5

#### A.I.D. Financed Inputs in \$000s:

FY 83

#### Services from SFA/USDA including:

Personnel (4 person years) \$ 125  
Laboratory and field testing services 45  
Training (30 person months) 35  
Publication costs 5

TOTAL \$ 200

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	755	490	265	9/30/81 to 9/29/82	USDA/OICD
Estimated Fiscal Year 1981	200	300			
Estimated through September 30, 1981	955	790	165	9/30/82 to 9/29/83	
Proposed FY 1982	200	200			
Estimated through Fiscal Year 1982	1155	990	165	9/30/83 to 9/29/84	
Proposed FY 83	200	Future Year Obligations	Estimated Total Cost		
		800	2155		

TITLE Immunology of Ticks		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 936-4083		PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 37	FY 83 300	LIFE OF PROJECT 1,700
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>	NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>		INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87

**Purpose:** To develop a system to immunize cattle against East Coast Fever (Theileriosis), a tick transmitted disease.

**Background and Progress to Date:** East Coast Fever (Theileriosis) is an acute disease of cattle in East, Central and South Africa which is estimated to cause annual losses of over 100 million dollars per year to African livestock producers. The disease is transmitted by ticks. It has been observed by numerous investigators that, following exposure of animals to tick infestation, a resistance is acquired and the ability of ticks to feed on such animals is greatly reduced. Recently, research on ticks and East Coast Fever by researchers in East Africa, indicates that it should be possible to develop a methodology to render cattle resistant to tick infestation with antigens and hence protect them against East Coast Fever.

**Host Country and Other Donors:** This research would be conducted at the International Center for Insect Physiology and Ecology (ICIPE). ICIPE is a 17 million dollar research facility located on the campus of the University of Nairobi in Nairobi, Kenya. Collaboration involves the International Laboratory for Research on Animal Diseases (ILRAD) and the Kenyan Veterinary Laboratory at Magugu. All three research laboratories are located in or near Nairobi, Kenya.

**Beneficiaries:** Beneficiaries will be all owners of cattle in the regions where East Coast Fever (Theileriosis) is endemic. This project, if successful, will have a direct impact on virtually all owners of cattle and consumers in 30 countries of Africa.

**FY 83 Program:** As a follow through to the previous research on the physiology and ecology of ticks, an immunological component is proposed to determine whether cattle can be immunized against ticks. As a result of prior support from A.I.D., the successful completion of this project will be the pay-off to many years of research by numerous scientists.

## Major Outputs and A.I.D. Units:

Develop immunizing agents.  
Produce cattle resistant to tick infestation (Herds).  
Develop disease diagnostic procedures and reagents.

All Years

Units

1

1

2

## A.I.D. Financed Inputs in \$000s:

FY 83

Personnel (48 person months) \$ 125  
Laboratory and yield testing services 100  
Test animals 75

TOTAL

\$ 300

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		International Center for Insect Physiology and Ecology (ICIPE); International Laboratory for Research on Animal Diseases (ILRAD); Kenya Veterinary Laboratory
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	200	25		6/30/82 to 6/30/83	
Estimated through Fiscal Year 1982	200	25	175		
Proposed FY 83	300			6/30/83 to 6/30/84	
		Future Year Obligations	Estimated Total Cost		
		1200	1700		

TITLE Collaborative Research CRSP - Small ruminants		FUNDS Agriculture, Rural Development and Nutrition		PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	
NUMBER 931-1328	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 22		FY 83 3,400	ESTIMATED FINAL OBLIGATION FY 78		Continuing
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>					ESTIMATED COMPLETION DATE OF PROJECT FY Continuing	

**Purpose:** To increase sheep and goat yields of meat, milk and fiber in intensive crop/livestock systems in the humid tropics and in extensive grazing systems of the arid and semi-arid tropics.

**Background and Progress to Date:** On September 30, 1978, A.I.D. entered into a contract with and obligated funds to the University of California at Davis, to serve as the Management Entity (ME). The ME has the responsibility for managing the grant and providing subgrants to 12 universities and Winrock International who participate in varied research projects. Following site selection, identification of problem areas, and the establishment of future institutional contracts, subgrants were made in mid 1979. The initial sites selected were Peru, Brazil, Kenya, and Indonesia. With support from the NE Bureau, a program has just been established in Morocco. Integrated research plans were developed for the five countries. Problem areas have been identified as: inadequate feed supplies, poor reproductive performance, cultural and economic constraints, disease, parasites, and lack of coordination and integration in improvement efforts.

**Host Country and Other Donors:** The collaborating institutions in Brazil (ENBRAPA), Peru (INIA and INITA), Indonesia (AARD) Kenya (Ministry of Agriculture and Livestock) and Morocco (Hassan II University) are all contributing research facilities, experimental animals, scientists, field laborers and expendable materials to project activities. In addition, Brazil is increasing the number of scientists employed in project programs by 30%. Peru is developing additional research sites to be utilized. Indonesia has agreed to provide matching funds in equal amounts and will completely support graduate training programs for qualified Indonesian technicians. Kenya has agreed to provide hard funds in the amount of \$300,000. CRSP contracts demand that US collaborating institutions contribute 25% of total program costs. At present, contributions by US institutions are estimated at 63% of total budgets.

**Beneficiaries:** LDC small holder sheep and goat producers in both intensive and extensive production systems will be the primary beneficiaries of this research program. Urban consumers of meat, milk and fiber products will be secondary beneficiaries.

**FY 83 Program:** Research programs should be in full operation at all research sites with US and host country collaborators on board, vehicles and supplies purchased and field experiments underway. At least three seminars and/or workshops--short courses will be supported in each host country (5). An annual technical committee meeting (all principle investigators, site coordinators and a host country representative) will take place in the US. Annual program evaluations will continue in effect for projects, regions and overall goal objectives.

**Major Outputs and A.I.D. Units:**

	All Years
	Units
Intensive crop/livestock systems	10
Extensive crop/livestock systems	10
Year round feeding programs	35
Management and breeding programs	50
Disease and pest control programs	50
Cost/benefit analyses	50
Cultural analyses	35
Production system models	70

**A.I.D. Financed Inputs in \$000s:**

	FY 83
U. S. University Staff and Support	\$2,200
LDC Operating Expenses	750
Training of LDC and U. S. Scientists	250
Overhead	200
<b>TOTAL</b>	<b>\$ 3,400</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	9,737	5,961	3,776		University of California, Davis--Principal (Management Entity)
Estimated Fiscal Year 1981	650	2,800		7/1/82 to 9/15/82	
Estimated through September 30, 1981	10,387	8,761	1,626		Subgrantees: Tex A&M; U. of Missouri, N.C. State; Wash. State; Tex Tech; Calif. Pol; Mont. State; Colo. State; Tuskegee Univ; Univ. Calif.; Utah State; and Ohio State
Proposed FY 1982	3,100	3,000		9/15/82 to 6/15/83	
Estimated through Fiscal Year 1982	13,487	11,761	1,726		
Proposed FY 83	3,400	Future Year Obligations	Estimated Total Cost	6/15/83 to 4/15/84	
		Continuing	Continuing		

TITLE Pest Management and Related Environmental Protection		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 931-0930		PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 20	FY 83 1,450	LIFE OF PROJECT 13, 182	
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>	NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>		INITIAL OBLIGATION FY 71	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To help reduce LDC crop losses from insects, diseases and weeds by using economically and environmentally acceptable integrated crop protection methods.

**Background and Progress to Date:** Under the original project, the contractor fielded six multidisciplinary regional study teams to assess pest and pesticide management problems in LDCs and to identify urgent problems requiring immediate attention. Similar teams were also sent to five specific countries. Twelve pesticide management seminar workshops were held in the Philippines, Indonesia, Thailand, Egypt, Guatemala, El Salvador, Colombia, Senegal, the Eastern Caribbean, Bolivia, Tanzania and Peru. Five short courses on pest management in small farmer cropping systems were held in Peru, (2) the Philippines, and Costa Rica (2). Technical assistance has also been provided to agricultural development projects in Lesotho, Tunisia, Niger, Haiti, Peru, Honduras, Colombia, Bolivia, Panama (2), Liberia (3), Rwanda, Nepal, Senegal (2), Burundi, Mali, Kenya, Upper Volta, Ivory Coast, Ghana, the Philippines, Zaire, Jordan, Nicaragua, Tanzania, Paraguay, Indonesia, Botswana, Somalia, and Fiji. Training in pesticide residue analysis was also conducted in Guatemala for a total of 9 students from Guatemala, El Salvador, Costa Rica and Honduras. U.S. training was provided to pesticide chemists from the Philippines (2); Santo Domingo (2); Chile, Colombia and El Salvador. The original project which began in 1971 was revised and expanded in FY 80 in accordance with the recommendations of an external review team and A.I.D.'s revised policy on pesticides established in May of 1978, and USAID and IDC demand.

**Host Country and Other Donors:** Countries listed above furnished space and support services. When possible, training programs, short courses and seminars/workshops are jointly sponsored with the Food and Agriculture Organization (FAO), other bilateral donors such as G77, non-profit foundations and agencies of national governments.

**Beneficiaries:** Small farmers -- reduction of preharvest and food and cash crop losses. General consumer -- increased availability and quality of food. Positive environmental impact. Improved management pesticides.

**FY 83 Program:** Conduct training courses on integrated pest management systems for small farmer food and cash crops (2), pesticide residue and formulation analysis (4), prevention and diagnosis of pesticide poisonings (2), and

seminar/workshops on pesticide management (2) to provide guidance to missions and IDCs in the establishment of integrated pest management programs in agricultural development projects. Technical Assistance on pest/pesticide problems as identified by USAIDs and their counterparts including environmental assessment preparation to approximately twenty countries with links established where possible to small farm cropping systems, mixed annual systems and farming systems projects.

Major Outputs and A.I.D. Units:

	<u>All Years Units</u>
Multidisciplinary pest management teams	25
Pesticide management workshops	35
Pest management short courses	50
Pesticide residue sampling and analysis short courses (IDCs)	25
Pesticide residue sampling and analysis short courses (U.S.A.)	25
Pesticide formulation analysis short courses	10
Prevention, diagnosis, treatment of pesticide poisoning short courses	25
Aerial and ground pesticide applicators short courses	25
Short-term missions to design IPM programs for IDC agricultural development projects	150
Short-term technical assistance with environmental assessments	150

A.I.D. Financed Inputs in \$000s

	<u>FY 83</u>
Personnel	\$ 500
Consultants	250
Operations	500
Supplies and Equipment	200
TOTAL	\$ 1450

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	4021	3356	665		Consortium for International Crop Protection (CICP)
Estimated Fiscal Year 1981	1086	925		12/15/81 to 5/15/82	
Estimated through September 30, 1981	5107	4281	826		
Proposed FY 1982	825	1000		5/16/82 to 1/15/83	
Estimated through Fiscal Year 1982	5932	5281	651		
Proposed FY 83	1450	Future Year Obligations	Estimated Total Cost	1/15/83 to 1/15/84	
		5800	13,182		

TITLE Pest Management Capability		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 936-4071	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 22	FY 83 165	LIFE OF PROJECT 1,396
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY 87
	CONTINUING <input checked="" type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To provide technical/professional backstopping to Regional Bureaus, USAIDs and LDCs in the fields of pesticides and pest management.

**Background and Progress To Date:** A.I.D. Environmental Impact Statement, filed with CEQ on May 3, 1977, concluded that A.I.D. should deemphasize assistance for the supply and use of pesticides in the LDCs and strengthen its assistance in the areas of integrated pest management and the proper use of pesticides only when there are no satisfactory alternatives. This in turn required additional professional staff, knowledgeable in the areas of pest and disease control. Thus, in FY 80, A.I.D. added a pest management specialist to function as a project manager responsible for directing several new and existing projects in the area of plant pest and disease control. It is anticipated that the professional management capability will continue in FY 83 and beyond.

**Host Country and Other Donors:** Host country institutions provide local facilities, equipment, and services in support of the pest and pesticide management specialists.

**Beneficiaries:** Small farmers in LDCs via their national governments and USAIDs through the development and strengthening of pest and pesticide management programs.

**FY 83 Program:** Continue backstopping Office of Agriculture/DSR, Regional Bureaus and USAIDs. This includes a quick response capability in assisting with the development of project papers and project identification documents as related to pesticides and pest management and contingency availability to serve on or lead study/action teams as needed after major pest outbreaks as epiphytotics.

Additionally assistance to USAID missions and Regional Bureaus will be given in project reviews, project paper preparations, and project identification documentations in the area of pest management. Care assistance will also be given in the continuing development of integrated pest management policy and programs. It is estimated that 18 LDCs will receive various forms of assistance and that about 6 international trips will be involved. A pesticide information system will also be initiated which will be of direct utility to USAIDs, Regional Bureaus and environmental consultants in selecting and recommending environmentally safe pesticides under A.I.D. Reg. 16. Additionally, it will serve as a definitive information source to foreign

governments as to the current regulatory status of pesticides in the U.S. At DSR, services will be provided for the management of at least three pest management related projects.

<u>Major Outputs and A.I.D. Units:</u>	<u>All Years</u> <u>Unit</u>
Management of A.I.D. pest management related projects.	10
<u>A.I.D. Financed Inputs in \$000s:</u>	<u>FY 83</u>
Personnel (24 person/months)	\$ 100
Other Costs (travel, technical services)	65
	<u>\$165</u>

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	176	95	81	10/1/81 to 9/30/82	U. S. Department of Agriculture
Estimated Fiscal Year 1981	95	110			
Estimated through September 30, 1981	271	205	66	10/1/82 to 9/30/83	
Proposed FY 1982	125	125			
Estimated through Fiscal Year 1982	396	330	66	10/1/83 to 9/30/84	
Proposed FY 83	165	Future Year Obligations	Estimated Total Cost		
		835	1396		

TITLE Root-knot Nematodes	FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 931-0614	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 20	FY 83 500	LIFE OF PROJECT 4,953	
GRANT <input type="checkbox"/> LOAN <input type="checkbox"/> NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>		INITIAL OBLIGATION FY 75	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop measures to reduce crop losses caused by root-knot nematodes.

**Background and Progress to Date:** Regional and country collaborators have been identified and research is being completed to characterize the principal species and host ranges of nematodes causing crop losses in the LDCs and to screen local cultivars for nematode resistance. To date, eight regions have been established worldwide including 104 cooperating scientists in 60 LDCs. A worldwide root-knot nematode assessment was conducted among participating country cooperators which indicated that approximately 15% of the principal food and fiber crops of these countries are lost to damage caused by root-knot nematode. Of 41 described species of root-knot nematodes, six comprise 99% of all populations causing economic loss. The limited number of important species greatly increases the probability of developing effective control measures. Based on these results, resistant varieties and crop rotation systems are being developed for introduction into crop local cropping systems.

**Host Countries and Other Donors:** A total of 104 regional and country collaborators in 60 LDC institutions are now participating in this research program. Memoranda of Understanding have been signed with four International Agriculture Research Centers (IARC's) to screen crop varieties for resistance to root-knot nematodes during FY 83.

**Beneficiaries:** Ultimately small farmers in LDCs. Nematode resistant varieties or nematode controlling production methods will be developed and transferred to national extension services for dissemination to small farmers in infected areas.

**FY 83 Program:** Current collaborative research programs will be continued with major emphasis placed on the development of resistant varieties of a number of important food crops and approximately 10 crop rotation systems that may significantly reduce crop losses due to root-knot nematodes.

**Major Outputs and A.I.D. Units:**

International Root-knot Nematode Research Center  
at North Carolina State University  
Regional Root-knot Nematode Research Centers World-  
wide  
Publications-Technical Handbooks and Scientific  
Articles on Root-knot Control

All Years  
Units

1

10

100

**A.I.D. Financed Inputs in \$000s**FY 83

Personnel (130 person/months)	\$	300
Training		100
Other Costs (Travel, Supplies, Equipment)		100
<b>TOTAL</b>	\$	<b>500</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	1253	1123	130		North Carolina State University
Estimated Fiscal Year 1981	600	600		1/1/81 to 12/31/81	
Estimated through September 30, 1981	1853	1723	130		
Proposed FY 1982	600	500		1/1/82 to 12/31/82	
Estimated through Fiscal Year 1982	2453	2223	230		
Proposed FY 83	500			12/31/82 to 11/30/83	
		<b>Future Year Obligations</b>	<b>Estimated Total Cost</b>		
		2000	4953		

TITLE Improvement of Postharvest Grain Systems		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)	
NUMBER 931 0736	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 20	FY 83 600	LIFE OF PROJECT 9,937
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 87	ESTIMATED FINAL OBLIGATION FY 87
	CONTINUING <input checked="" type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To assist developing country institutions in planning and implementing programs to improve postharvest handling, storage, marketing, processing, and distributing of grain and grain products.

**Background and Progress to Date:** Since the project's inception in FY 1967, technical assistance has been provided to 55 countries. Over 350 individuals from 55 countries have received training at Kansas State University, 300 people have received training in twelve overseas locations and approximately 100 special purpose technical reports have been written. Assistance under the project up to 1981 has included: (1) 23 in-country training efforts, (2) 17 short courses conducted on the Kansas State University campus and in developing countries, (3) 25 analyses of national grain storage programs and recommendations for improvement. Technical assistance has been provided for: review of technical designs of grain storage systems, suggestions related to grain processing systems, investigations of grain policy alternatives, cooperation with the World Bank on grain storage projects, investigations of appropriate improved postharvest grain storage and drying technology for small farmers.

As a result of this project, significant changes toward improved grain handling and marketing have been made in many countries, and in many others an appreciation of the dimensions of the postharvest grain loss problem has been instilled and the capability to deal with it is being developed.

**Host Country and Other Donors:** Through this Cooperative Agreement, A.I.D. supports one professional who is part of a four person postharvest research and development team, stationed at the Southeast Asia Cooperative Postharvest Research and Development Programme, Searca, College, Laguna, Philippines. The team provides assistance to five southeast Asian countries and is cooperatively sponsored by the International Development Research Centre (Canada), the Canadian International and Development Association, the Government of the Netherlands, and the Commonwealth Scientific Industrial Research Organization (Australia).

KSU also has developed a cooperative arrangement with the University of Costa Rica to implement a regional program for improved postharvest technology for small farmers, including training for grain loss prevention.

**Beneficiaries:** Farmers and consumers in the developing countries benefit from the reduction of grain losses and improvements in efficiency of the marketing systems. Technology innovations suggested and training supplied by KSU staff increase the availability of grain products and increase the host country expertise available for solving grain loss problems.

**FY 1983 Program:** Technical services will be continued to support host country and Mission activities. Several training courses for extensionists and grain warehouse managers will be conducted at the request of host countries. Reports relating to appropriate grain saving technologies for small farmers will be published. The Postharvest Documentation Service will continue to share documents free to developing country requestors and the KSU database of technical reports will be expanded to include dry legume commodities.

Major Outputs and A.I.D. Units:	All Years Units
Team responses to Mission requests	75
In-country seminars conducted	10
Developing country personnel trained in U.S.	150
Postharvest Documentation Service	1
<b>A.I.D. Financed Inputs in \$000s:</b>	
	<b>FY 83</b>
Personnel (130 person months)	\$ 350
Logistics	80
Training (20 person months)	50
Other	40
<b>Total</b>	<b>\$ 520</b>

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	5666	4735	931		Kansas State University
Estimated Fiscal Year 1981	750	877		10/1/81 to 7/15/82	
Estimated through September 30, 1981	6416	5612	804		
Proposed FY 1982	520	720		7/15/82 to 3/30/83	
Estimated through Fiscal Year 1982	6936	6387	604		
Proposed FY 83	600	Future Year Obligations	Estimated Total Cost	3/30/83 to 3/30/84	
		2401	9937		

TITLE Farm Level Postharvest Grain Losses		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 911-1322		PRIOR REFERENCE None	FY 83 400	LIFE OF PROJECT 2,150
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87
NEW <input type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY 88	
CONTINUING <input checked="" type="checkbox"/>				

**Purpose:** To extend the use of an A.I.D. developed methodology for assessing and reducing postharvest grain losses and train developing country personnel in the use of the methodology for developing action programs designed to prevent grain pre- and postharvest losses.

