

A.I.D. EVALUATION SUMMARY - PART I

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit: Mission or AID/W Office <u>ST/AGR/AP</u> (ES# _____)		B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan? Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY <u>90</u> Q <u>4</u>	C. Evaluation Timing Interim <input type="checkbox"/> Final <input checked="" type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>
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D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)					
Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
936-4144	Postharvest Grain Systems Research and Development Project	85	9/30/91	2,315,959	2,315,959

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be Completed
Action(s) Required		
Extend the project for one year to 9/30/92.	F.Mertens M.Blakeney	11/30/90
Extend the Cooperative Agreement to 9/30/92 in order to provide enough time to fold the project into a longer Postharvest Systems Project.	F.Mertens M.blakeney	11/30/90
Write the grains/legumes postharvest section for the PID of the Postharvest Systems Project.	F.Mertens	10/30/90
Write the grains/legume postharvest section of the PP of the Postharvest Systems Project.	F.Mertens	3/30/91
Write Scope of Work, including postharvest grains/legume component, for CASP on Postharvest Systems.	F.Mertens	2/30/91

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: _____ (Month) _____ (Day) _____ (Year)

G. Approvals of Evaluation Summary And Action Decisions:				
Name (Typed)	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
	F.Mertens	C.Deyoe	F.Alejandro <i>Rca</i>	D.Bathrick
Signature	<i>F. Mertens</i>	<i>C. Deyoe</i>	E. Carter <i>EC</i>	<i>D. Bathrick</i>
Date	1/7/91	2/25/91	2/7/91	

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The project's purpose is to improve the capability of lesser developed countries (LDCs) to reduce postharvest cereal grain and legume losses by solving problems in storage, handling, processing, and marketing of grain, and in agribusiness development.

This final evaluation was conducted by an outside contract team to evaluate the project's achievements in relation to project goals, the quality and appropriateness of the research, technology transfer, training and networking. The team reviewed: (a) annual work plans and reports, research publications, short-course manuals, and other documents and reports, (b) interviewed AID Personnel, project staff at the University of Kansas, Regional Bureau personnel, students from three LDCs enrolled in the June 1990 Grain Storage and Marketing Short Course (GSMSC) and administrators at the departmental, College of Agriculture and University levels and (c) questioned country missions and other international donors by cable.

The evaluation team found the project to be on schedule and having exceeded its goals in many areas. A few goals, such as in-country training and technical assistance to Missions fell short since they are dependent on outside funding and thus not under direct control of the project.

Specific findings and conclusions are:

1. The time inputs of the Food and Feed Grain Institute (FFGI) research staff have exceeded budgeted time and most of the research has been pertinent to the goals of developing economically sound grain systems for LDCs. Technical assistance in policy analysis related to grain storage and marketing has increased in recent years and technical documents have been developed to address this important area.
2. The Postharvest Documentation Service (PHDS), a computerized data retrieval system, plays a major role in the transfer of technology, especially, since the initiation of a new "Documents by Mail" system. PHDS is also involved in assisting other postharvest information centers manage their data.
3. FFGI has been very active in identifying additional sources of funding other than S&T support. From 1986 to 1990 FFGI has managed to achieve a leverage position of 2.8 dollars to every dollar allocated by AID/S&T to the project.
4. AID has played a decisive role in creating a unique center of expertise in postharvest grain systems in FFGI/KSU. To maintain this center's effectiveness, the evaluation team recommends that S&T/AGR should continue to provide funding for FFGI/KSU under a new cooperative agreement and the decision to do so should be made as soon as possible, since the