**Background:** Total developing country postharvest grain losses are estimated to exceed 10% of the harvested crop in many instances, with a monetary loss estimated to exceed \$10 billion per year. Although 60% to 70% of the grains produced in the developing countries remain on the farm, the extent and causes of losses and the most effective and safest methods for reducing losses at the farm level have received little attention. AID has recently developed a methodology in cooperation with the League for International Food Education (L.I.F.E.) for assessing postharvest grain losses. This methodology has yet to be applied to field situations for the identification of major points of losses in the postharvest grain systems of developing countries. This project is designed to assess postharvest grain losses of three grain commodities (rice, corn/beans, and millet or sorghum) under differing climatic conditions. It will provide technical assistance to host countries in training for the application of the methodology, conducting field assessments and from the results designing the implementation of efficient loss reduction strategies for small farmers. The project will compare rapid assessment methods with a more thorough analysis of regional postharvest grain systems. The project will document the role of women in postharvest grain activities and develop training and extension techniques appropriate for intervention strategies. The project will apply the A.I.D./L.I.F.E. methodology to assess pre- and postharvest grain losses resulting from damage by rodents, birds, and microorganisms.

**Host Countries and Other Donors:** Cooperation with the Food and Agriculture Organization's Postharvest Programme, the Tropical Products Institute (London), the International Development Research Center (Canada), the Commonwealth Secretariat (London), GASGA (Group for the Assistance on Systems related to Grains After-harvest), and with the three host country institutions which will cooperate with the project will focus international interest on postharvest grain loss reduction. This focus will be highlighted by an international conference sponsored by the project immediately prior to project termination. This will share the results of field trials with the international community and will greatly assist the application of the methodology to other countries.

**Beneficiaries:** The ultimate beneficiaries will be cooperating country grain farmers, and as more grain enters commercial market channels, grain consumers will benefit as well. International donors will benefit from the policy implications resulting from a more thorough understanding of developing country grain systems.

**FY 1983 Program:** Site selections will be made for the three country project and initial rapid assessments will be conducted regionally. Data will be collected relating to the role of women in the postharvest grain system and plans will be developed for an approach to extend improved grain drying and storage technology thru women's groups and traditional extension networks within each country. Second and third year activity will concentrate on regional assessments and intensive training and extension work for reduced on-farm grain losses. The project will communicate findings via project reports and through regional and international conferences which will involve other international donors. The fourth and final year of the project will phase out all but two remaining project staff who will assist host country governments in efforts to promulgate improved postharvest grain technology and training. Remaining project staff will assist USAIDS in FIP, or IF sector and promote the use of cost effective grain loss reduction and assessment technologies developed during this project.

Major Outputs and A.I.D. Units:	All Years Units
Rapid Assessments of Postharvest Grain Systems	3
In-Depth Regional Assessments	3
Documentation of Women's Role in Grain Systems	3
Training of Extension Teams/Host Country Agencies	3
Annual Country Leader's Workshop and Evaluation	3
End Of Project International Conference	1
Follow-up Project Development with Other Countries	5
A.I.D. Financed Inputs in \$000s:	
Personnel (50 person Months)	FY 83 75
Commodities and Equipment	75
Logistical Support	125
Other	75
<b>Total</b>	<b>400</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	150	1		9/30/82 to 12/31/82	
Estimated through Fiscal Year 1982	150	1	149		
Proposed FY 83	400			12/3/82 to 12/31/83	
		Future Year Obligations 1600	Estimated Total Cost 2150		

TITLE: <u>Workshop and Demonstration of Fruits and Vegetables</u>	FUNDS: <u>Agriculture, Rural Development and Nutrition</u>	PROPOSED OBLIGATION (in thousands of dollars)	
		FY 81: <u>450</u>	LIFE OF PROJECT: <u>2,950</u>
NUMBER: <u>94-123</u>	PRIOR REFERENCE: <u>FY 1982 Annex V, Centrally Funded Programs, p. 22</u>	INITIAL OBLIGATION: <u>FY 80</u>	ESTIMATED FINAL OBLIGATION: <u>FY 87</u>
		ESTIMATED COMPLETION DATE OF PROJECT: <u>FY 88</u>	

Project activities will be carried out by the International Institute of Food and Agriculture (IIF) to coordinate and provide technical assistance and training to developing country agencies and organizations in the areas of postharvest losses, storage, handling, packaging, and marketing of fruits and vegetables.

Beneficiaries: Farm families will benefit through increased net production and income, while consumers will benefit from the increased supply. Export markets will improve through education and marketing skills as well as availability of postharvest facilities for the stabilization of perishable commodities. The project will also provide training and technical assistance to developing country agencies and organizations in the areas of postharvest losses, storage, handling, packaging, and marketing of fruits and vegetables.

**Host Country and Other Donors:** IIF is the secretariat for the Group for Assistance on Perishable Products (GAPP). This is an international network designed to facilitate communication among international donors, research institutions, and developing country trade associations interested in reduction and prevention of postharvest losses of perishables. Associate members of GAPP such as commodity trade associations and research centers will participate in the sharing of newly developed and appropriate technologies for local farmers. Host country extension networks will be encouraged to participate in the activities of GAPP in addition to the donor and associate members.

Support for G.A.P.P. activities includes:

- Document Sharing Service
- Local Production Modules
- International Workshops
- Support for G.A.P.P.

<u>A.I.D. Financial Inputs (in \$000):</u>	
Personnel	175
Logistics	100
Training	100
Other	75
Total	450

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	200	0	200	10/1/81 to 7/30/82	The University of Idaho
Estimated Fiscal Year 1981	250	200			
Estimated through September 30, 1981	450	200	250	7/30/82 to 1/30/83	
Proposed FY 1982	250	250			
Estimated through Fiscal Year 1982	700	450	250	1/30/83 to 1/30/84	
Proposed FY 83	450	Future Year Obligations	Estimated Total Cost		
		1800	2950		

TITLE Aflatoxin Reduction in Maize		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 931-1181	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21	FY 83 200	LIFE OF PROJECT 1,414	
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 77	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

Purpose: To develop maize varieties for small farmer production in LDCs resistant to aflatoxin development, particularly in the tropic and subtropic areas of the world.

Background and Progress To Date: Aflatoxin is a chemical substance produced by fungi growing on corn under warm, humid conditions. Aflatoxin has been demonstrated to be a powerful carcinogen in animals and is strongly suspected of causing liver cancer and other maladies in man. A network exists in the U.S. including the USDA, State universities and private research institutions to assess the problem and to develop control methods. One of the most promising control measures is the development of varieties of corn resistant to the growth of the fungus which causes aflatoxin. The project is working with existing U.S. networks and has established linkages with international agriculture research centers and LDC agriculture institutions to advance the effort on a worldwide basis.

Host Country and Other Donors: Corn samples are supplied by CIMMYT, and in LDCs where the CIMMYT international nurseries are grown for aflatoxin analysis.

Beneficiaries: Rural and urban poor in the LDCs who consume maize which has been produced under warm, humid climatic conditions.

FY 83 Program: To continue the research effort to identify genetic resistance to aflatoxin and in turn through plant breeding techniques, incorporate the resistance into high yielding well adapted maize varieties. These varieties in turn will be provided to LDCs where aflatoxin in maize is a problem for evaluation under local conditions and eventual distribution to small farmers.

Major Outputs and A.I.D. Units:

1. Development of research methodology for identifying aflatoxin resistant maize
2. Development of aflatoxin resistant maize
3. Development of linkages, LDCs, international agriculture centers and U.S. institutions

All Years  
Units

1  
100  
10

A.I.D. Financed Inputs in \$000s:

- Personnel (36 person months)  
Travel  
Operations

FY 83

\$ 100  
50  
50

TOTAL \$ 200

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	414	206	208	10/1/80 to 10/1/81	University of Missouri
Estimated Fiscal Year 1981	0	100			
Estimated through September 30, 1981	414	306	108	10/1/81 to 11/1/82	
Proposed FY 1982	0	100			
Estimated through Fiscal Year 1982	414	406	8	11/1/82 to 11/1/83	
Proposed FY 83	200	Future Year Obligations	Estimated Total Cost		
		800	1414		

TITLE Pre- and Postharvest Rodent and Bird Control		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 936-4120	NEW <input checked="" type="checkbox"/>	PRIOR REFERENCE None	FY 83 695	LIFE OF PROJECT 3.475	ESTIMATED COMPLETION DATE OF PROJECT FY 83
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>	CONTINUING <input type="checkbox"/>		INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87	

Purpose: To assist developing country institutions in the implementation of improved rodent and bird control systems for the reduction of food losses.

Background: Pests and birds annually destroy billions of tons of desperately needed food crops in food-short developing countries. Malnourished people in developing countries can ill afford this wastage. Conservative estimates of rodent damage of 5% when applied to total world agricultural production valued at \$199 Billion equals \$10,000,000,000. In rice alone, it has been estimated that more than 50 million tons of rice are lost each year to rats. This much rice could feed one billion people for three months. Postharvest losses of grains, legumes, oil seeds and other agricultural products are pandemic, and especially hard hit are the developing countries. Losses do not include only those due to consumption of the product and its loss of weight and volume. Increased losses result from irretrievable spillage and rodent hoarding, and seed scattering by birds. Reduction in nutritive value due to selective feeding of the grain germ is significant. Rodent feeding also increases the susceptibility of stored foods to attack by insects and microorganisms. Contamination by feces and urine lower the quality and increase health risk as well as lowering prices for the commodity.

Rodents can also cause loss of livestock when young smallstock are killed or eaten. Rats are notorious for the havoc they wreak in egg production. Rats are involved in animal disease transmission, notably leptospirosis and are infamous for their involvement in the human disease, Bubonic plague. More effective rodent and bird control and training are desperately needed. This project will contribute toward increasing food supplies by reducing losses and damage which results from inadequate rodent and bird control.

Host Country and Other Donors: The Denver Wildlife Center (DWC) has established a field station in the Philippines which will likely be the first field test site. This project may collaborate with the Kenya On Farm Grain Storage project for selection of the second test site. Liason with vertebrate pest control personnel from FAO and the British Overseas Development Ministry is anticipated.

Beneficiaries: Farmers and consumers in developing countries will benefit from the improved quality and quantity of foods available for consumption. Developing countries will benefit as losses to rodents and birds are reduced, and as human and other animal diseases associated with rodents are minimized.

FY 83 Program: Project implementation will begin at the Denver Wildlife Center, where formulation of improved baits will undergo preliminary screening trials. Site selection for the two field test areas will be determined and liason with appropriate host country personnel will begin. Male and female rat chemosterilants will be evaluated. Flavor compounds capable of enhancing the palatability of baits will be tested under controlled conditions. Methods to prevent the deterioration of baits under field conditions will be developed. This will include the use of micro-encapsulation technology suitable for the volatile flavoring compounds being tested. Bait stations capable of recording feeding behavior and able to effect rodent kill during peak feeding will be used to monitor the effectiveness of sample bait formulations. Rat sex pheromones will be added to bait formulations in order to increase the attractiveness of rodent baits. The formulation phase of this project will be carried into the first half FY 84 (second year) activities. Field trials will begin by the end of the second year. Third year activities will carry the field trial through one crop cycle. The fourth year's activities will include preparation for an international conference on rodent control. Liason with other international donor groups will assist in presenting the project's findings to the widest possible audience. Projects requiring technical assistance, PID design or PP preparation will have continuing access to technical support for host country projects through TDY of DWC specialists.

Major Outputs and A.I.D. Units:

In-country field demonstrations  
 In-country seminars conducted.  
 Developing country personnel trained  
 Regional workshops conducted.

All Years
Units
2
6
200
2

A.I.D. Financed Inputs:

Personnel (100 person months)  
 Logistics  
 Training  
 Equipment  
 Other

FY 83
\$ 325
100
95
100
75

TOTAL \$695

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		U.S. Department of Interior Denver Wildlife Research Center
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	400	-	-	9/30/82-3/31/83	
Estimated through Fiscal Year 1982	400	-	400		
Proposed FY 83	695	Future Year Obligations	Estimated Total Cost	4/30/83 to 4/30/84	
		2380	3475		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: G. Corey

TITLE Synthesis of Water Management		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)	
NUMBER 931-1007	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, P. 21	FY 83 400	LIFE OF PROJECT 3969
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>		INITIAL OBLIGATION FY 78	ESTIMATED FINAL OBLIGATION FY 87
	CONTINUING <input checked="" type="checkbox"/>			ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop a service that will promote the efficient use of irrigation water on farms.

**Background and Progress to Date:** This technical assistance project was initiated in September 1978. It is an outgrowth of a successful research project on farm water management in Pakistan, and is designed to adapt and disseminate worldwide the methodologies for increasing irrigation water use efficiently as developed under the research project. It will develop training courses and "how-to-do-it" handbooks, and will stimulate and support improved designs for and operation of irrigation systems in LDCs.

All A.I.D. project documents on irrigation projects have been revised and summarized, as have selected World Bank projects. The resulting analysis and recommendations are being prepared for publication. Project personnel have also conducted irrigation sector surveys in Pakistan, India, Nepal, Bangladesh and Thailand. The resulting reports were used as discussion pieces for the Asia Bureau Agriculture and Rural Development Conference in January 1981.

Four handbooks are in final draft stage and should be published within the next year. The training course on diagnosis of problems in irrigation systems has been developed and presented in India. This experience is now being digested, reports are being prepared and the course will be revised and given a second time in FY 1981.

Technical assistance continues to be an important output. Present requests include the design of specific training courses and for assisting a research institution with development of an integrated program in applied water management research.

**Host Country and Other Donors:** It is expected that before 1983 the Regional Bureaus or other international donors will be providing funding for specific national technical assistance requirements.

**Beneficiaries:** The ultimate beneficiaries will be IDC small farmers who depend on irrigation for agricultural production and the consumers of their products.

**FY 83 Program:** FY 1983 technical assistance will have become a major component, but Regional Bureau funds will augment central funding. One new training course will be developed and the "diagnostic" course will be taught once. Two additional reports on specific irrigation analysis will be prepared and one new handbook will be published.

Major Outputs and A.I.D. Units:

	All Years
	Units
Analyses of country water management systems	20
Training courses with materials	6
Field technology handbook	8
Analyses	10
Technical assistance provided to IDCs (months)	50

A.I.D. Financed Inputs in \$000s:

	FY 83
Personnel	\$250
Logistics	100
Other costs	50
TOTAL	\$400

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	1969	1272	697	current to 3/31/83	Consortium for International Development (CID)
Estimated Fiscal Year 1981	-	300			
Estimated through September 30, 1981	1969	1572	397	current to 3/31/83	
Proposed FY 1982	-	300			
Estimated through Fiscal Year 1982	1969	1872	97	3/31/83 to 3/31/84	
Proposed FY 83	400	Future Year Obligations 1600	Estimated Total Cost 3969		

TITLE Soil Management Support Service			FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 1000		LIFE OF PROJECT 7677
NUMBER 911-1126	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Program, p. 21		INITIAL OBLIGATION FY 79	ESTIMATED FISCAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>				

**Purpose:** To help conserve and manage vital soil resources of the developing nations for agriculture production.

**Background and Progress to Date:** Less than half of the roughly two billion hectares of potentially arable land in the tropics is currently under cultivation. In view of present trends of population growth and soil degradation, the world soil resources will have to be utilized more intensively and extensively in the future. This will encourage the use of indigenous methods of land use that are not only more exploitive but also more destructive than in the past. This project will attempt to help reverse and reduce the process of depletion and degradation of LDC soil resources and speed up technical transfer of improved crop and soil management practices among similar agroecological zones, and provide for increased food production. Coordinated short-term technical assistance will be provided in the areas of soil survey, soil fertility, land use planning and soil conservation, as well as basic support for the improvement of an international soil classification system will help catalyze cost-effective field operations needed for rapid, efficient development and more long-term productive utilization of LDC land resources. During the period March 1980 - February 1981, 22 short-term consultancies were provided to 15 Missions and 2 Regional Bureaus. A three person core staff was organized that managed the project during the period. An international soil classification workshop for the arid region was organized in the Middle East during 1980. Another international soil classification workshop is planned for Rwanda, Africa during 1981. A brochure on the project was published and distributed worldwide. The Project was reviewed and commended for its progress by an international panel. Proceedings of the workshops were distributed to key soil scientists in most countries.

**Host Country and Other Donors:** Almost every project-funded technical assistance activity and soil classification program receives significant contributions from the developing countries and the other collaborators. Host countries normally provide logistic and financial support. Many LDCs support participants to courses and workshops. Prominent soil scientists also frequently waive compensation for their time to the workshops.

**Beneficiaries:** Farmers in the developing countries benefit directly from this program through better advice on how to manage their land for immediate increase in productivity and long-range protection from damage due to unformed exploitation. Advisors and officials within host governments benefit by becoming more knowledgeable, more capable of tackling real field problems and at the same time providing more soundly based recommendations for government development plans.

**FY 83 Program:** Will continue to provide technical assistance to LDCs in problem identification, evaluation of opportunities and development of new ideas. Increased emphasis will be placed on soil fertility problems. Other areas receiving emphasis will include soil survey, land use planning and conservation. Emphasis on the improvement of soil classification for tropical regions will continue. USAIDs are expected to pay some travel and per diem for the technical assistance they receive.

During the year 60 person months short-term TDY will be available to USAIDs. One training class will be conducted for twenty LDC participants. One international Soil Classification workshop will be held. Six international soil classification committees will be functioning. A training visual aid will be prepared.

**Major Outputs and A.I.D. Units:**

	All Years
	Units
Consultancies (in worker months)	300
Soil sample analysis	1800
Workshops	8
Persons trained	110
Publications	17
Improved soil classification	1

**A.I.D. Financed Inputs in \$000s:**

	FY 83
Personnel (80 work months)	\$ 480
Logistics	320
Training	120
Commodities	80
<b>TOTAL</b>	<b>\$1000</b>

	U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures				
Through September 30, 1980	1307	607		700		Soil Conservation Service of the U.S. Department of Agriculture
Estimated Fiscal Year 1981	820	710			10/1/80 to 7/31/82	
Estimated through September 30, 1981	2127	1317		810		
Proposed FY 1982	550	810			8/1/82 to 5/31/83	
Estimated through Fiscal Year 1982	2677	2127		550		
Proposed FY 83	1000	Future Year Obligations		Estimated Total Cost	6/1/83 to 5/31/84	
		4000		7677		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: G. Corey

TITLE Dryland Agriculture and Irrigation Support Service		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars) FY 83 510		LIFE OF PROJECT 3450
NUMBER 036-4021	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 22	INITIAL OBLIGATION FY 81	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>			

Purpose: To provide improved, effective, efficient, and rapid field support to AID/W, AID Missions, and host country institutions in Dryland Agriculture by developing a center of expertise in Dryland Agriculture for LDCs.

Background and Progress to Date: The project will concentrate on rainfed agricultural areas with deficient precipitation. These areas include a wide belt across central Africa, the Mediterranean, the Indian sub-continent, most of southern South America, much of Central America and parts of Asia. The project will provide additional technical support specifically in water management and moisture conservation in collaboration with projects 1007 and 1229. Project 1007 will be supported more strongly from the soil physics discipline and 1229 more strongly from water science.

In general, conditions have forced LDC farmers to push agriculture into zones of lower rainfall and poorer soils than is considered economical. Survival agriculture obviously tolerates lower productivity. These "dryland" farmers are assuredly among the world's poorest and yet they manage a significantly large amount of the world's agricultural land. They are a social and economic force which must be included in the overall development of many countries. They are also a major factor in deterioration of natural resources.

The project will be accomplished through a Cooperative Agreement whereby the recipient gains expertise in LDC dryland agriculture and irrigation and AID uses project outputs to enhance its programs in dryland agriculture and irrigation. Technical assistance will be provided to AID in the form of experienced personnel; country specific surveys of farmer constraints and available resources to remove constraints; and pilot tests of specific technologies for increasing productivity in dryland agriculture. In all activities project personnel, will work with LDC institutions, farmers, and with AID personnel in developing outputs.

FY 83 Program: To conduct 4 country assessments (constraint analyses through workshops) and publish results. Revise assessment methodology and select 4 additional countries for assessment. Initiate pilot tests of specific technologies for increasing productivity in the first country. Provide continued technical assistance in water management, moisture conservation and dryland management. All travel costs for technical assistance that exceeds 20 days per assistance contract will be paid by AID Missions.

Major Outputs and A.I.D. Units:

Analysis of existing dryland programs in LDCs  
Country assessments  
Pilot tests of technologies  
Information system, handbooks  
Field support, advisory, consulting (months)

All Years

Units

1  
6  
4  
8  
60

A.I.D. Financed Inputs in \$000s:

FY 83

Personnel (70 person months)  
Logistics  
Other costs

\$200  
50  
90

TOTAL

\$340

U.S. FINANCING (in thousands of dollars)		
	Obligations	Expenditures
Through September 30, 1980		
Estimated Fiscal Year 1981	500	100
Estimated through September 30, 1981	500	100
Proposed FY 1982	500	600
Estimated through Fiscal Year 1982	900	700
Proposed FY 83	510	Future Year Obligations 2040

Unliquidated	Funding Period
	6/15/81 to 9/15/82
400	9/15/82 to 6/15/83
200	6/15/83 to 6/15/84
Estimated Total Cost	3450

Principal Contractor  
or AgenciesU.S. Department of Agriculture  
and others to be determined

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: T. S. Gill

TITLE Soil Families - Hawaii		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 931-0582	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, P. 19	FY 83 650	LIFE OF PROJ. T 2073
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	INITIAL OBLIGATION FY 74	ESTIMATED FINAL OBLIGATION FY 83
			ESTIMATED COMPLETION DATE OF PROJECT FY 83	

**Purpose:** To accelerate the adaptation and delivery of appropriate, cost effective agroproduction technology to the developing countries of the tropics.

**Background and Progress to Date:** This project is testing the hypothesis that agroproduction technology can be transferred from its site of origin to other locations with similar agroenvironments to widely separated parts of the world. A system of soil classification called "Soil Taxonomy," developed by the Soil Conservation Service of the U.S. Department of Agriculture, contains the basis for stratifying agroenvironments in agroproduction niches. After 25 years of testing in the United States and internationally, the system of soil classification was released in 1975. The system was designed so that agroenvironments classified at the family level can be assumed to be sufficiently similar so that crops will perform similarly and respond alike to similar agroproduction practices.

To test this hypothesis, the Benchmark Soils Project has developed a network of experimental sites containing three soils families in the Philippines, Indonesia, Cameroon and Hawaii. Standard management practices are instituted to discover whether the test crop (maize) performs and responds alike to similar treatments in sites with similar agroenvironments. A statistical model developed by the project to analyze maize performance and response suggests that the same agroproduction technology is equally effective in the Philippines, Indonesia and Hawaii.

As the hypothesis of the project for agrotechnology transfer seemed to have stood its test, it will form the basis for the new project entitled, "International Benchmark Sites Network," (#936-4054). This new project will be a pilot network to demonstrate the mechanism of utilizing the concept of the "Soil Families" project to the LDCs.

**Host Country and Other Donors:** Governments of the Philippines and Indonesia have assigned counterpart leaders of the project. Estimated contributions of the two governments are about \$12,000 and \$73,000, respectively, on an annual basis. FAO in Cameroon will contribute \$10,000 a year. University of Hawaii's contribution is about \$65,000 a year in terms of staff time.

**Beneficiaries:** The primary beneficiaries are rural farmers who will receive new agrotechnologies in a time frame considerably shortened, without the need to test each specific technology in every country.

**FY 83 Program:** To continue work started during 1982 and to fully test technology transfer hypothesis for all three soil families from all experimental sites in the network. Work will focus heavily on Africa during this final phase of the project. In addition, it will continue crop and soil management experiments and development of a model data bank.

Major Outputs and A.I.D. Units:

Studies from 18 sites for transfer net-	180
Experiments from 7 sites for management studies	70
Data bank model	1
Trained scientists	30

A.I.D. Financed Inputs in \$000s:

Personnel (75 person months)	\$465
Logistics	150
Training (15 person months)	45
Commodities	90

TOTAL	\$1.50
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U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	5066	3727	1339	6/1/81 to 5/31/82	University of Hawaii
Estimated Fiscal Year 1981	857	1087			
Estimated through September 30, 1981	5923	4814	1109	6/1/82 to 10/31/82	
Proposed FY 1982	500	1030			
Estimated through Fiscal Year 1982	6423	5904	519	11/1/82 to 5/31/83	
Proposed FY 83	650	Future Year Obligations	Estimated Total Cost		
		0	2073		

PROGRAM: CENTRALLY FUNDED

ACTIVITY DATA SHEET

PROJECT MANAGER: T. S. Gill

TITLE Tissue Culture for Improved Food Crop Varieties			FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 936-1065			PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 22	FY 83 250	LIFE OF PROJECT 1750	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	NEW <input type="checkbox"/>		INITIAL OBLIGATION FY 80	ESTIMATED FINAL OBLIGATION FY 87	

**Purpose:** To test the use of tissue culture as a cost effective technique to improve stress tolerant characteristics to wheat, rice millet.

**Background and Progress to Date:** This project is based on a successful conclusion of an earlier A.I.D. funded small research study by Colorado State University. That study demonstrated that by exposing plant cells (tobacco) to increasing levels of salt (Na Cl), one can select cells that will tolerate much higher levels of salt than the original cells. These cells are regenerated into whole plants which retain their salt tolerance from one generation to another. In the tropical and sub-tropical world, over two billion hectares experience stresses such as mineral deficiencies or toxicities, low and high temperature and drought conditions. Current approaches to alleviate the situation are to change or amend the soil to fit the plant needs or in a few instances fit the plant to the environment. However, certain conditions either cannot economically be corrected with the current technology or a viable systems is not available to deliver a suitable technology to the small farmer in the LDCs. These problems can be addressed by the possible development of stress tolerant varieties by means of plant tissue culture techniques. The project will study wheat, rice and millet crops for tolerance to salt, aluminum toxicity and drought.

**Host Country and Other Donors:** The project is linked with international and national agricultural research centers with regards to germ plasm and utilization of the technique. These centers will test the stress tolerant crop varieties at no cost.

**Beneficiaries:** The overall thrust of the program is to advance knowledge for crop production on marginal lands. It holds great promise for increased benefits for the poor farmer, especially women, who have traditionally played a major role in such areas.

**FY 83 Program:** To continue work started during 1980-81 and obtain desired tolerance levels for salt and aluminum toxicity in rice and salt tolerant cell lines of millet. Start greenhouse testing of salt tolerant wheat variety. Regenerate other wheat lines tolerant to salt and aluminum toxicity.

Major Outputs and A.I.D. Units:

	All Years
	Units
Wheat varieties tolerant to 3 stresses	6
Rice varieties tolerant to 2 stresses	4
Millet varieties tolerant to 1 stress	2
Trained scientists	5

A.I.D. Financed Inputs in \$000:

	FY 83
Personnel (30 person months)	\$ 150
Logistics	50
Equipment and Supplies	50
<b>TOTAL</b>	<b>\$250</b>

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	500	0	500	9/15/80 to 9/15/83	Colorado State University
Estimated Fiscal Year 1981	0	190			
Estimated through September 30, 1981	500	190	310	Present to 9/15/83	
Proposed FY 1982	0	170			
Estimated through Fiscal Year 1982	500	360	140		
Proposed FY 83	250	Future Year Obligations	Estimated Total Cost	9/16/83 to 9/15/84	
		1000	1750		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER:

G. Corey

TITLE Small Farm Water Management Systems		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 600	LIFE OF PROJECT 3000
NUMBER 936-4121	NEW <input checked="" type="checkbox"/>	PRIOR REFERENCE None	INITIAL OBLIGATION FY 83	ESTIMATED COMPLETION DATE FY 88
GRANT <input type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input type="checkbox"/>	ESTIMATED ANNUAL OBLIGATION FY 87	

**Purpose:** To adapt old and develop new water management technologies for small farms.

**Background:** Publically financed irrigation systems in LDCs are generally developed where large tracts of fertile land are commandable by the system and where there is an economic source of water large enough to supply the crop needs of a large group of farms. Financing and technologies for these large scale projects are readily available or adaptable.

There are, however, many smaller sources of water outside these systems but which cannot be readily combined into a single large operational irrigation unit. Typically such areas are farmed by poorer farmers and the farms are small. Attempts to use the water resource are usually ineffective and certainly inefficient because of a lack of knowledge and/or resources available to the farmers. As a result, governmental assistance programs often pass them by.

This project will focus on development of new and adaptation of older water conservation and water management technologies that could be especially suitable for small farm systems but which are usually inappropriate for larger scale agricultural irrigation projects. There are several. Obvious ones include: cropping pattern adjustment, using residual soil moisture from receding rivers at the end of the rainy season, pumping from shallow water tables or rivers where power is supplied by man, animal, solar, wind or fossil fuel, small channels from rivers, sprinkler irrigation using gravity as the power source, small ponds, etc.

The project will include a detailed survey and analyses of technologies presently in use; refinement of promising technologies and development of new ones; development of procedures to adapt these technologies to the conditions of specific LDCs; pilot testing in suitable locations; and provision of the necessary information to extend them to other areas.

**Host Country and Other Donors:** Host country institutions will be necessary as cooperators with the analyses and in pilot testing phases of this activity.

**Beneficiaries:** Small farm operators outside large scale irrigation systems.

**FY 83 Program:** The survey and analysis would be completed and at least one technology would be developed and readied for pilot testing. The analysis will require considerable time and travel because there are isolated cases of successful small farm irrigation in several LDCs. These will need to be studied in considerable detail especially from the economic point of view.

Major Outputs and A.I.D. Units:

Survey and analysis  
Technology refinements  
Pilot tests  
Handbooks  
Information and extension system  
Training course

All Years  
Units

1  
6  
3  
6  
1  
1

A.I.D. Financed Inputs in \$000's:

Personnel (50 person months)  
Logistics  
Other

FY 83

\$150  
150  
150  
\$600

TOTAL

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	-	-	-		To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	-	-	-		
Estimated through Fiscal Year 1982	-	-	-		
Proposed FY 83	2400	2400	3000	12/1/82 to 12/1/83	

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: T. S. Gill

TITLE: Int'l Benchmark Sites Network (Agriculture Research Transfer Methodology)		FUNDS: Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)	
NUMBER: Q36-0154	NEW [ ] CONTINUING [X]	PRIOR REFERENCE: FY 1982 Annex V Centrally Funded Programs, p. 23	FY 83: 1300	LIFE OF PROJECT: 6000
GRANT [X] LOAN [ ]			INITIAL OBLIGATION: FY 82	ESTIMATED FINAL OBLIGATION: FY 87
				ESTIMATED COMPLETION DATE: FY 88

Purpose: To organize, assemble, store and utilize crop, animal and land resource management data from international and national agricultural centers in a data bank for transferring cost-effective food production technology to and among developing nations.

Background and Progress to Date: During the past two decades a substantial amount of agronomic information based on research and improved production practices have been developed in LDCs, IARCs and DC institutions which has potential application beyond the original sites where it was generated. Such improved production recommendations if more broadly applied would speed the process of modernization of the small farm sector and create higher employment and income in the rural sector.

To effectively transfer results from one area to another will require the development of soil and environmental characterization procedures that permit high levels of probable success in extrapolating crop and animal production recommendations from one location to another within and among countries. Several systems have been tried in the past for the transfer of agriculture technology but none has worked when used on a wider scale. This project will utilize the concept proven by the Benchmark Soils Project, an AID funded program, that agrotechnology can be transferred among similar agroecological regions in a scientific way using U.S. Soil Taxonomy as a base. The Soil Taxonomy is the most comprehensive land classification system in the world and the only system that encompasses environmental factors such as temperature and moisture regimes as its parameters. This system with AID assistance is being internationalized and improved for use in the tropical regions. As a result of AID efforts LDCs are rapidly accepting this system over other systems in existence. This system will help coordinate and communicate effective use of recent and current research results.

The agroenvironment and the corresponding crop response and animal data from select sites will be programmed by the contractor in a computerized data bank. This data will be made available to researchers, planners and extension people in LDCs. The overall output of the project will be a prototype network which will serve as a model to demonstrate the operation of agrotechnology transference systems and provide training ground for more comprehensive networks (national, regional and international) to fulfill LDC needs for technology transfer.

Host Country and Other Donors: CIAT, IITA, ICRISAT, ICARDA and other international and national centers are expected to cooperate and contribute. FAO cooperation is anticipated.

Beneficiaries: Ultimate beneficiaries will be tropical farmers.

FY 83 Program: Soil survey work at ten agricultural sites will be initiated. Agreement on usage of standardized procedures for producing crop response data will be completed with the collaborating institutions. Programming of the soil/crop/animal climate data bank will be completed for collecting, storing and disseminating agricultural information among countries. It is expected that this activity will be closely coordinated with the Soil Management CRP and the Soil Management Support Services projects. Careful characterization of the soils is a vital step to both research and utilization of known technology or new research results in new areas.

Major Outputs and A.I.D. Units:

	All Years
	Units
Soil classification data of agricultural centers	25
Crop response data from respective centers	25
Data bank (data storage and retrieval)	1
Training packages	5
Training workshops	5
People trained	50
Publications	20

A.I.D. Financed Inputs in \$000s:

	FY 83
Personnel (100 person months)	\$ 450
Logistic	300
Training (30 person months)	250
Commodities	100
Other	200
<b>TOTAL</b>	<b>\$1300</b>

U.S. FINANCING (in thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	-	-	-		Cooperative Agreement with the University of Hawaii
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	400	350	50	4/1/82 to 12/31/82	
Estimated through Fiscal Year 1982	400	350	50		
Proposed FY 83	1300	Future Year Obligations	Estimated Total Cost	12/31/83 to 12/31/83	
		5200	6900		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER

John L. Malcolm

TITLE Collaborative Research - CRSP Soil Management		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)	
NUMBER 931-1311	NEW [ ]	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21	FY 83 2300	LIFE OF PROJECT Continuing
GRANT [X] LOAN [ ]	CONTINUING [X]		INITIAL OBLIGATION FY 81	ESTIMATED FINAL OBLIGATION FY Continuing
				ESTIMATED COMPLETION DATE OF PROJECT FY Continuing

**Purpose:** To find economical ways to increase productivity of tropical soils while protecting them from both short-term and cumulative damage and to enlarge the pool of scientists to work on soil problems in the developing countries.

**Background and Progress to Date:** This is a new project in the early development stage. Previous work sponsored by A.I.D. and others has shown that tropical soils can be very productive but most of this work was under intensive management to grow export crops. There is an urgent need to develop a range of soil management options for use by farmers with limited land and little money to invest. They are among the poorest in the world today.

Although five agro-ecological zones were identified for target areas for soil research, only three can be covered by funds available: (1) Humid Tropics, (2) Semi-arid Tropics, (3) Steeplands. Critical technical problems for study are: erosion control, suppression of toxic aluminum and manganese, lime requirements, nitrogen economy, phosphorus requirements and fixation, plant nutrition balance including secondary and micronutrients and maintenance of soil physical structure.

North Carolina State University was planning agent and was selected by the participating institutions to be Management Entity.

Planned research in Brazil, Colombia, Indonesia and Upper Volta will be delayed until additional funds are available for the project or from other sources.

**Host Country and Other Donors:** Dominican Republic, Niger, Peru, CIAT and CIP.

**Beneficiaries:** The professional staffs of the host countries and of participating U.S. institutions will be the direct beneficiaries of this program. The results of the research will benefit farmers of the tropics by allowing them to increase yields without endangering their long-term utilization of the existing soil base.

**1983 Program:** By 1983 research at the selected sites should be well established. The first tests of practices successful in other areas will have been completed and refinement of the research design begun. The impact of three variations of mechanical clearing on soil structure and fertility will be measured at Yurimaguas in Peru. Four grass/legume pasture combinations will be evaluated in cooperation with CIAT. Production cost, yield and income data from at least 12 cooperating farmers will be analyzed. Trees and other perennials will be included in soil management systems.

Minimum cost nitrogen and phosphate fertilizer levels will be established for the semi-arid tropics. Chemical and mechanical means to prevent crusting will be tested under laboratory and field conditions. Nitrogen fixation, yield and per-

sistence of five legumes will be measured under natural rainfall. In steep and rainfall infiltration rates, run-off and soil loss data with annual and biennial crops will be collected. Four crop/soil combinations, including no-till land, which may permit planting annuals on steepplands will be tested. Two of the host country technicians will have completed training.

Should additional funds become available through this project or from other sources work in the acid savannas will be started it will work in 1983 in the humid tropics.

Major Outputs and A.I.D. Units:

Experiment sites characterized  
Management systems devised  
Scientists trained (500 person months)  
Reports and publications

ALL UNITS  
1000  
100  
500  
100

A.I.D. Financed Inputs in \$000's:

Personnel (125 person months)  
Logistic support  
Training (145 person months)  
Equipment and facilities overseas

FY 83  
\$1000  
500  
500  
400  
TOTAL \$ 2400

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980					
Estimated Fiscal Year 1981	750	250		7/1/81 to 1/15/82	North Carolina State University
Estimated through September 30, 1981	750	250	500		University of Kentucky
Proposed FY 1982	1900	2200		1/15/82 to 1/15/83	Texas A&M University
Estimated through Fiscal Year 1982	2650	2450	200		
Proposed FY 83	2300	Future Year Obligations	Estimated Total Cost	1/15/83 to 1/15/84	
		Continuing	Continuing		

PROGRAM: GENERALLY FUNDED

ACTIVITY DATA SHEET

PROJECT MANAGER: I. R. Frederick

TITLE <u>World Rhizobium Collection Center</u>	
NUMBER <u>9110016</u>	NEW <input type="checkbox"/>
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>
	CONTINUING <input checked="" type="checkbox"/>

FUNDS <u>Agriculture, Rural Development and Nutrition</u>
PRIOR REFERENCE <u>FY 1982 Annex V, Centrally Funded Programs, p. 18</u>

PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	ESTIMATED COMPLETION DATE OF PROJECT
FY 81	150	1578	
INITIAL OBLIGATION FY 76		ESTIMATED FINAL OBLIGATION FY 87	

Propose: To improve the capability of crops to capture nitrogen from the air by providing a germ-plasm bank of characterized and evaluated nitrogen fixing micro-organisms of agricultural significance in biological nitrogen fixation (BNF).

Background and Progress To Date: The overall objective of the A.I.D. BNF strategy is to reduce the LDC reliance on costly nitrogen fertilizer made from fossil fuels. Effective use of BNF in agriculture has the potential of up to 20% reduction in the LDC's dependence on costly fertilizer nitrogen (about \$8 billion in 1980). Effective use of BNF requires the correct strain of nitrogen-fixing bacteria (Rhizobium) and the correct legume crop variety. A superior useful strain represents an investment of at least \$500,000 in collecting, screening, characterizing, evaluating in laboratory, greenhouse and field trials and farm trials. Preservation of these strains and making them available to scientists in LDCs is a great service. U.S.D.A. has had a rhizobia collection for more than 50 years, but A.I.D. support is provided to make the collection worldwide in scope, especially for tropical legumes, collecting new germplasm, by maintaining and preserving cultures, to study and evaluate cultures, to provide training and to distribute requested strains and information to researchers world-wide. Progress includes:

1. Collection continues to increase; some inputs from field trips not supported by A.I.D.; catalog published in 1979.
2. Evaluation by greenhouse and field testing is ongoing.
3. New laboratory facilities completed. New staff scientist now on permanent hire.
4. Stronger linkages with more than 10 other collections are in force.
5. Distribution of 450 strains to researchers worldwide per year.
6. Intern training (3-12 months each) of 5 LDC scientists completed FY 81.

Host Country and Other Donors: Scientists from other countries contribute nodules and isolates of rhizobia from different legume cultivars grown under local soil conditions. They also provide information on requested cultures that they have tested. USDA contributes about \$20,000 per year for work on tropical legumes.

Beneficiaries: Tropical biological nitrogen fixation researchers worldwide (LDCs and LDC's alike) for ultimate benefit of small farmers in LDCs. Cultures to many countries, trained scientists for Iraq, Thailand, Spain, Mali, Tanzania.

FY 82 Program: To continue maintenance, improvement and expansion of worldwide rhizobia collection; to preserve biodiversity by publication of the rhizobia strain catalog, to service strain requests and provide depositories; to provide intern training for 3 LDC scientists.

Major Outputs and A.I.D. Units:	All Years Units
Maintain & increase culture collection	1
Experiments to evaluate rhizobia cultures	1
Dissemination of rhizobia cultures	400
Linkages with international agencies	10
Intern training of LDC scientists	10

A.I.D. Financed Inputs in \$000:	FY 83
Personnel (30 person months)	\$60
Travel	15
Training (12 person months)	20
Operations	55
	\$150

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980			100		
Estimated Fiscal Year 1981	675	575			
Estimated through September 30, 1981	150	100		8/15/82 to 8/15/83	USDA/SEA/AR - U.S. Dept. of Agriculture / Science & Education Administration / Agricultural Research
Proposed FY 1982	825	675	150		
Estimated through Fiscal Year 1982	0	130		8/15/82 to 8/15/83	
Proposed FY 83	825	805	20		
	150	600	175	8/15/83 to 8/15/84	
		Future Year Obligations	Estimated Total Cost		
		600	1575		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER:

John L. Malcolm

TITLE Fertilizer Technical Assistance		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars) FY 83 200	LIFE OF PROJECT 5352
NUMBER 141-0831	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, P. 20	INITIAL OBLIGATION FY 65	ESTIMATED FINAL OBLIGATION FY 82
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	ESTIMATED COMPLETION DATE FY 82	

Purpose: To assure the supply of the right fertilizer to farmers in the developing countries.

Background and Progress to Date: With all the utilization of fertilizer for increased crop production, 600 million people in the developing countries would not have food to eat. Where fertilizer is used, it is used by farmers with small farms as well as by those with large farms. Tennessee Valley Authority (TVA) has assisted A.I.D. with all aspects of fertilizer production, distribution and use since 1965. Through 1975, most of the TVA effort was technical assistance to developing countries. Sectoral and feasibility studies have been conducted for 14 countries. Indonesia was encouraged to exploit its natural gas for nitrogen production and has done so successfully. A recommendation against an ammonia plant in Vietnam saved A.I.D. \$150 million. Demonstration of the feasibility of shipping urea in bulk to India has saved that country over \$60 million. Advice on fertilizer supply trends has improved plans and avoided unound investments. This advice is and will be crucial with the rapidly changing fertilizer price and supply situation foreseen in the 1980's.

Most of the technical assistance in fertilizers was taken over by the International Fertilizer Development Center when it began in 1975, but TVA has continued its advisory services to A.I.D. It has revised fertilizer specifications for A.I.D., financed procurement and updated the methods for quality control. It has provided recommendations for bagging and for bulk shipment of fertilizer. It reviewed engineering designs for a potash processing factory in Jordan and a fertilizer mixing plant in Panama. It provided technical representatives in engineering economics, statistics and agronomy with special expertise in fertilizers to enable A.I.D. to make meaningful contribution in meetings with the World Bank, the Food and Agriculture Organization. Under this project, TVA has initiated an agricultural development training course in cooperation with the University of Tennessee. An annotated summary of all TVA fertilizer patents available at no cost to developing countries was published.

Host Country and Other Donors: Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Panama, Paraguay, FAO and UNIDO.

Beneficiaries: Farmers of the developing countries are the ultimate beneficiaries of this project through better access to national fertilizer programs.

FY 83 Program: TVA will continue to advise and assist A.I.D. with fertilizer product and bagging specifications which encourages competition and price enforcement. It will provide U.S.P. assistance in planning and evaluating projects with a significant fertilizer component. It will provide technical specialists to represent A.I.D. at interagency and international meetings. It will cooperate with FAO on pricing and subsidies. It will provide A.I.D. with advice on fertilizer supply situation and prices.

Major Outputs and A.I.D. Units:

	All Years Units
Country and technical studies	46
International reference library	1
Computerized international data bank	1
Professional representation	20
Program and project designs	3
Training material and training courses	6
Technical advice	220
Policy information and advice	4

A.I.D. Financed Inputs in \$000's:

	FY 83
Personnel (20 person months)	\$100
Logistics	7
Other costs	8
	\$115

U.S. FINANCING (in thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	4027	3797	230		Tennessee Valley Authority - TVA
Estimated Fiscal Year 1981	175	230		9/30/81 to 9/30/82	
Estimated through September 30, 1981	4202	4027	175		
Proposed FY 1982	150	175		9/30/82 to 9/30/83	
Estimated through Fiscal Year 1982	4352	4202	150		
Proposed FY 83	200	Future Year Obligations 800	Estimated Total Cost 5352	9/30/83 to 9/30/84	

## PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER

L. B. FRANK

TITLE Tropical Legume Inoculant Service		
NUMBER (24-1000)	NEW <input type="checkbox"/>	
CRANT <input type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input type="checkbox"/>

FUNDS Agricultural Rural Development  
 Agricultural Nutrition  
 PRIOR REFERENCE FY 1982 Annex V  
 Centrally Funded Program, p. 23

PROJECTED OBLIGATION (In thousands of dollars)

FY 83 150  
 INITIAL OBLIGATION  
 FY 82 50

ESTIMATE NUMBER OF PERSONS

LIFE OF PROJECT

ESTIMATED COMPLETION DATE OF PROJECT  
FY 83

**Purpose:** To provide technical assistance to the field in countries in which there is increasing their programs for effective use of the natural process of biological nitrogen fixation (BNF), as an alternative and/or supplement to costly petroleum-based fertilizer nitrogen, in the cultivation of crop and/or food, forage and forestry crops.

**Background:** The two key conditions required for effective biological nitrogen fixation in agriculture are the selection of the correct legume crop variety which is then cultivated in soil inoculated with the correct strain of nitrogen-fixing microbe (called Rhizobium). The appropriate match of plant variety to soil microbe under the given soil conditions results in a symbiotic relationship which enables the microbe to capture nitrogen from the environment and convert it into a form usable for plant growth. "Inoculation" of the plant seed with the microbe is considered the best way to insure that the required conditions are met. This project will primarily provide technical advice, assistance, and training to staff of the developing countries on how to design, establish, and operate inoculation facilities. These facilities are usually developed in connection with seed multiplication and improvement projects and represent only a small fraction of a seed producer's cost. Assistance will also be provided to develop appropriate marketing and distribution systems to insure that the "inoculated seeds" reach the farmer in good condition. Training will be provided to inoculation plant managers in production techniques and quality control. Technical assistance will also be provided on ways to improve the use of biological nitrogen fixation in small farming systems.

In 1978, A.I.D. initiated a comprehensive research program on biological nitrogen fixation (BNF) for tropical agriculture in response to the rapidly escalating cost of petroleum-based fertilizer nitrogen. BNF research and technology development had long been neglected during the previous decades of cheap fertilizer-nitrogen in the temperate zone developed countries and was practically nonexistent in the tropical LDCs. The initial goal of this research program is beginning to bear fruit with the development of a workable BNF technology for the tropics. This technology is now being field tested through a network of scientists in the LDCs. This Inoculant Service Project is an essential step to take BNF research results and incorporate them into development programs throughout the LDCs. The overall objective of A.I.D. BNF strategy is to reduce the LDC reliance on costly petroleum-based nitrogen-fertilizer as a means for increased food production. LDCs are now spending over \$8 billion annually on fertilizer-nitrogen. By the year 2000, it is estimated that they will be spending \$50 billion on fertilizer-nitrogen annually to meet their increasing food production requirements. Although BNF is only a partial solution to relieving this growing burden, it is estimated that the use of

BNF in the tropics will reduce the need for costly petroleum-based fertilizer nitrogen. This country and other legume crops are being grown in the tropics. This project is part of a comprehensive technical assistance program. The project will be implemented in a country-specific agricultural development project jointly with A.I.D. and the Government of the host country. The project will be implemented in a country-specific agricultural development project jointly with A.I.D. and the Government of the host country.

**Beneficiaries:** The field staff of the host country who are responsible for the production of legume crops. BNF is a natural process which is used by people living in the semi-arid to arid zones of the tropics. Legume crops, such as peanuts, etc., are a vital component of the diet, and even a greater number of people in the more densely populated humid tropics depend upon legume products for a significant portion of the dietary protein. The moderate benefits of BNF are felt by the agricultural planners, including the farmer, and the consumer.

**FY 83 Program:** Provide assistance in a few countries, including the host country, that are developing inoculant production facilities.

Major Outputs and A.I.D. Units:

Feasibility studies in country on present use of BNF and ways to improve use of BNF in farming systems	1
Equipment and technical assistance "packages" for quality control	10
Repair and maintenance "packages" including small parts, some supplies & technical assistance for inoculant production	10
Marketing and distribution assistance "packages"	1
Training units for plant operators & distribution	5
Workshops on inoculant production and use	2

A.I.D. Financed Inputs in \$000:

Personnel (20 person months)	\$20
Logistics	20
Training (10 person months)	20
Operations	50
TOTAL	\$110

U.S. FINANCING (In thousands of dollars)

	Obligations	Expenditures	Unliquidated	Funding Period	Principal Contractors or Agencies
Through September 30, 1980	-	-	-		To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	150	100	50	6/1/82 to 4/1/83	
Estimated through Fiscal Year 1982	150	100	50		
Proposed FY 83	150	Future Year Obligations	Estimated Total Cost	6/1/83 to 4/1/84	
		600	900		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER L. R. Frederick

TITLE N-Fixation, Limiting Factors			FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	6050
NUMBER 931-0610	NEW <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 1981 Annex V, Centrally Funded Programs, p. 20	FY 83 500			
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>			INITIAL OBLIGATION FY 76	ESTIMATED FINAL OBLIGATION FY 87		ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop practical ways to enable crops to capture nitrogen from the air by overcoming factors limiting biological nitrogen fixation (BNF). To determine solutions to problems limiting biological nitrogen fixation (BNF) in symbiotic crop-bacteria associations especially with legumes by working cooperatively with LDC scientists on factors limiting BNF utilization in their countries.

**Background and Progress to Date:** BNF offers an opportunity to reduce the annual multi-billion dollar need for manufactured nitrogen fertilizer. However, BNF is limited by the absence of appropriate symbiotic bacteria and other factors limiting crop growth. Failures of legume inoculants (both local and imported) are common enough to require improvement to assure reliability. Fertilizer nitrogen commonly increases yields of beans (*Phaseolus vulgaris*) and some other legumes, indicating a deficiency in the BNF process. Insect larvae destroy nodules. The persistence in the soil of rhizobia for one legume in a cropping system may form ineffective nodules on succeeding legumes. These and other problems can be attacked by small, discrete grants. Grants are awarded for a three-year period to provide assured support for a graduate student. Grantees are selected on the basis of their proposals; priority is given to problems identified in developing/tropical areas and to cooperative work with scientists in developing countries. A total of 41 grants have been made. Twenty grants are for cooperative work between U.S. and LDC scientists. Grants were up to \$60,000 for three-year research in U.S., up to \$90,000 for three years in cooperation with overseas scientists. Project monitoring is joint between SEA/CR and A.I.D. Completion date for each separate project has been determined by SER/CR. Principal investigators meet annually for progress reports, for coordination and linkages, and to share expertise. In 1981, an international workshop with 200 participants was held at CIAT. An oil-based inoculant that shows better survival at high temperatures and in fertilizer materials is being tested for field use. Peanuts show variation in BNF ability and often need a specific strain of root nodule bacteria (rhizobia). Improved BNF can also be selected in cowpeas by breeding techniques, and a wide range of pH tolerance has been observed, indicating potential for adaptation to problem soils. BNF problems are being studied in Sudan (soil conditions, seed treatment). Egypt (salinity, phosphorus), Chile (acidity), Guyana and Thailand (inoculant production), Nigeria (inoculation, micronutrients), Morocco and Senegal (inoculation and survival), Brazil (acidity, problem soils), Panama and Mexico (inoculation), Kenya (bean nodulation).

**Host Country and Other Donors:** Most grants show considerable (often matching) contributions from grantees. The support from cooperating country institutions is significant, but varies from grant to grant mainly in staff time and facilities. Subgrants have been made to 34 scientists at 21 research institutions in 10 states, which are Georgia, Minnesota, Mississippi, North Carolina, Washington, Alabama,

Arizona, California, Florida, Hawaii, Ohio, Oregon, Texas, Montana, Wisconsin, Iowa, New Mexico, North Dakota and West Virginia.

**Beneficiaries:** Directly, scientists, indirectly, small farmers in LDCs as results are incorporated into crop management. Chile (\$2,000/yr.), Nigeria (\$6,000/yr.), El Salvador (\$5,000/yr.), Brazil (\$6,000/yr.), Thailand (\$6,000/yr.), Egypt (\$9,000/yr.), Morocco and Senegal (\$7,000/yr.), Guyana (\$2,000/yr.), Panama (\$2,000/yr.), Mexico (\$2,000/yr.), Sudan (\$6,000/yr.), Turkey (\$1,000/yr.), Venezuela (\$200/yr.), Malaysia (\$7,000/yr.), Kenya (\$1,000/yr.).

**FY 83 Program:** To continue research on improved inoculants and inoculation methods, on increased BNF capacity in legume varieties and rhizobia, on overcoming limiting soil and pest factors with priority on overseas cooperative efforts.

Major Outputs and A.I.D. Units:	All Years
	Units
Subgrants to research institutions	46
Improved inoculant materials	2
Improved inoculant practices	8
Ways to overcome factors limiting biological nitrogen fixation	12
Cooperative BNF research with LDC scientists	25
Trained personnel to work on problems related to biological nitrogen fixation	14
Technical publications	36
<b>A.I.D. Financed Inputs in \$000s:</b>	<b>FY 83</b>
Research subgrants	\$500
<b>TOTAL</b>	<b>\$500</b>

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	2500	1950	550		
Estimated Fiscal Year 1981	400	550		5/15/81 to 4/15/82	USDA/SEA/CR - U.S. Dept. of Agriculture Science and Education Administration Cooperative Research
Estimated through September 30, 1981	2900	2500	400		
Proposed FY 1982	650	700		5/15/82 to 4/15/83	
Estimated through Fiscal Year 1982	3550	3200	350		
Proposed FY 83	500	Future Year Obligations	Estimated Total Cost	4/15/83 to 4/15/84	
		2000	6050		

PROGRAM: CENTRALLY FUNDED

ACTIVITY DATA SHEET

PROJECT MANAGER: Lloyd R. Frederick

TITLE N-Fixation, Symbiotic (NIFIAL)		FUNDS Agriculture, Rural Development and Nutrition
NUMBER 931-0613	NEW <input type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded programs, p. 20
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>

PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	9080
FY 83	900		
INITIAL OBLIGATION FY 75		ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop practical ways to enable tropical legume crops to capture nitrogen from the air and to increase food production by use of tropical legumes.

**Background and Progress to Date:** To optimize biological nitrogen fixation in tropical agriculture legumes the NIFTAL project was initiated to: (a) Build and test a collection of root nodule bacteria (rhizobia) so effective competitive strains could be selected for more than 50 tropical legumes used in cropping systems, (b) train scientists in developing countries to work with rhizobia and BNF utilization, (c) conduct research on the application of BNF in cropping systems, (d) build a network of scientists through workshops, and provide culture and information exchange including a BNF Bulletin, (3) coordinate cooperative international legume inoculation trials (INIID), and (f) provide technical assistance in research, training, legume inoculant production and distribution. The University of Hawaii has developed a facility for laboratory, greenhouse and field testing of the rhizobia-legume symbiosis. The rhizobia collection now contains more than 1000 isolates. Good strains have been identified for widely grown tropical legumes but more work is needed to select the proper strain for the different varieties of each legume. One hundred million cells of an improved strain inoculated per seed formed most of the nodules on cowpeas, but when 100,000 cells were inoculated per seed, only a small percentage of the nodules were formed by the inoculated strain. A small amount of fertilizer nitrogen increased the total amount of nitrogen fixed in greenhouse tests. Maximum benefit from nitrogen from grain legumes is achieved by rotation rather than by intercropping. Intercropped forage legumes offer promise in the poly-crop system. In tropical soils, legumes often show yield increases when fertilizer nitrogen is added; this indicates that the nitrogen fixation system needs improvement. Inoculation methodology is being investigated in tropical soils to find better ways to inoculate. International inoculation trials are being carried out by national scientists in about 200 sites in 30 countries. Rhizobial strain trials are conducted on a cooperative basis. Seven short courses in BNF technology have been completed with 67 junior scientists trained. An intern training program has been completed for 8 scientists from six countries. Eight graduate students have completed degrees, and three are currently in graduate programs. Three international workshops have been held - one in 1976, one in 1979, and one in 1981. A BNF Bulletin has been prepared to disseminate current information on this subject.

**Beneficiaries:** Directly - scientists working with BNF and tropical legumes. As knowledge and capability to use BNF technology increases, will benefit farmers who utilize BNF through legumes in their cropping systems, and reduce the annual billion dollar fertilizer N cost.

**FY 83 Program:** Continue all activities with reduced emphasis on building culture collection and increased emphasis on testing BNF technology in developing countries. Continue to expand international network of BNF scientists. Continue training in BNF. Increase work on BNF in cropping systems. Increase technical support.

Major Outputs and A.I.D. Units:	All Years
	Units
Rhizobium culture collection	1
Rhizobium strain evaluation	200
Training IDC junior scientists	200
Training Intern Scientists	60
International inoculant experiments and network	100
Inoculation methodology experiments	20
Legume N - cropping system experiments	20
Technical publications	30

A.I.D. Financed Inputs in \$000s:	FY 83
Personnel (230 person months)	\$500
Logistics	60
Training (30 person months)	65
Operations	275
<b>TOTAL</b>	<b>\$900</b>

**Host Country and Other Donors:** For international inoculation trials, host countries provide scientists, facilities, field sites, amounting to at least \$500 per site totaling an estimated \$100,000 in FY 1981.

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	2930	2375	555	6/30/81 to 6/30/82	University of Hawaii
Estimated Fiscal Year 1981	700	800			
Estimated through September 30, 1981	3630	3175	455	6/30/82 to 6/30/83	
Proposed FY 1982	950	1000			
Estimated through Fiscal Year 1982	4580	4175	405	6/30/83 to 6/30/84	
Proposed FY 83	900	Future Year Obligations	Estimated Total Cost		
		3600	9080		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Lloyd R. Frederick

TITLE: N-Fixation Associate (Nonsymbiotic)		FUNDS: Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT: 2, 578
NUMBER: 931-1004	NEW <input type="checkbox"/>	PRIOR REFERENCE: 1987 Annex V,	FY 83: 300	ESTIMATED FINAL OBLIGATION: FY 77	ESTIMATED COMPLETION DATE OF PROJECT: FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	Centrally Funded Programs, p. 20		

**Purpose:** To determine practical ways to enable grasses to capture nitrogen from the air; to improve and manage associative nitrogen (N) fixation in grasses and to determine the agricultural value of N-fixation in grasses.

**Background and Progress to Date:** Cereal grasses are the major food crops in the world. Nitrogen is the most common nutrient limiting grass yields. Most of the fertilizer N is used on grass crops, such as rice, maize, wheat. If associative N-fixation could provide a significant portion of the N needed by the crop, the economic benefit would be tremendous. Organisms fixing N were found by Dobreiner in Brazil to be associated with grasses and to have considerable N-fixing potential. In 1975 the University of Florida organized a team of scientists (agronomists, biologists, microbiologists, soil scientists) to determine the feasibility of associative N fixation in grasses. Inoculation trials showed positive yield responses on some grasses when combined with low rates of fertilizer N, and possible contribution of 40 to 80kg N/ha. Some varieties of grasses appear to be more responsive, indicating possible genetic relationship. Some seedling growth responses were found to be due to growth factor other than nitrogen. Surveys produced samples with high N-fixing activity, but the causative factors remain elusive. High moisture increase activity. Tissue culture showed *Azospirillum* grew well with some grass root cells. Putting the most promising grass with the best bacteria studied in soil under favorable environment still yields erratic but promising results. Methods to enhance survival of the bacteria in the soil are being studied. More research is needed to establish reliability in the system and to determine the feasibility of relying on the system for improved yields. If successful this program can increase the productivity of grass cereal, and crops would be worth \$ billions worldwide in the LDCs.

**Host Country and Other Donors:** University of Florida - \$200,000; USDA - \$250,000/yr. University of Florida supplied advice and materials (inoculant and grass seeds) for field trials and Bahamas provided other support. Mali interested in BNF possibilities with ICRISAT and the University of Florida.

**Beneficiaries:** In the immediate future scientists working in biological nitrogen fixation worldwide. Indirectly, if successful, all farmers in the world. If successful, would have worldwide effect and be worth \$ billions.

**FY 83 Program:** Continue research to obtain a reliable N-fixing grass-bacteria system. Select N-fixing bacteria that establish in the root zone and release N to the plant. Select grass genotypes that harbor N-fixing bacteria and can use the N fixed. Determine the value of N-fixing system in greenhouse and field for increasing yield and N uptake. Evaluate agricultural potential, considering cost of inoculation, yield levels, soil requirements and management required.

**Major Outputs and A.I.D. Units:**

Characterization of N-fixing bacteria  
Screen plant genotypes for BNF enhancement  
Define effective grass bacteria system in lab.  
Test grass bacteria systems in field  
Measure amount of N<sub>2</sub> fixed in field trial  
Technical publications and workshops

All Years

Units

FY

1987

6

6

6

6

6

**A.I.D. Financed Inputs in \$000s:**

FY 83

Personnel (70 person months)  
Logistics  
Training (38 person months)  
Operations

\$100

30

40

110

\$380

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	927	558	369		University of Florida
Estimated Fiscal Year 1981	-	180	-	current to 4/30/81	
Estimated through September 30, 1981	927	738	189		
Proposed FY 1982	150	200	-	4/30/82 to 4/30/82	
Estimated through Fiscal Year 1982	1,077	938	139		
Proposed FY 83	300	Future Year Obligations	Estimated Total Cost	4/30/83 to 4/30/83	
		1,201	2578		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Charles Simkins

TITLE NOAA Advisory Service		FUNDS Agriculture Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 400		LIFE OF PROJECT 3541
NUMBER 931-1-2 GRANT <input checked="" type="checkbox"/> PLAN <input type="checkbox"/>	NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 19	INITIAL OBLIGATION FY 76	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

Purpose: To assist less developed countries in assessing fisheries development opportunities, analyzing fisheries sector problems, and formulating and implementing solutions that will lead to increases in food fish availability for LDC consumers and better income and employment opportunities for poor people in the fishery sector.

Background and Progress to Date: This project responds to the increased utilization of the marine fisheries potential resulting from the recognition of the 200-mile limit and the need for countries to deal with the problems related to the new management responsibilities in this zone. This project was initiated with the National Oceanic and Atmospheric Administration in 1976 as a means of procuring services of capable fisheries advisors and experts to assist LDCs in program management, field support and technical representation responsibilities. A wide variety of services are being provided to developing countries through field missions and regional bureaus. Technical assistance to a total of 25 countries between FY 1976 and FY 1981, including surveys of fisheries and aquaculture development potential, project feasibility studies, design of fisheries projects, and assistance with implementation, management and evaluation projects when fisheries expertise is required. This assistance has been provided in Egypt, Sudan, Nigeria, Senegal, Mauritius, Mauritania, Morocco, Guinea, Guinea-Bissau, Cameroon, Djibouti, The Sahel, Panama, Colombia, Peru, Jamaica, Nicaragua, Dominican Republic, the Caribbean, Indonesia, Philippines and Thailand. USAIDs and other International donors have as a result of these efforts invested in new or expansion of ongoing fisheries projects. Some 350,000 tons of additional fish are projected to be produced in 4 of the LDCs that have called on this project.

Host Country and Other Donors: None

Beneficiaries: Small-scale fishermen, fishing communities, fish farmers and low-income consumers of fish and fishery products in the less developed countries are the beneficiaries, as well as the Fisheries Departments and Ministries in LDCs.

FY 83 Program: Advisory assistance will continue in approximately 12 countries. Seven new approaches will be initiated to help recipient countries regulate fish harvests in their new 200-mile fishing zones, to assist with economic aspects of aquaculture, address problems of personal income and nutrition in small scale fishing communities and to assist with management of the coastal zone and its fishery resources on a continued basis.

Major Outputs and A.I.D. Units:

	All Years
Country and Technical Studies	15
Professional Representation	27
Program and Project Design	30
Technical Advice	450
Analyses of Traditional Fisheries Programs	35
Workshops	20
Publications and Reports	40

A.I.D. Financed Inputs in \$000s:

	FY 83
Personnel (54 person months)	\$250
Logistic Support	75
Other Costs	75
	\$400

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	1091	897	194		Department of Commerce - National Oceanic and Atmospheric Administration
Estimated Fiscal Year 1981	250	275		9/29/81 to 9/29/82	
Estimated through September 30, 1981	1341	1172	169		
Proposed FY 1982	200	250		9/29/82 to 9/29/83	
Estimated through Fiscal Year 1982	1541	1422	119		
Proposed FY 83	400	Future Year Obligations	Estimated Total Cost	9/29/83 to 9/29/84	
		1600	3541		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Norman L. Pease

TITLE Aquaculture Technology Development		FUNDS Agriculture Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 360		LIFE OF PROJECT 3598
NUMBER 931-1314	NEW <input type="checkbox"/>	PRIORITY REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21	INITIAL OBLIGATION FY 78	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>			

Purpose: To provide technical expertise on aquaculture development problems and to maintain training services in aquaculture for less developed country fisheries workers.

Background and Progress to Date: This project, utilizing expertise developed at Auburn University under a previous 211(d) grant, supplies technical assistance and training in support of field projects. In Thailand, a cooperative program with the Department of Fisheries over a 5-year period had a significant impact on the development of local research and extension activities. In Brazil, major improvements in reservoir management, fish breeding and intensive pond culture have resulted from Auburn efforts. In the Philippines, major fisheries programs have been developed and 32% increase in yields from brackish-water production ponds have occurred. In El Salvador, rural extension and demonstration activities have increased fish production by the rural poor by 26%. In Colombia, Auburn has played a major role in the formulation of government aquaculture programs and in implementing Colombia's new fisheries activities. A community fisheries program in Panama utilizes hog wastes from a pig fattening program to feed pond fish and then utilizes the overflow to irrigate small vegetable farms. In addition, technical assistance in fisheries has been provided in Cameroon, Central African Empire, Ghana, Ivory Coast, Kenya, Liberia, Morocco, Nigeria, Rwanda, Sudan, Tanzania, Togo, Upper Volta, Zaire, Israel, Bangladesh, India, Indonesia, Philippines, Thailand, Malaysia, Pakistan, Taiwan, Vietnam, Brazil, Colombia, Costa Rica, Ecuador, Dominican Republic, Guatemala, Guyana, El Salvador, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, and Peru.

Host Country and Other Donors: The State of Alabama provides the facilities of the Auburn University, Department of Fisheries which supports this project. Host countries provide in-country support to technical assistance teams.

Beneficiaries: Small-scale fish farmers and low income consumers of fish and fishery products in the less developed countries.

FY83 Program: Grant support will be provided to Auburn to maintain their graduate school educational capacity in aquaculture; to produce 2 manuals, each year and quarterly newsletters for use in the developing countries; to provide assistantships to less developed country scientists; to present short courses and special training in developing countries and at Auburn for scientists, extensionists and fish farmers for at least 12 countries; and to provide short-term consult services on a variety of technical aspects of aquaculture.

Major Outputs and A.I.D. Units:	All Years Units
Professional aquaculturists receiving graduate training	150
Professional aquaculturists receiving practical training	750
Manuals, texts and newsletters	14
Assistantships	20
Short Courses	30
Consultant Services	50
<u>A.I.D. Financed Inputs in \$000's:</u>	<u>FY 83</u>
Personnel (120 person months)	\$200
Other costs	160
TOTAL	\$360

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	1118	990	128		Auburn University
Estimated Fiscal Year 1981	320	400		4/1/81 to 12/31/81	
Estimated through September 30, 1981	1438	1390	48		
Proposed FY 1982	360	360		12/31/81 to 12/31/82	
Estimated through Fiscal Year 1982	1798	1750	48		
Proposed FY 87	360	Future Year Obligations	Estimated Total Cost	12/31/82 to 12/31/87	
		1440	3598		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Fennell Osborn

TITLE Fishery Development Support Services		FUNDS Agriculture Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars)		LIFE OF PROJECT	1770
NUMBER 936-4024	NEW [ ]	PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 31	FY 83 300	INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88
GRANT [x]	LOAN [ ]	(CONTINUING [x])				

**Purpose:** To provide technical assistance to LDCs in marine fishery development and management.

**Background and Progress to Date:** The Agency has a continuing need for technical assistance and training in marine fisheries with respect to fisheries development projects and alternatives. Most of these requests are generated at mission level, but occasionally regional and central bureaus also require these services. A major problem in meeting these needs is to find qualified experts and/or sources in a timely manner. This project will provide access to such expertise and training services through a cooperative agreement that utilizes marine fishery expertise at the University of Rhode Island. Rhode Island was involved in a number of successful projects that were dependent upon utilization of the training, research, information, dissemination and state-of-the-art capabilities developed under a 211(d) grant. Outstanding examples of countries assisted include: Costa Rica, Guatemala and El Salvador - a five-year cooperative program of research with respective departments of fisheries and national universities in stock assessment, post harvest loss reduction, catch and effort measurement, fisheries economics of harvest, wholesaling, retaining and transport, sociocultural impacts of fisheries projects and fisheries administration policy formulation; and Ghana design and testing of alternative smoking and drying techniques; Guinea Bissau - development and evaluation of a specially designed training program in fisheries technology (boat, gear, refrigeration, etc.). Malaysia, Tanzania and Indonesia - development of university level marine curriculae; Azores - stock assessment, training and fisheries extension training.

**Host Country and Other Donors:** These support services will be fully coordinated with assistance activities of FAO, bilateral donors, SEAFDEC, ICLARM, and other fishery assistance organizations.

**Beneficiaries:** Small scale fishermen, fishing communities and low income consumers of fish in LDCs.

**FY 83 Program:** Continue the Cooperative Agreement started in FY 82 to maintain a resource center providing advisory and consulting services; training of 40 students, applied research projects, and 250 information requests to 12 LDC institutions in fisheries development and to provide assistance to LDCs in these areas.

## Major Outputs and A.I.D. Units:

	All Years
	Units
Consultant services	70
Applied research reports for selected countries	20
State-of-the-art papers	10
LDC personnel in academic long-term training	45
LDC personnel in practical short-term training	300
Response to requests for information	7000
Manuals on various aspects of fisheries development	15

## A.I.D. Financed Inputs in \$000s:

	FY 83
Personnel services (30 person months)	\$220
Logistic support	45
Other costs	15
TOTAL	\$300

	U.S. FINANCING (In thousands of dollars)		Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	-	-	-	-	University of Rhode Island
Estimated Fiscal Year 1981	-	-	-	-	
Estimated through September 30, 1981	-	-	-	-	
Proposed FY 1982	270	150		12/31/82 to 12/31/83	
Estimated through Fiscal Year 1982	270	150	120		
Proposed FY 83	300	Future Year Obligations	Estimated Total Cost	12/31/82 to 12/31/84	
		1200	1770		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Kenneth Osborn

TITLE ICLARM - Fisheries Development			FUNDS Agriculture Rural Development and Nutrition		PROPOSED OBLIGATION (In thousands of dollars)		
NUMBER 931-1050			PRIOR REFERENCE FY 1982 Annex V, Centrally Funded Programs, p. 21		FY 83 320	LIFE OF PROJECT	Continuing
GRANT <input checked="" type="checkbox"/>	LOAN <input type="checkbox"/>	NEW <input type="checkbox"/>			INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY Continuing	ESTIMATED COMPLETION DATE OF PROJECT FY Continuing

Purpose: To support research on fisheries and aquaculture in the LDCs, improve the flow of technological information to small scale fish farmers and fishermen, and provide training opportunities to junior LDC scientists who will support improved fishery sector performance.

Background and Progress to Date: The International Center for Living Aquatic Resources Management is a relatively new international research and development center with headquarters in Manila. It is developing a broad base of international funding to support its objectives of increasing fishery sector output and efficiency in the LDCs. A.I.D. initially contributed three years funding Aug. 1979 - July 1982) for basic support of a program in aquaculture and fisheries development. It is expected that financial support to ICLARM can be provided through the Consultative Group for International Agricultural Research or some similar convention as this institution increases its capability and operational reputation. Within future funding limitations, A.I.D. has agreed in principle to long-term funding for the International Center for Living Aquatic Resources Management, providing other international support is obtained and Agency project financed activities are accomplished in a cost and product effective manner. The International Center for Living Aquatic Resources Management's mandate is a global one and the center works with fisheries institutions in a number of LDCs. Initial program efforts have been concentrated in Asia.

Host Country and Other Donors: The International Center for Living Aquatic Resources Management receives financial support, either in the form of unrestricted core support or specific project financing from the Rockefeller Foundation, USAID, Australia, West Germany, Canada, Thailand, The Asian Development Bank and a number of other donors. In addition, Sweden, The Netherlands and the Philippines have made commitments for contributions in future years.

Beneficiaries: Small scale fish farmers, artisanal fishermen and low income consumers of fish and fishery products in the LDCs.

FY 83 Program: Fourth year funding for core program support will be provided to support the International Center for Living Aquatic Resources Management's program in aquaculture, traditional fisheries, fisheries affairs, and education and training.

Major Outputs and A.I.D. Units:

Basic research reports  
Fisheries science status papers  
Workshops and seminars  
Cooperative research agreements

All Years  
Units12  
15  
4  
5A.I.D. Financed Inputs in \$000s:

Unrestricted core support

FY 83

\$320  
\$320

TOTAL

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	500	292	208		International Center for Living Aquatic Resources Management (ICLARM)
Estimated Fiscal Year 1981	300	300		6/30/81 to 6/30/82	
Estimated through September 30, 1981	800	600	200		
Proposed FY 1982	-	200		7/1/82 to 12/31/82	
Estimated through Fiscal Year 1982	800	800	-		
Proposed FY 83	320			12/31/82 to 12/31/83	
		Future Year Obligations	Estimated Total Cost		
		Continuing	Continuing		

PROGRAM: CENTRALLY FUNDED

ACTIVITY DATA SHEET

PROJECT MANAGER: Norman L. Pease

TITLE Fisheries/Pond Dynamics Research		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (In thousands of dollars) FY 83 500		LIFE OF PROJECT 100
NUMBER 97-1023 a/ GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>	NEW <input type="checkbox"/> CONTINUING <input checked="" type="checkbox"/>	PRIOR REFERENCE FY 82 Annex V, Centrally Funded Programs, p. 21	INITIAL OBLIGATION FY 82	ESTIMATED FINAL OBLIGATION FY 87	ESTIMATED COMPLETION DATE OF PROJECT FY 88

**Purpose:** To develop and refine pond production technology which will lead to increased food fish availability and better income and employment opportunities in LDCs.

**Background and Progress to Date:** A review of fishery sector research needs has identified efficiency of pond aquaculture systems as a high priority research activity. An effort is underway to develop a research program which will focus the resources and capabilities of several U.S. universities on pond culture problems which constrain production increases in LDCs. A detailed research agenda is being developed and planning funds were made available during FY 81. Emphasis will be on describing principles and refining practices of aquaculture systems.

**Host Country and Other Donors:** Cooperating host countries will be determined as the full research program takes shape. Participating U.S. universities will provide from their own resources at least the equivalent of 25% of the AID contribution.

**Beneficiaries:** Primarily small scale fish farmers in LDCs and low income consumers who will have access to increased quantities of low-priced fish.

**FY83 Program:** This project will provide incremental funding for a cooperative research program with institutions in several countries to conduct research in specific problems in aquaculture. Assign a U.S. staff member and provide training to national scientists.

Major Outputs and AID Units:

	All Years Units
Research findings leading to major improvements in culture methods	20
Research findings of basic significance	10
New techniques for improving production	40
Technical Reports	25
Research training for professional LDC scientists	6

A.I.D. Financed Inputs in \$000's		FY 83
Personnel		\$200
Logistics		50
Commodities		50
Sub grants		200
	TOTAL	\$500

a/ shown in FY 1982 c.p. as project no. 1306

U.S. FINANCING (In thousands of dollars)			Unliquidated	Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures			
Through September 30, 1980	-	-	-		To be determined
Estimated Fiscal Year 1981	-	-	-		
Estimated through September 30, 1981	-	-	-		
Proposed FY 1982	400	300	-	1/1/82 to 12/31/82	
Estimated through Fiscal Year 1982	400	300	100		
Proposed FY 83	500	Future Year Obligations	Estimated Total Cost	12/31/81 to 12/31/81	
		2000	2900		

PROGRAM: CENTRALLY FUNDED

## ACTIVITY DATA SHEET

PROJECT MANAGER: Norman J. Pearce

TITLE Fisheries/Stock Assessment Research		FUNDS Agriculture Rural Development and Nutrition		PROPOSED OBLIGATION (in thousands of dollars)		LIFE OF PROJECT	
NUMBER 036-4026		NEW 50		FY 83 500		YEAR	
GRANT <input checked="" type="checkbox"/> LOAN <input type="checkbox"/>		CONTINUING <input type="checkbox"/>		INITIAL OBLIGATION FY 81		ESTIMATED FINAL OBLIGATION FY 87	
		PRIOR REFERENCE None				ESTIMATED COMPLETION DATE OF PROJECT FY 80	

Purpose: To develop and refine fishery management and exploitation practices thereby increasing harvests of food fish and employment in LDCs.

Background and Progress to Date: In an analysis of fisheries sector needs, and the U.S. university capabilities to assist with those needs, it was found that stock assessment is a priority area. A workshop has been conducted involving leading fisheries authorities from around the world to identify priority research topics and to plan a research program. This proposed CRSP is a result of the planning and the potential contributions to food and employment possible from improved management of fishery stocks in the LDCs. Research will be conducted cooperatively with LDC institutions and will include studies of improved methods for measuring stock abundance, evaluate relevant LDC legislation and institutional capability, monitoring impact of fishing, and impact of management techniques and other specific topics related to increasing use of multi-species, tropical stocks.

Host Country and Other Donors: Cooperating host countries will be determined as the full research program evolves.

Beneficiaries: Primarily small-scale fishermen in LDC's and low income consumers who will have access to increased quantities of low-priced fish. Also LDC fisheries agencies and trained technicians.

FY83 Program: This project will provide initial funding for a cooperative research program.

Major Outputs and A.I.D. Units:

	All Years
	Units
Analyses of sector needs	12
Basic research findings of broad significance	8
Improved management practices	40
Publications	20
Strengthened management capability in LDCs	12

A.I.D. Financed Inputs in \$000's:

	FY 83
Personnel	\$250
Logistics	50
Commodities	70
Sub grants	130
TOTAL	\$500

U.S. FINANCING (In thousands of dollars)				Funding Period	Principal Contractors or Agencies
	Obligations	Expenditures	Unliquidated		
Through September 30, 1980	--	--	--		U.S. Seagrant Universities still to be determined.
Estimated Fiscal Year 1981	--	--	--		
Estimated through September 30, 1981	--	--	--		
Proposed FY 1982	--	--	--		
Estimated through Fiscal Year 1982	--	--	--		
Proposed FY 83	500				
		Future Year Obligations	Estimated Total Cost	4/1/83 to 4/1/84	
		2000	2500		

## Office of Agriculture - DS/AGR

## FIELD SUPPORT (FS) TABLE

(by Total Cost, Field Support Costs and Field Support Worker Months)

PROJECT		FY 1981			FY 1982			FY 1983								
		Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Minimum			Current			Proposed		
No. 931	Title							Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths
	INTERNATIONAL RESEARCH CENTERS	39,800	3,980	362	46,500	4,650	390	46,500	4,650	390	46,500	4,650	390	46,500	4,650	390
	RURAL ENTERPRISE AND EMPLOYMENT															
1121	Commerical Seed Industry	120	70	11	100	58	9	-	-	-	120	70	11	120	70	11
1398	Agribusiness Devl. & Support	160	93	15	200	120	20	225	130	22	225	130	22	225	130	22
4053	Intermediary Agribusiness	-	-	-	400	235	40	-	-	-	500	300	50	500	300	50
4078	Int'l Small Business Corp.	-	-	-	400	235	40	-	-	-	500	300	50	500	300	50
	TOTAL	280	163	26	1,100	648	109	225	130	22	1,345	800	133	1,345	800	133
	ECONOMIC POLICY AND PLANNING															
0060.03	Agr. Sector Planning & Support	686	486	78	485	243	39	700	406	65	700	406	65	700	406	65
0236.00	Expanded Prog. for Econ. Analysis	150	90	15	-	-	-	-	-	-	-	-	-	-	-	-
0236.07	L. A. Planning Network	200	130	20	-	-	-	-	-	-	-	-	-	-	-	-
0236.19	Pl. Asst. Water Resources Econ.	-	-	-	250	145	23	-	-	-	250	145	23	250	145	23
4084.01	Agricultural Policy Analysis	-	-	-	600	356	65	450	260	42	450	260	42	450	260	42
4084.02	Impact-Agr. Policies on Food Supply	-	-	-	250	145	23	-	145	23	250	145	23	250	145	23
0236.05	Progress Indicators-El Salvador	200	120	20	200	130	20	-	-	-	-	-	-	-	-	-
1026	Agricultural Mechanization	264	153	25	-	-	-	-	-	-	-	-	-	-	-	-
4099.01	Integrated Systems for Small Farmers	-	-	-	400	232	37	-	406	65	2,400	1,406	65	2,400	1,406	65
4115	Econ. of Alternative Appr. to Prod. Research	-	-	-	-	-	-	-	-	-	-	-	-	680	395	63
4116	Agr. Research and Information Systems	-	-	-	-	-	-	-	-	-	1,400	700	95	1,400	700	95
4117	Economics of Food Securities	-	-	-	-	-	-	-	-	-	-	290	47	500	290	47
	TOTAL	1,500	979	158	2,185	1,251	207	1,150	1,217	195	5,450	3,352	360	6,630	3,747	423

## Office of Agriculture - DS/AGR

## FIELD SUPPORT (FS) TABLE

(by Total Cost, Field Support Costs and Field Support Worker Months)

PROJECT		FY 1981			FY 1982			FY 1983								
		Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Minimum			Current			Proposed		
No.	Title							Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths
<u>AGRICULTURAL PRODUCTION DIVISION</u>																
<u>Crop Production Technologies Cluster</u>																
0203	Seed Program & Industry Dev.	0	0	0	300	250	50	0	0	0	360	300	60	360	300	60
0829	Plant and Seed Material	150	150	25	150	150	25	0	0	0	175	175	40	175	175	40
4109	Crop Production - Tech. Assistance	350	240	48	500	400	80	500	400	80	500	400	80	500	400	80
0560	Improved Varieties of Soybeans	825	0	0	800	0	0	0	0	0	800	0	0	800	0	0
1318	Control of Barley Diseases	97	40	8	340	100	20	0	0	0	0	0	0	290	75	15
4048	Peanuts Research	-	-	-	-	-	-	-	-	-	-	-	-	800	300	60
0621	Spring x Winter Wheat	497	150	30	-	-	-	-	-	-	-	-	-	-	-	-
1254	CRSP - Sorghum & Millet	1858	300	60	3500	700	140	3500	700	140	3500	700	140	3500	700	140
1318	CRSP - Beans & Cowpeas	2000	900	140	2500	1250	185	3600	1700	300	3600	1700	300	3600	1700	300
Cluster Total		5777	780	311	8090	2850	500	7600	2800	520	8935	3275	620	10025	3650	695
<u>Livestock Production Cluster</u>																
0050	Improved Feed Nutrition Info.	90	85	12	180	170	24	-	-	-	-	-	-	-	-	-
1149	Livestock Production Capability	200	100	20	200	100	20	0	0	0	200	100	20	200	100	20
0030	Tsetse Fly Control	250	200	24	-	-	-	-	-	-	-	-	-	-	-	-
0600	Mineral Studies/Ruminant Animals	250	150	30	400	350	70	-	-	-	-	-	-	-	-	-
4083	Immunology of Ticks	-	-	-	200	0	0	0	0	0	300	0	0	300	0	0
1328	CRSP-Small Ruminants	650	550	110	3100	2700	440	3400	2500	400	3400	2500	400	3400	2500	400
Cluster Total		1400	1085	196	4080	3300	554	3400	2500	400	3900	2600	420	3900	2600	420

## Office of Agriculture - DS/AGR

## FIELD SUPPORT (FS) TABLE

(by Total Cost, Field Support Costs and Field Support Worker Months)

PROJECT		FY 1981			FY 1982			FY 1983								
		Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Minimum			Current			Proposed		
No.	Title							Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths	Total \$000	FS \$000	FS Mnths
<u>Pests and Pesticide Management Cluster</u>																
0930	Pests Mgmt. & Related Envir.Prot.	1086	800	160	825	660	130	1450	1200	240	1450	1200	240	1450	1200	240
4071	Pests Mgmt. Capability	95	30	4	125	40	5	165	50	6	165	50	6	165	50	6
0614	Pests Mgmt.-Rootknot Nematodes	600	200	35	600	200	35	0	0	0	0	0	0	500	150	25
4002	CRSP/PL-ICP Methods	50	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Cluster Total		1831	1030	199	1550	900	170	1615	1250	246	1615	1250	246	2115	1400	271
<u>Pre &amp; Postharvest Food Loss Cluster</u>																
0786	Improv. Postharvest Grain Systems	750	350	70	520	250	50	600	300	60	600	300	60	600	300	60
1322	Farm Level Postharvest Grain Loss	-	-	-	150	100	20	0	0	0	400	200	40	400	200	40
1323	Store/Process-Fruits/Vegetables	250	25	5	250	75	15	0	0	0	450	150	30	450	150	30
1181	Aflatoxin Reduction in Maize	0	0	0	0	0	0	0	0	0	0	0	0	200	10	1
4120	Pre/Postharvest-Rodent/Bird Cont.	-	-	-	400	200	40	0	0	0	695	300	60	695	300	60
0473	Control of Vertebrate Pests	345	125	24	-	-	-	-	-	-	-	-	-	-	-	-
Cluster Total		1345	400	99	1320	625	125	600	300	60	2145	950	190	2345	960	191
GRAND	TOTAL - AGR PRODUCTION DIVISION	10393	3295	805	15040	7675	1349	13215	6850	1226	16595	8075	1476	18385	8610	1577

## Office of Agriculture - BS/AGR

## FIELD SUPPORT (FG) TABLE

(by Total Cost, Field Support Costs and Field Support Worker Months)

PROJECT		FY 1981			FY 1982			FY 1983								
		Total \$000	FS \$000	FS Months	Total \$000	FS \$000	FS Months	Minimum			Current			Proposed		
Total \$000	FS \$000							FS Months	Total \$000	FS \$000	FS Months	Total \$000	FS \$000	FS Months	Total \$000	FS \$000
<u>RENEWABLE NATURAL RESOURCE MANAGEMENT DIVISION</u>																
<u>Water and Tropical Soils Management Cluster</u>																
1007	Synthesis of Water Mgmt.	0	0	0	0	0	0	400	300	45	400	300	45	400	300	45
1229	Soils Mgmt. Support Service	820	500	55	550	120	13	0	0	0	1,000	600	66	1,000	600	66
4021	Dryland Agc. & Irrig. Support	500	16	2	400	65	8	510	160	20	510	160	20	510	160	20
0582	Soil Families - Hawaii	857	85	10	300	50	6	0	0	0	650	65	8	650	65	8
4055	Tissue Cultures For Food Product	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0
4121	Small Farm Water Mgmt. Systems	-	-	-	-	-	-	0	0	0	0	0	0	500	100	15
4054	Int'l Benchmark Sites Network	-	-	-	400	0	0	0	0	0	1,300	250	28	1,300	250	28
1311	NRSP - Soil Management	750	12	2	1,900	900	150	0	0	0	2,300	1,100	180	2,300	1,100	180
0525	Agro.Econ.Res.Tropical Soils	400	12	2	-	-	-	-	-	-	-	-	-	-	-	-
1005	Determinants of Irrigation	90	7	2	-	-	-	-	-	-	-	-	-	-	-	-
Cluster Total		3,417	632	73	3,750	1,135	177	910	460	65	6,160	2,475	347	7,010	2,575	362
<u>Fertilizer Development and Related Activities Cluster</u>																
0095	World Rhizobium Center	150	60	10	0	0	0	0	0	0	150	90	15	150	90	15
0832	Fertilizer Tech. Assistance	175	60	10	150	50	8	0	0	0	200	60	10	200	60	10
4050	Tropical legume Inoculant Service	-	-	-	150	100	20	0	0	0	150	100	15	150	100	15
0610	N-Fixation, Limiting Factors	400	240	60	650	380	120	0	0	0	500	250	80	500	250	80
0613	N-Fixation, Symbiotic (NifTAL)	700	360	112	950	400	120	0	0	0	900	450	120	900	450	120
1004	N-Fixation, Associative	0	0	0	150	10	2	0	0	0	300	20	4	300	20	4
Cluster Total		1,425	720	192	2,050	940	272	0	0	0	2,200	970	244	2,200	970	244

## Office of Agriculture - DS/AGR

## FIELD SUPPORT (FS) TABLE

(by Total Cost, Field Support Costs and Field Support Worker Months)

PROJECT		FY 1981			FY 1982			FY 1983								
								Minimum			Current			Proposed		
No.	Title	Total \$000	FS \$000	FS Mnths												
	<u>Fisheries and Aquaculture Cluster</u>															
0242	NOAA Advisory Services	250	205	40	200	180	32	0	0	0	0	0	0	400	360	58
1314	Aquaculture Technology Dev.	320	150	30	360	175	40	0	0	0	0	0	0	360	175	40
4024	Fisheries Dev. Support Services	-	-	-	270	270	47	0	0	0	0	0	0	300	300	52
1054	ICLARM - Fisheries Dev.	300	225	41	0	0	0	0	0	0	0	0	0	320	240	48
4023	Pond Dynamics Research	-	-	-	400	240	36	0	0	0	0	0	0	500	300	45
4026	Stock Assessment Research	-	-	-	-	-	-	0	0	0	0	0	0	500	300	50
	Cluster Total	870	580	111	1,230	865	155	0	0	0	0	0	0	2,380	1,675	203
GRAND	TOTAL - RENEW. NAT. RES. DIVISION	5,712	1,932	376	7,030	2,940	604	910	460	65	8,360	3,445	591	11,590	5,220	800
GRAND	TOTAL - DEVELOPMENT SUPPORT BUR.	57,685	10,349	1,727	71,855	17,164	2,659	62,000	13,307	1,898	78,250	20,322	2,950	84,450	23,027	3,422

DS/ACT FUNDED ACTIVITIES

Field Support at Specific Requests of Regional Bureaus and Missions

	ACTIVITY	LDC	Total Days	SUPPORT OF REGIONAL BUREAU					MISSION AND LDC ACTIVITIES					
				Days by Personnel Type					Days by Location		Days by Region			
				DI	IPA	COB	PAS	COT	LDC	USA	LA	AFR	ME	ASI
May, 1980	-	-	597	-	-	-	35	562	504	93	316	137	08	136
June, 1980	-	-	258	-	-	-	45	213	225	33	90	96	05	67
July, 1980	-	-	372	-	-	-	07	365	217	155	110	125	26	111
August, 1980	-	-	814	-	-	-	66	748	506	308	229	201	96	288
September, 1980	-	-	566	-	-	-	59	507	378	188	212	170	28	156
October, 1980	-	-	1,009	-	-	-	50	959	858	151	437	241	37	294
November, 1980	-	-	538	-	-	-	62	476	414	124	143	183	04	208
December, 1980	-	-	509	-	-	-	07	502	218	291	172	120	42	175
January, 1981	-	-	709	-	-	-	27	682	414	295	238	185	84	202
February, 1981	-	-	1,094	-	-	-	56	1,038	745	349	488	247	44	315
March, 1981	-	-	966	-	-	107	41	818	531	435	249	234	73	410
April, 1981	-	-	1,202	-	-	12	32	1,158	745	457	500	335	141	226
TOTALS--(one year period)	-	-	8,634	-	-	119	487	8,028	5,755	2,879	3,184	2,274	588	258 <sup>A</sup>
In-House Total from page 2			1,752	1,040	-	0	712	0	593	1,159	719	521	140	372
GRAND TOTAL			10,386	1,040	-	119	1,199	8,028	6,348	4,038	3,903	2,795	728	2960

DS/AGR:BBeckett 5/26/81

DS/AGR IN HOUSE PERSONNEL

Field Support at Specific Requests of Regional Bureaus and Missions

	Days Not in House	Days in House	Total Days	SUPPORT OF REGIONAL BUREAU					MISSION AND LDC ACTIVITIES					
				Days by Personnel Type					Days by Location		Days by Region			
				DI	IPA	COB	PAS	COT	LDC	URA	LA	AFR	ME	AS
May, 1980	634	28%	180	108	-	-	72	-	60	120	60	40	24	56
June, 1980	546	25%	135	70	-	-	65	-	13	122	53	41	14	27
July, 1980	627	23%	144	94	-	-	50	-	74	70	55	67	03	19
August, 1980	531	21%	112	74	-	-	38	-	3	109	56	31	09	16
September, 1980	571	22%	125	74	-	-	51	-	20	105	65	28	03	29
October, 1980	607	27%	163	93	-	-	70	-	19	144	64	53	24	22
November, 1980	522	25%	133	94	-	-	39	-	53	80	60	44	13	16
December, 1980	471	18%	84	43	-	-	41	-	15	69	46	24	02	12
January, 1981	575	28%	160	99	-	-	61	-	78	82	59	43	04	54
February, 1981	550	39%	214	114	-	-	100	-	130	84	85	62	05	62
March, 1981	623	23%	144	73	-	-	71	-	52	92	54	49	14	27
April, 1981	629	25%	158	104	-	-	54	-	76	82	62	39	25	32
<b>TOTALS-(one year period)</b>	<b>6,886</b>	<b>25%</b>	<b>1,752</b>	<b>1,040</b>			<b>712</b>		<b>593</b>	<b>1,159</b>	<b>719</b>	<b>521</b>	<b>140</b>	<b>372</b>

DS/AGR: BBeckett 5/26/81

OFFICE OF AGRICULTURE

PERSONNEL STAFFING

SUMMARY

	Positions		Persons Months
	FTEPP	P/T	Total
<u>Agriculture</u>			
Director	3	0	36
Associate Director for Technical Assistance	2	0	24
Associate Director, Research	3	-	36
General Support Staff	4	1	55
Agriculture Production	7	1	91
Economic Policy and Planning	5	1	67
Rural Enterprise and Employment	4	1	55
Renewable Natural Resources Management	7	-	84
TOTAL	35	4	448
Appropriate Technology			
Rural Enterprise and Employment	1	-	12
GRAND TOTAL	36	4	460

DS/AGR:5/7/81

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

06/01/81

NEAR EAST

COUNTRY: GREECE

PROJECT	TITLE	FY 1981					FY 1982					FY 1983					
		STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	
LS/AGR																	
PEST MGT - ROOTKNOT NEMATODE																	
931-0514.			0	0	0	0		0	0	0	0		B	50	0	4	0
COUNTRY TOTAL:			0	0	0	0		0	0	0	0		50	0	4	0	

COUNTRY: EGYPT

PROJECT	TITLE	FY 1981					FY 1982					FY 1983						
		STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP		
LS/AGR																		
TROPICAL SOILS BNF - HAWAII																		
931-5129.		A	0	0	0	1		B	0	0	0	1		0	0	0	0	
CONTROL OF VERTEBRATE PESTS																		
931-0473.		B	10	0	1	1		B	75	1	1	1		B	75	1	1	1
N-FIXATION LIMITING FACTORS																		
931-0610.		A	6	0	2	2		A	9	0	3	1		A	9	0	3	1
N-FIXATION - SYMBIOTIC																		
931-0613.		B	0	0	1	0		B	0	0	2	1		B	0	0	2	1
CRSP - PROGRAM SORGHUM/WILLET																		
931-1254.		A	0	0	3	0		A	0	0	6	1		A	0	0	6	1
CONTROL OF BARLEY DISEASES FOR LDGS																		
931-1318.		A	1	0	2	2		A	1	0	2	1		A	1	0	2	1
CRSP-PROG: SMALL RUMINANTS																		
931-1328.		B	10	0	3	0		B	8	0	2	0		A	10	0	4	0
TISSUE CULTURES FOR FOOD PROD.																		
936-4055.			0	0	0	0		B	0	0	1	0		B	0	0	1	0
COUNTRY TOTAL:			27	0	12	6		93	1	17	6		95	1	19	5		

COUNTRY: ISRAEL

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
LS/AGR																

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 ThRU 83

06/01/81

NEAR EAST  
CONTROL OF BARLEY DISEASES FOR LLCs  
931-1318. A 1 0 2 0 A 1 0 2 0 A 1 0 2 0

COUNTRY TOTAL: 1 0 2 0 1 0 2 0 1 0 2 0

COUNTRY: SYRIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983						
		STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP		
	I-S/AGR																	
IMPROVED FEED NUTRITION INFORMATION 931-0050.	A		5	0	2	12	A		4	0	1	15	A		2	0	1	5
CONTROL OF BARLEY DISEASES FOR LLCs 931-1318.	A		1	0	2	2	A		1	0	2	2	A		1	0	2	2
COUNTRY TOTAL:			6	0	4	14			5	0	3	17			3	0	3	7

COUNTRY: TURKEY

PROJECT	TITLE	FY 1981					FY 1982					FY 1983						
		STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP		
	US/AGR																	
N-FIXATION LIMITING FACTORS 931-0610.	A		5	0	2	1	A		5	0	2	1			0	0	0	0
SPRING WINTER WHEAT 931-0621.	A		0	0	2	1	A		0	0	2	1	A		0	0	2	0
CONTROL OF BARLEY DISEASES FOR LLCs 931-1318.	A		1	0	2	1	A		1	0	2	1	A		1	0	2	1
COUNTRY TOTAL:			6	0	6	3			6	0	6	3			1	0	4	1

COUNTRY: JORDAN

PROJECT	TITLE	FY 1981					FY 1982					FY 1983						
		STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP		
	IS/AGR																	
PEST MGT - ROOTKNOT NEMATODE 931-0614.	A		5	0	1	0	B		15	0	2	0	B		20	0	3	0
SPRING WINTER WHEAT 931-0621.	A		0	0	2	0	A		0	0	2	0	A		10	0	2	1
A - ACTIVE B - PENDING MISSION APPROVAL																		



COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 Thru 83

06/01/81

SOUTH ASIA

COUNTRY: NEPAL

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0613.C1	FIXATION - SYMBIOTIC	B	0	0	1	0	B	0	0	1	1	B	0	0	1	2
COUNTRY TOTAL:			0	0	1	0		0	0	1	1		0	0	1	2

COUNTRY: SRI LANKA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0054.	IMPL FERTILIZER DEVELOPMENT CTR - CG	A	5	0	1	0	A	11	0	2	0	B	12	0	2	0
931-0613.	FIXATION - SYMBIOTIC	B	0	0	2	1	B	0	0	2	1	B	0	0	2	1
936-4049.	INTEGRATED CROP PROTECTION RESEARCH	B	0	0	0	0	B	10	0	1	2	B	20	0	2	2
936-4055.	TISSUE CULTURES FOR FOOD PROD.	B	0	0	0	0	B	0	0	1	0	B	0	0	1	0
COUNTRY TOTAL:			5	0	3	1		21	0	6	3		32	0	7	3

COUNTRY: INDIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0050.	IMPROVED FEED NUTRITION INFORMATION		0	0	0	0	A	2	0	3	1	A	1	0	2	1
931-0054.	IMPL FERTILIZER DEVELOPMENT CTR - CG	A	50	0	10	0	B	55	0	10	0	B	60	0	10	0
931-0236.19	TECH ASST: WATER RESOURCE, ECONOMICS	A	50	0	0	0	A	100	0	1	0	A	100	0	1	0
931-0613.	FIXATION - SYMBIOTIC	A	0	0	2	0	B	0	0	2	2	B	0	0	4	1

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 Thru 83

06/01/81

PROJECT TITLE	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
	TUS	(\$000)	TDYS	PTP		TUS	(\$000)	TDYS	PTP		TUS	(\$000)	TDYS	PTP	
SOUTH ASIA															
CRSP - PROGRAM SONGHO/PHILET															
931-1254.	A	0	0	25	1		0	0	0	0		0	0	0	0
AGRICULTURE PEST TRANSFER METHODOLOGIES															
936-4054.		0	0	0	0	B	10	0	2	0	B	20	0	3	2
TISSUE CULTURES FOR FOOD PROD.															
936-4055.		0	0	0	0	B	0	0	1	1	B	0	0	1	0
COUNTRY TOTAL:		100	0	37	1		167	0	19	4		181	0	21	4

COUNTRY: BANGLADESH

PROJECT TITLE	FY 1981					FY 1982					FY 1983				
	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
	TUS	(\$000)	TDYS	PTP		TUS	(\$000)	TDYS	PTP	TUS	(\$000)	TDYS	PTP		
DS/AGR															
INT'L FERTILIZER DEVELOPMENT CTR - CG															
931-0054.	A	30	0	6	0	A	33	0	6	0	B	35	0	6	0
CONTROL OF VERTEBRATE PESTS															
931-0473.	A	50	1	1	0	A	50	1	1	0	A	100	2	2	2
N-FIXATION - SYMBIOTIC															
931-0613.	B	0	0	1	0	B	0	0	1	1	B	0	0	2	2
POST-HARVEST RODENT AND BIRD CONTROL															
936-4120.		0	0	0	0		0	0	0	0	A	25	0	1	0
COUNTRY TOTAL:		80	1	8	0		83	1	8	1		160	2	11	4

COUNTRY: PAKISTAN

PROJECT TITLE	FY 1981					FY 1982					FY 1983				
	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
	TUS	(\$000)	TDYS	PTP		TUS	(\$000)	TDYS	PTP	TUS	(\$000)	TDYS	PTP		
DS/AGR															
IMPROVED FEED NUTRITION INFORMATION															
931-0050.		0	0	0	0	A	2	0	1	1	A	1	0	1	1
N-FIXATION - SYMBIOTIC															
931-0613.	B	0	0	1	0	B	0	0	1	1	B	0	0	1	1
COUNTRY TOTAL:		0	0	1	0		2	0	2	2		1	0	2	2
TOTAL FOR REGION:		165	1	50	2		273	1	36	11		374	2	42	15

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 thru 83

06/01/81

EAST ASIA

COUNTRY: CHINA, HONGKONG

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	AGR															
IMPROVED FEED NUTRITION INFORMATION																
931-0607		A	1	0	1	5	A	2	0	1	5	A	4	0	1	5
COUNTRY TOTAL:			1	0	1	5		2	0	1	5		4	0	1	5

COUNTRY: MALAYSIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	AGR															
TROPICAL SOILS BNF - HAWAII																
931-0127		A	1	0	2	1		0	0	0	0		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																
931-0600		A	2	0	1	1	A	2	0	1	1	A	2	0	1	1
N-FIXATION LIMITING FACTORS																
931-0610		A	7	0	2	1	A	7	0	2	1	A	7	0	2	1
N-FIXATION - SYMBIOTIC																
931-0613		A	30	0	6	0	B	0	0	1	0	B	0	0	1	0
COUNTRY TOTAL:			40	0	11	3		9	0	4	2		9	0	4	2

COUNTRY: TAIWAN

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	AGR															
TROPICAL SOILS BNF - CORNELL																
931-0127		B	0	0	0	1	B	0	0	0	1		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																
931-0600		B	0	0	1	1	B	0	0	1	1	B	0	0	1	2
TISSUE CULTURES FOR FOOD PROD.																
936-4055			0	0	0	0		0	0	0	0	B	0	0	1	0
COUNTRY TOTAL:			0	0	1	2		0	0	1	2		0	0	2	2

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

06/01/81

EAST ASIA

COUNTRY: KOREA, REPUBLIC OF

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
931-0621.	SPRING WHEAT	A	0	0	0	1	A	0	0	1	A	0	0	2	0	
931-1315.	CONTROL OF BANLEY DISEASES FOR LDGS	A	1	0	0	1	A	1	0	0	2	A	0	0	0	1
COUNTRY TOTAL:			1	0	0	2		1	0	0	3		0	0	2	1

COUNTRY: PHILIPPINES

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TJS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
931-0050.	IMPROVED FEED NUTRITION INFORMATION	A	4	0	2	20	A	3	0	2	10		0	0	0	0
931-0129.	TROPICAL SOILS BNF - HAWAII		0	0	0	0	B	1	0	2	0		0	0	0	0
931-0206.	WEED CONTROL UTILIZATION	A	150	3	2	0	A	150	3	4	25	A	175	3	5	30
931-0463.	WEED CONTROL SYSTEMS IN LDGS	A	150	3	2	0		0	0	0	0		0	0	0	0
931-0473.	CONTROL OF VERTEBRATE PESTS	A	75	2	2	1	A	75	2	2	1	A	125	2	1	1
931-0582.	SOIL FAMILIES - HAWAII	A	300	2	16	4	A	150	1	8	2	A	75	1	4	0
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	A	4	0	1	0	A	4	0	1	0	A	4	0	1	0
931-0613.C1	N-FIXATION - SYMBIOTIC	B	0	0	2	1	B	0	0	2	2	B	0	0	2	1
931-1005.	DETERMINANTS OF IRRIGATION PROBLEMS	A	60	1	4	0	A	10	1	1	0		0	0	0	0
931-1026.	AGRICULTURAL MECHANIZATION	A	113	8	1	0	A	113	8	1	0		0	0	0	0
931-1050.	ICLARM - FISHERIES DEVELOPMENT - CG	A	300	3	2	0	A	400	4	2	0	A	400	4	4	6
936-4048.	PEANUTS RESEARCH		0	0	0	0	B	50	0	6	2	A	50	0	6	2
936-4054.	AGRICULTURE RES TRANSFER METHODOLOGIES		0	0	0	0	B	10	0	2	0	B	20	0	3	2

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

06/01/81

EAST ASIA																
ISSUE CULTURES FOR FOOD PROD.	935-4050.	B	0	0	1	0	B	0	0	1	0	B	0	0	1	0
POSTHARVEST RODENT AND BIRD CONTROL	935-4120.		0	0	0	0		0	0	0	0	A	75	2	1	25
<b>COUNTRY TOTAL:</b>			<b>1156</b>	<b>22</b>	<b>35</b>	<b>26</b>		<b>965</b>	<b>19</b>	<b>34</b>	<b>42</b>		<b>924</b>	<b>12</b>	<b>37</b>	<b>67</b>

COUNTRY: THAILAND

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP
US/AGR																
IMPROVED FEED NUTRITION INFORMATION	931-0050.	A	1	0	1	5	A	2	0	1	10	A	4	0	1	10
TROPICAL SOILS BNF - HAWAII	931-0129.	A	2	0	3	0	B	2	0	2	0		0	0	0	0
WATER CONTROL UTILIZATION	931-0200.	A	15	0	0	0	A	15	1	3	5	A	25	1	3	5
PLNG ASST: WATER RESOURCES ECONOMICS	931-0236.19	A	50	0	0	0	A	75	0	1	0	A	75	0	1	0
WATER CONTROL SYSTEMS IN LLCS	931-0463.	A	15	0	0	0		0	0	0	0		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS	931-0600.	A	3	0	1	0	A	3	0	1	0	A	3	0	1	1
N-FIXATION LIMITING FACTORS	931-0610.	A	0	0	0	2	A	0	0	1	1	A	0	0	1	0
N-FIXATION - SYMBIOTIC	931-0613.	B	0	0	2	3	B	30	0	10	1	B	25	1	4	1
AGRICULTURAL MECHANIZATION	931-1026.	A	59	6	2	0	A	59	6	0	0		0	0	0	0
PEANUTS RESEARCH	935-4048.		0	0	0	0	B	50	0	6	2	A	50	0	6	2
<b>COUNTRY TOTAL:</b>			<b>145</b>	<b>6</b>	<b>9</b>	<b>10</b>		<b>236</b>	<b>7</b>	<b>25</b>	<b>19</b>		<b>182</b>	<b>2</b>	<b>17</b>	<b>19</b>

COUNTRY: INDONESIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP
US/AGR																
TROPICAL SOILS BNF - HAWAII	931-0129.	A	1	0	2	0		0	0	0	0		0	0	0	0
CONTROL OF VERTEBRATE PESTS	931-0473.	B	0	0	1	1	B	0	0	1	1	B	75	1	1	2

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EAST ASIA															
SOIL FAMILIES - HAWAII															
931-0582.	A	150	1	8	2	A	150	1	8	2	A	75	1	4	0
GENERAL STUDIES WITH RUMINANT ANIMALS															
931-0600.	A	3	0	1	0	A	3	0	2	0	A	1	0	1	1
N-FIXATION - SYMBIOTIC															
931-0613.C1	B	0	0	2	1	B	0	0	2	2	B	0	0	2	2
PEST MGT - ROOTKNOT NEMATODE															
931-0614.	A	45	0	4	0		0	0	0	0		0	0	0	0
DETERMINANTS OF IRRIGATION PROBLEMS															
931-1005.	A	20	1	0	0	A	20	1	2	0		0	0	0	0
AGRICULTURAL MECHANIZATION															
931-1026.	A	59	6	0	0	A	59	6	0	0		0	0	0	0
FARM LVL POSTHARVEST GRAIN STORAGE LOSS															
931-1322.	B	0	0	0	0	B	25	0	3	0	B	100	2	5	25
CRSP-PROG: SMALL RUMINANTS															
931-1328.	A	120	1	8	1	A	120	2	7	2	A	140	2	7	2
FISHERIES STOCK ASSESSMENT RESEARCH															
935-4026.		0	0	0	0		0	0	0	0	B	0	1	2	0
INTEGRATED CROP PROTECTION RESEARCH															
936-4049.		0	0	0	0	B	0	0	0	0	B	10	0	1	2
AGRICULTURE RES TRANSFER METHODOLOGIES															
935-4054.		0	0	0	0	B	10	0	2	0	B	20	0	3	2
INTEGRATED CROP SYSTEM RESEARCH															
936-4112.		0	0	0	0		0	0	0	0	B	100	1	1	1
COUNTRY TOTAL:		398	9	26	5		387	10	27	7		521	8	27	37
TOTAL FOR REGION:		1741	37	83	53		1601	36	92	80		1640	22	83	133

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COUNTRY: GUYANA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
DS/AGR																
LAC PLANNING NETWORKS 931-0236.7.		A	50	1	0	0		0	0	0	0		0	0	0	0
DEFIXATION LIMITING FACTORS 931-0610.		A	3	0	2	0	A	1	0	1	0		0	0	0	0
COUNTRY TOTAL:			53	1	2	0		1	0	1	0		0	0	0	0

COUNTRY: SURINAME

PROJECT	TITLE	FY 1981					FY 1982					FY 1983							
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP			
DS/AGR																			
MINERAL STUDIES WITH RUMINANT ANIMALS 931-0600.		B		1	0	1	0	B		1	0	1	0	B		1	0	1	0
COUNTRY TOTAL:				1	0	1	0			1	0	1	0			1	0	1	0

COUNTRY: ARGENTINA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
DS/AGR																
TROPICAL SOILS BNF - NCSU 931-0130.		B	0	0	0	0		0	0	0	0		0	0	0	0
SPRING WINTER WHEAT 931-0621.		A	0	0	0	0	A	0	0	2	0		0	0	2	0
COUNTRY TOTAL:			0	0	0	0		0	0	2	0		0	0	2	0

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COUNTRY: BOLIVIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
LAC PLANNING NETWORKS																
931-0235.70		A	25	1	0	0		0	0	0	0		0	0	0	0
AGRO-ECON RESEARCH ON TROPICAL SOILS																
931-0525.		A	5	0	2	0		0	0	0	0		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																
931-0600.		A	2	0	2	0	A	2	0	2	0	A	2	0	2	1
COUNTRY TOTAL:			32	1	4	0		2	0	2	0		2	0	2	1

COUNTRY: BRAZIL

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
TROPICAL SOILS BNF - NCSU																
931-0130.		B	2	0	1	0		0	0	0	0		0	0	0	0
AGRO-ECON RESEARCH ON TROPICAL SOILS																
931-0525.		A	5	0	2	0		0	0	0	0		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																
931-0600.		A	1	0	1	0	A	1	0	1	0	B	1	0	1	2
BENCHMARK SOILS - PUERTO RICO																
931-0601.		A	40	1	2	0		0	0	0	0		0	0	0	0
N-FIXATION LIMITING FACTORS																
931-0610.		A	10	0	4	5	A	10	0	4	1	A	10	0	3	0
N-FIXATION - SYMBIOTIC																
931-0613.		B	0	0	1	3	B	0	0	1	1	B	0	0	1	1
PEST MGT - ROOTKNOT NEMATODE																
931-0614.			0	0	0	0	B	35	0	3	0		0	0	0	0
SPRING WINTER WHEAT																
931-0621.		A	0	0	0	0	A	0	0	2	0	A	0	0	2	0
CRSP - PROGRAM BEANS AND COMPEAS																
931-1310.		B	0	0	9	0	B	10	0	6	2	B	25	0	6	2
CRSP PROG: SMALL RUMINANTS																
931-1328.		A	100	3	10	2	A	100	3	10	3	A	120	3	8	3
TISSUE CULTURES FOR FOOD PROD.																
930-4055.			0	0	0	0		0	0	0	0	B	0	0	1	0
COUNTRY TOTAL:			158	4	30	10		156	3	27	7		156	3	22	8

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COUNTRY: CHILE

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0621.	SPRING WINTER WHEAT	A	0	0	0	0	A	0	0	2	0	A	0	0	2	0
COUNTRY TOTAL:			0	0	0	0		0	0	2	0		0	0	2	0

COUNTRY: COLOMBIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0129.	TROPICAL SOILS BNF - HAWAII	A	2	0	2	0		0	0	0	0		0	0	0	0
931-0525.	AGRO-ECON RESEARCH ON TROPICAL SOILS	A	5	0	2	0		0	0	0	0		0	0	0	0
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	A	4	0	5	2	A	4	0	5	2	A	3	0	5	2
931-0613.	N-FIXATION - SYMBIOTIC	A	15	0	9	1	B	0	0	2	0	B	0	0	2	1
931-1310.	CRSP - PROGRAM BEANS AND COMPEAS	B	0	0	9	0	B	10	0	6	2	B	25	0	6	2
COUNTRY TOTAL:			26	0	27	3		14	0	13	4		28	0	13	5

COUNTRY: COSTA RICA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	DS/AGR															
931-0050.	IMPROVED FEED NUTRITION INFORMATION	A	3	0	1	10	A	3	0	1	8	A	0	0	1	5
931-0206.	FEED CONTROL UTILIZATION	A	100	2	1	0	A	150	2	5	40	A	150	2	4	45
931-0236.70	LAC PLANNING NETWORKS	A	100	4	1	0	A	100	4	1	0		0	0	0	0

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PROJECT	TITLE	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP
931-0463.	MINERAL STUDIES WITH RUMINANT ANIMALS	A	100	2	1	0	0	0	0	0	0	0	0	0	0	0
931-0600.	N-FIXATION - SYMBIOTIC	A	4	0	1	1	4	0	1	1	1	4	0	1	1	1
931-0613.	FARM LVL. POSTHARVEST GRAIN STORAGE LOSS	B	0	0	1	2	0	0	2	1	0	25	1	3	1	0
931-1322.	POSTHARVEST RODENT AND BIRD CONTROL	B	0	0	0	0	25	0	3	0	0	100	2	5	25	0
936-4120.		C	0	0	0	0	0	0	0	0	0	10	0	4	0	0
COUNTRY TOTAL:			307	8	6	13	262	6	13	50		319	5	18	77	

COUNTRY: DOMINICAN REPUBLIC

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP
DS/AGR																
CRISES, DOMINICAN REP./HONDURAS/NICARAGUA																
931-0236.01	CONTROL OF VERTEBRATE PESTS	A	100	0	1	0	0	0	0	0	0	0	0	0	0	0
931-0473.	MINERAL STUDIES WITH RUMINANT ANIMALS	A	0	1	1	0	0	0	1	1	1	0	0	1	1	1
931-0600.	N-FIXATION - SYMBIOTIC	A	2	0	1	1	4	0	1	1	1	3	0	1	1	1
931-0613.	SMALL FARMER CREDIT (COLORADO ST)	B	0	0	0	2	0	0	1	0	0	0	0	0	1	0
931-1134.02	CRSP - PROGRAM BEANS AND COMPEAS	A	200	1	1	0	0	0	0	0	0	0	0	0	0	0
931-1310.	CRSP - PROG: SOIL MANAGEMENT	A	0	0	9	0	0	0	6	2	2	25	0	6	2	2
931-1311.		B	0	0	0	0	125	2	5	10	10	250	3	8	10	10
COUNTRY TOTAL:			302	2	13	3	129	2	14	14		278	3	16	15	

COUNTRY: ECUADOR

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP
DS/AGR																
MINERAL STUDIES WITH RUMINANT ANIMALS																
931-0600.	N-FIXATION - SYMBIOTIC	A	1	0	1	0	1	0	1	0	0	1	0	1	1	1
931-0613.		B	0	0	0	1	0	0	1	0	0	0	0	1	1	1

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PROJECT	TITLE	STA TUS	AMT (\$000)	FY 1981 STAF	#OF TDYS	#OF PTP	FY 1982 STA TUS	AMT (\$000)	FY 1982 STAF	#OF TDYS	#OF PTP	FY 1983 STA TUS	AMT (\$000)	FY 1983 STAF	#OF TDYS	#OF PTP
CRSP - PROGRAM SORGHUM/MILLET	931-1254.	B		0	0	2	0	0	0	0	0	0	0	0	0	0
CRSP - PROGRAM BEANS AND COMPEAS	931-1310.	B		0	0	9	0	0	0	6	7	B	25	0	6	7
AGRICULTURE RES TRANSFER METHODOLOGIES	936-4054.	B		0	0	0	0	0	0	1	0	B	10	0	2	0
COUNTRY TOTAL:				1	0	12	1	6	0	9	7		36	0	10	9

COUNTRY: EL SALVADOR

PROJECT	TITLE	STA TUS	AMT (\$000)	FY 1981 STAF	#OF TDYS	#OF PTP	FY 1982 STA TUS	AMT (\$000)	FY 1982 STAF	#OF TDYS	#OF PTP	FY 1983 STA TUS	AMT (\$000)	FY 1983 STAF	#OF TDYS	#OF PTP
DS/AGR																
PROGRESS INDICATORS - EL SALVADOR																
	931-0236.05	A	200	4	1	0	A	200	4	1	0	A	0	4	1	0
	FIXATION LIMITING FACTORS															
	931-0610.	A	0	0	0	0	B	1	0	1	0		0	0	0	0
COUNTRY TOTAL:			200	4	1	0		201	4	2	0		0	4	1	0

COUNTRY: GUATEMALA

PROJECT	TITLE	STA TUS	AMT (\$000)	FY 1981 STAF	#OF TDYS	#OF PTP	FY 1982 STA TUS	AMT (\$000)	FY 1982 STAF	#OF TDYS	#OF PTP	FY 1983 STA TUS	AMT (\$000)	FY 1983 STAF	#OF TDYS	#OF PTP
DS/AGR																
MINERAL STUDIES WITH RUMINANT ANIMALS																
	931-0600.	A	1	0	1	0	A	1	0	1	0	A	1	0	1	1
	CRSP - PROGRAM SORGHUM/MILLET															
	931-1254.	B	0	0	4	0	B	0	0	4	0	A	15	0	6	1
	CRSP - PROGRAM BEANS AND COMPEAS															
	931-1310.	A	0	0	9	0	A	0	0	6	2	A	25	0	6	2
COUNTRY TOTAL:			1	0	14	0		1	0	11	2		41	0	13	4

COUNTRY: HAITI

PROJECT	TITLE	STA TUS	AMT (\$000)	FY 1981 STAF	#OF TDYS	#OF PTP	FY 1982 STA TUS	AMT (\$000)	FY 1982 STAF	#OF TDYS	#OF PTP	FY 1983 STA TUS	AMT (\$000)	FY 1983 STAF	#OF TDYS	#OF PTP
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DS/AGR

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CONTROL OF VERTEBRATE PESTS

931-0473.	A	0	0	1	0	A	0	1	1	1	A	0	1	1	1
CRSP - PROGRAM SORGHUM/MILLET															
931-1254.	B	0	0	4	0	A	0	0	4	0	A	15	0	0	1
COUNTRY TOTAL:		0	0	5	0		0	1	5	1		15	1	7	2

COUNTRY: HONDURAS

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
Ds/AGR																
CRIES, DOMINICAN REP./HONDURAS/NICARAGUA																
931-0236.01		A	50	0	0	0		0	0	0	0		0	0	0	0
LAC PLANNING NETWORKS		A	25	1	0	0		0	0	0	0		0	0	0	0
931-0236.70																
N-FIXATION - SYMBIOTIC		B	0	0	0	2	B	0	0	1	0		0	0	0	0
931-0613.																
CRSP - PROGRAM SORGHUM/MILLET		B	0	0	4	0	A	0	0	4	0	A	15	0	0	1
931-1254.																
CRSP - PROGRAM BEANS AND COMPEAS		B	0	0	9	0	B	0	0	6	2	B	25	0	0	2
931-1310.																
POND DYNAMICS RESEARCH		A	0	0	3	0	A	150	2	3	2	A	150	2	3	2
936-4023.																
COUNTRY TOTAL:			75	1	16	2		150	2	14	4		190	2	15	5

COUNTRY: MEXICO

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
Ds/AGR																
TROPICAL SOILS BNF - CORNELL																
931-0127.		B	0	0	0	1	B	0	0	0	1		0	0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS		B	0	0	2	1	B	0	0	2	1	B	0	0	1	0
931-0600.																
N-FIXATION LIMITING FACTORS		A	6	0	3	1	A	0	0	2	1	A	2	0	2	1
931-0610.																
N-FIXATION - SYMBIOTIC		A	30	0	10	2	B	0	0	1	0	B	0	0	1	1
931-0613.																
SPRING WINTER WHEAT		A	0	0	4	0	A	0	0	4	0	A	0	0	2	0
931-0621.																
TISSUE CULTURES FOR FOOD PROD.							B	0	0	1	0	B	0	0	1	0
936-4055.																

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COUNTRY TOTAL: 36 0 19 5 0 0 10 3 2 0 7 2

COUNTRY: NICARAGUA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP
	DS/AGR															
	N-FIXATION - SYMBIOTIC 931-0613.	B	0	0	0	1	B	0	0	1	0	B	0	0	1	1
COUNTRY TOTAL:			0	0	0	1		0	0	1	0		0	0	1	1

COUNTRY: PANAMA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP
	DS/AGR															
	MINERAL STUDIES WITH RUMINANT ANIMALS 931-0600.	A	1	0	1	1	A	1	0	1	0	B	0	0	0	0
	N-FIXATION LIMITING FACTORS 931-0610.	A	6	0	2	1	A	9	0	2	1	A	9	0	2	1
	N-FIXATION - SYMBIOTIC 931-0613.	B	0	0	1	2	B	0	0	1	0	B	0	0	1	1
	PEST MGT - ROOTKNOT NEMATODE 931-0614.	A	3	0	3	0	B	35	0	3	0		0	0	0	0
	POND DYNAMICS RESEARCH 936-4023.	A	0	0	3	0	A	150	2	3	2	A	150	2	3	2
	FISHERIES STOCK ASSESSMENT RESEARCH 936-4026.		0	0	0	0		0	0	0	0	B	0	1	2	0
COUNTRY TOTAL:			10	0	10	4		195	2	10	3		159	3	8	4

COUNTRY: PERU

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP	STA TUS	AMT (\$000)	STAF IDYS	#OF IDYS	#OF PTP
	DS/AGR															
	TROPICAL SOILS BNF - HAWAII 931-0129.	A	2	0	1	0		0	0	0	0		0	0	0	0
	A - ACTIVE B - PENDING MISSION APPROVAL															

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

06/01/81

LATIN AMERICA

PROJECT	TITLE	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	
TROPICAL SOILS BNF - NCSU																	
931-0130.		A		20	0	8	5	A		2	0	2	1		0	0	0
AGRO-ECON RESEARCH ON TROPICAL SOILS																	
931-0525.		A		200	3	10	0			0	0	0	0		0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																	
931-0600.		A		4	0	1	0	A		4	0	1	0	A	5	0	1
N-FIXATION - SYMBIOTIC																	
931-0613.		B		0	0	2	2	B		0	0	2	1	B	0	0	2
PEST MGT - ROOTKNOT NEMATODE																	
931-0614.				0	0	0	0	B		40	0	3	0		0	0	0
SPRING WINTER WHEAT																	
931-0621.		A		25	0	5	0	A		0	0	2	0	A	0	0	2
CRSP - PROG: SOIL MANAGEMENT																	
931-1311.				0	0	0	0	B		250	3	8	8	B	250	3	8
CRSP-PROG: SMALL RUMINANTS																	
931-1328.		A		160	5	15	4	A		160	5	16	2	A	200	5	15
INTEGRATED CROP PROTECTION RESEARCH																	
936-4049.				0	0	0	0	B		0	0	0	0	B	10	0	1
AGRICULTURE RES TRANSFER METHODOLOGIES																	
936-4054.				0	0	0	0	B		5	0	1	0	B	10	0	2
COUNTRY TOTAL:				411	8	42	11			461	8	35	12		475	8	31

COUNTRY: URUGUAY

PROJECT	TITLE	FY 1981					FY 1982					FY 1983					
		STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	
DS/AGR																	
MINERAL STUDIES WITH RUMINANT ANIMALS																	
931-0600.		A		1	0	1	0	A		1	0	1	0	A	2	0	1
COUNTRY TOTAL:				1	0	1	0			1	0	1	0		2	0	1

COUNTRY: VENEZUELA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983					
		STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	STA	AMT	STAF	#OF	#OF	
		TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	TUS	(\$000)		TDYS	PTP	
DS/AGR																	
TROPICAL SOILS BNF - CORNELL																	
931-0127.		B		0	0	0	1	B		0	0	0	1		0	0	0
TROPICAL SOILS BNF - NCSU																	
931-0130.		B		1	0	1	0			0	0	0	0		0	0	0
MINERAL STUDIES WITH RUMINANT ANIMALS																	
931-0600.		A		2	0	1	1	A		2	0	1	1	A	2	0	1

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

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LATIN AMERICA  
N-FIXATION LIVING FACTORS  
931-0610.

	A	1	0	2	1	A	1	0	2	1	A	1	0	2	1
COUNTRY TOTAL:		4	0	4	3		3	0	3	3		3	0	3	2

COUNTRY: JAMAICA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
PEANUTS RESEARCH 936-4048.			0	0	0	0	B	50	0	6	2	A	50	0	6	2
COUNTRY TOTAL:			0	0	0	0		50	0	6	2		50	0	6	2

COUNTRY: TRINIDAD & TOBAGO

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
TROPICAL SOILS BNF - CORNELL 931-0127.		A	30	1	4	1	A	8	1	2	0		0	0	0	0
N-FIXATION LIVING FACTORS 931-0610.			0	0	0	0	B	20	1	3	1	B	20	1	3	1
N-FIXATION - SYMBIOTIC 931-0613.		B	0	0	1	1	B	0	0	1	0	B	0	0	1	0
COUNTRY TOTAL:			30	1	5	2		28	2	6	1		20	1	4	1

TOTAL FOR REGION:			1648	30	212	58		1681	30	188	113		1777	30	183	152
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A - ACTIVE    B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 thru 83

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AFRICA

COUNTRY: MOROCCO

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
931-0621.	SPRING WINTER WHEAT	A	10	0	2	1	A	10	0	2	1	A	10	0	2	1
931-1318.	CONTROL OF BARLEY DISEASES FOR LDCs	A	1	0	2	2	A	1	0	2	2	A	1	0	2	2
931-1328.	CRSP PROG: SMALL RUMINANTS	A	200	2	10	1	A	200	2	10	3	A	200	2	10	3
COUNTRY TOTAL:			91	2	14	4		211	2	14	6		211	2	14	6

COUNTRY: ZAMBIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
931-0613.C1	N-FIXATION - SYMBIOTIC	B	0	0	1	0	B	0	0	1	1	B	30	1	4	2
COUNTRY TOTAL:			0	0	1	0		0	0	1	1		30	1	4	2

COUNTRY: MALAWI

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
	DS/AGR															
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	A	2	0	1	1	A	1	0	1	2	A	2	0	1	3
931-0613.	N-FIXATION - SYMBIOTIC	B	0	0	0	0	B	0	0	1	1	B	0	0	1	1
931-1310.	CRSP - PROGRAM BEANS AND COWPEAS	B	0	0	9	0	B	0	0	6	2	B	25	0	6	2
COUNTRY TOTAL:			2	0	10	1		1	0	8	5		27	0	8	6

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
BY GEOGRAPHIC AREA - FY 81 THRU 83

06/01/81

AFRICA

COUNTRY: ZIMBABWE

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	US/AGR															
	N-FIXATION - SYMBIOTIC 931-0613.C1		0	0	0	0	B	0	0	1	1	B	0	0	1	1
COUNTRY TOTAL:			0	0	0	0		0	0	1	1		0	0	1	1

COUNTRY: KENYA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	US/AGR															
	CONTROL OF VERTEBRATE PESTS 931-0473.	B	10	0	1	0	B	10	0	1	0	B	10	0	1	1
	N-FIXATION LIMITING FACTORS 931-0610.	A	3	0	2	1	B	4	0	2	1	B	5	0	2	1
	N-FIXATION - SYMBIOTIC 931-0613.	B	0	0	2	1	B	2	0	2	1	B	0	0	2	1
	PHYSIOLOGY AND ECOLOGY OF TICKS 931-1038.	A	122	0	1	0		0	0	0	0		0	0	0	0
	CRSP - PROGRAM BEANS AND CONPEAS 931-1310.	B	0	0	9	0	B	0	0	6	2	B	50	0	6	2
	FARM LVL POSTHARVEST GRAIN STORAGE LOSS 931-1322.		0	0	0	0	B	30	0	4	25	B	100	2	5	25
	CRSP_PROG: SMALL RUMINANTS 931-1328.	A	170	4	12	2	A	170	4	12	3	A	200	4	12	3
	AGRICULTURE RES TRANSFER METHODOLOGIES 936_4054.		0	0	0	0	B	5	0	1	0	B	10	0	2	0
	IMMUNOLOGY OF TICKS 936_4083.		0	0	0	0	B	200	4	1	0	B	300	4	1	0
	POSTHARVEST RODENT AND BIRD CONTROL 936_4120.		0	0	0	0		0	0	0	0	B	50	0	4	25
COUNTRY TOTAL:			305	4	27	4		421	8	29	32		725	10	35	58

COUNTRY: NIGERIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
A - ACTIVE	B - PENDING MISSION APPROVAL															

COJNTRY ACTIVITY REPORT  
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AFRICA

DS/AGR

IMPROVED FEED NUTRITION INFORMATION

931-0050.	A	1	0	1	3	A	2	0	1	2	A	1	0	1	2
TROPICAL SOILS BNF - CORNELL															
931-0127.	B	0	0	0	1	B	0	0	0	1		0	0	0	0
N-FIXATION LIMITING FACTORS															
931-0610.	A	6	0	2	0	A	6	0	3	1	A	6	0	3	0
N-FIXATION - SYMBIOTIC															
931-0613.C1	B	0	0	1	0	B	0	0	1	0	B	0	0	2	0
PEST MGT - ROOTKNOT NEMATODE															
931-0614.		0	0	0	0	B	50	0	3	0		0	0	0	0
CRSP - PROGRAM BEANS AND COMPEAS															
931-1310.	B	0	0	9	0	B	0	0	6	2	B	25	0	6	2
COUNTRY TOTAL:		7	0	13	4		58	0	14	6		32	0	12	4

COUNTRY: TANZANIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
DS/AGR																
CONTROL OF VERTEBRATE PESTS																
931-0473.		B	25	0	1	1	B	25	0	1	1	B	25	0	1	1
N-FIXATION - SYMBIOTIC																
931-0613.C1		B	0	0	1	0	B	0	0	1	1	B	0	0	1	1
CRSP - PROGRAM SORGHUM/MILLET																
931-1254.		A	0	0	4	1		0	0	0	0		0	0	0	0
CRSP - PROGRAM BEANS AND COMPEAS																
931-1310.		B	0	0	9	0	B	0	0	6	2	B	40	0	6	2
AGRICULTURE RES TRANSFER METHODOLOGIES																
936-4054.			0	0	0	0	B	5	0	1	0	B	10	0	2	0
COUNTRY TOTAL:			25	0	15	2		30	0	9	4		75	0	10	4

COUNTRY: CAMEROON

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
DS/AGR																
SOIL FAMILIES - HAWAII																
931-0582.		A	150	1	8	2	A	150	1	8	2	A	75	1	4	0
CRSP - PROGRAM SORGHUM/MILLET																
931-1254.		B	0	0	2	0		0	0	0	0		0	0	0	0
A - ACTIVE	B - PENDING MISSION APPROVAL															

COUNTRY ACTIVITY REPORT  
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AFRICA  
CRSP - PROGRAM BEANS AND COMPEAS  
931-1310. A 80 0 9 0 A 0 0 9 1 A 40 1 6 1  
INTEGRATED CROP PROTECTION RESEARCH  
936-4049. B 0 0 0 0 B 0 0 0 0 B 10 0 1 2

COUNTRY TOTAL: 230 1 19 2 150 1 17 3 125 2 11 3

COUNTRY: BOTSWANA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	LS/AGR															
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	B	0	0	1	0	B	1	0	1	0	B	0	0	1	0
COUNTRY TOTAL:			0	0	1	0		1	0	1	0		0	0	1	0

COUNTRY: ALGERIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	LS/AGR															
931-0621.	SPRING WINTER WHEAT	A	0	0	2	0	A	0	0	2	0	A	10	0	2	1
931-1318.	CONTROL OF BARLEY DISEASES FOR LDGS		0	0	0	0	A	1	0	2	1	A	1	0	2	1
COUNTRY TOTAL:			0	0	2	0		1	0	4	1		11	0	4	2

COUNTRY: GHANA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP	STA TUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF PTP
	LS/AGR															
931-0613.C1	N-FIXATION - SYMBIOTIC	B	0	0	1	0	B	0	0	1	1	B	0	0	1	0
COUNTRY TOTAL:			0	0	1	0		0	0	1	1		0	0	1	0

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
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AFRICA

COUNTRY: SOMALIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP
	DS/AGR															
931-0473.	CONTROL OF VERTEBRATE PESTS	B	15	0	1	0	B	15	0	1	0	B	15	0	1	1
COUNTRY TOTAL:			15	0	1	0		15	0	1	0		15	0	1	1

COUNTRY: SUDAN

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP
	DS/AGR															
931-0236.19	PLNG ASST: WATER RESOURCES ECONOMICS	A	50	0	0	0	A	75	0	1	0	A	75	0	1	0
931-0600.	MINERAL STUDIES WITH RUMINANT ANIMALS	B	0	0	1	0	B	1	0	1	0	B	0	0	1	1
931-0610.	N-FIXATION LIMITING FACTORS	A	8	0	2	1	A	8	0	2	1	A	0	0	1	0
931-0613.C1	N-FIXATION - SYMBIOTIC	B	0	0	1	0	B	0	0	1	1	B	0	0	1	1
931-1254.	CRSP - PROGRAM SORGHUM/MILLET	A	0	0	6	1	A	0	0	10	0	A	90	1	8	2
936-4048.	PEANUTS RESEARCH		0	0	0	0	B	50	0	6	2	A	50	0	6	2
936-4049.	INTEGRATED CROP PROTECTION RESEARCH		0	0	0	0	B	0	0	0	0	B	10	0	1	2
COUNTRY TOTAL:			58	0	10	2		134	0	21	4		225	1	19	8

COUNTRY: TUNISIA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP	STA TUS	AMT (\$000)	STAF TDS	#OF TDS	#OF PTP
	DS/AGR															
931-0621.	SPRING WINTER WHEAT	A	0	0	2	0	A	4	0	6	0	A	10	0	2	1

A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
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AFRICA															
CONTROL OF BARLEY DISEASE FOR LDCs															
931-1318.															
	A	1	0	2	2	A	1	0	2	2	A	1	0	2	2
COUNTRY TOTAL:		1	0	4	2		5	0	8	2		11	0	4	3

COUNTRY: LIBYA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP
DS/AGR																
	PEASJE CULTURES FOR FOOD PROD.															
	935-4055.		0	0	0	0		0	0	0	0		0	0	1	0
COUNTRY TOTAL:			0	0	0	0		0	0	0	0		0	0	1	0

COUNTRY: NIGER

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP
DS/AGR																
	N-FIXATION LIMITING FACTORS															
	931-0610.		0	0	0	0	B	6	0	3	1	B	6	0	2	1
	CRSP - PROG: SOIL MANAGEMENT															
	931-1311.		0	0	0	0	B	200	2	3	6	B	250	3	6	10
	PEANUTS RESEARCH															
	935-4048.		0	0	0	0	B	50	0	6	2	A	50	0	6	2
COUNTRY TOTAL:			0	0	0	0		256	2	12	9		306	3	14	13

COUNTRY: SENEGAL

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP	SIA IUS	AMT (\$000)	STAF TDYS	#OF TDYS	#OF PTP
DS/AGR																
	MINERAL STUDIES WITH RUMINANT ANIMALS															
	931-0600.	A	1	0	1	0	A	1	0	1	0	A	1	0	1	1
	N-FIXATION - SYMBIOTIC															
	931-0613.C1	B	0	0	1	1	B	0	0	1	1	B	0	0	2	1
	CRSP - PROGRAM SORGHUM/MILLET															
	931-1254.	B	0	0	6	0		0	0	0	0		0	0	0	0
	A - ACTIVE B - PENDING MISSION APPROVAL															

COUNTRY ACTIVITY REPORT  
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AFRICA															
CRSP - PROGRAM BEANS AND COMPEAS															
931-1310.	B	00	0	9	0	B	0	0	0	2	B	50	0	6	2
FISHERIES STOCK ASSESSMENT RESEARCH															
936-4026.		0	0	0	0		0	0	0	0	B	0	1	2	0
PEANUTS RESEARCH															
935-4045.	B	0	0	0	0	B	50	0	6	2	A	50	0	6	2
COUNTRY TOTAL:		81	0	17	1		51	0	14	5		101	1	17	6

COUNTRY: UPPER VOLTA

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
DS/AGR																
CRSP - PROGRAM SORGHUM/MILLET																
931-1254.	B	0	0	6	0		0	0	0	0		0	0	0	0	
CRSP - PROGRAM BEANS AND COMPEAS																
931-1310.	B	0	0	4	0	B	10	0	6	2	B	25	0	6	2	
INTEGRATED CROP SYSTEM RESEARCH																
936-4112.		0	0	0	0		0	0	0	0	B	100	1	1	1	
COUNTRY TOTAL:		0	0	10	0		10	0	6	2		125	1	7	3	

COUNTRY: MALI

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP	STA TUS	AMT (\$000)	STAF	#OF TDYS	#OF PTP
DS/AGR																
N-FIXATION - SYMBIOTIC																
931-0613.	B	0	0	0	0	B	0	0	1	1	B	0	0	1	0	
CRSP - PROGRAM SORGHUM/MILLET																
931-1254.	B	0	0	2	0	B	0	0	3	0	A	20	0	6	1	
COUNTRY TOTAL:		0	0	2	0		0	0	4	1		20	0	7	1	

TOTAL FOR REGION:		815	7	147	22		1344	13	165	83		2039	21	171	121	
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A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
 BY GEOGRAPHIC AREA - FY 81 THRU 83

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 COUNTRY: SOUTH PACIFIC REGIONAL  
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PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA IUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA IUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF	STA IUS	AMT (\$000)	STAF TDYS	#OF PTP	#OF
	DS/AGR															
	TISSUE CULTURES FOR FOOD PROD. 936-4055.	B	5	0	0	2		0	0	0	0		0	0	0	0
	COUNTRY TOTAL:		5	0	0	2		0	0	0	0		0	0	0	0
	TOTAL FOR REGION:		5	0	0	2		0	0	0	0		0	0	0	0
	OVERALL TOTAL:		4469	75	534	200		5179	81	533	463		6020	76	526	435

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A - ACTIVE B - PENDING MISSION APPROVAL

COUNTRY ACTIVITY REPORT  
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PROJECT SERVICES AT MISSION OR BUREAU REQUEST

COJNTRY: GEO-NAME777\*\*\*\*\*

PROJECT	TITLE	FY 1981					FY 1982					FY 1983				
		STA TUS	AMT (\$000)	STAF #OF TDYS	#OF PTP		STA TUS	AMT (\$000)	STAF #OF TDYS	#OF PTP		STA TUS	AMT (\$000)	STAF #OF TDYS	#OF PTP	
	DS/AGR															
	AGR SECTOR PLANNING AND SUPPORT - EPP															
	931-0060.03	A														
	WORLD RHIZOBIUM COLLECTION CENTER															
	931-0095.	A														
	SEED PROGRAM AND INDUSTRY DEVELOPMENT															
	931-0203.															
	PLNG ASST: FOOD POLICY															
	931-0236.29	A														
	NOAA ADVISORY SERVICE															
	931-0242.	A														
	IMPROVEMENT OF POSTHARVEST GRAIN SYSTEMS															
	931-0786.	A														
	FERTILIZER TECHNICAL ASSISTANCE (TVA)															
	931-0832.	A														
	PEST MGT - RELATED ENV. PROTECTION															
	931-0930.	A														
	SYNTHESIS OF WATER MANAGEMENT															
	931-1007.	A														
	LIVESTOCK PRODUCTION CAPABILITY															
	931-1149.	A														
	SOILS MANAGEMENT SUPPORT SERVICES															
	931-1229.	A														
	AQUACULTURE TECHNOLOGY DEVELOPMENT															
	931-1314.	A														
	STORAGE/PROCESSING OF FRUITS/VEGETABLES															
	931-1323.	A														
	SEEU: AGRIBUSINESS DEVLPMT AND SUPPORT															
	931-1398.	A														
	DRYLAND AGRICULTURE SUPPORT SERVICE															
	936-4021.	A														
	FISHERY DEVELOPMENT SUPPORT SERVICES															
	936-4024.	A														
	TROPICAL LEGUMES INOCULANT SERVICE															
	936-4050.	A														
	PEST MANAGEMENT CAPABILITY (RSSA)															
	936-4071.	A														
	AGRICULTURAL POLICY ANALYSIS															
	936-4084.01	A														
	CROP PRODUCTION TECHNICAL ASSISTANCE															
	936-4109.	A														
	SMALL FARM WATER MGT SYSTEMS															
	936-4121.	A														

COUNTRY TOTAL:

A - ACTIVE B - PENDING MISSION APPROVAL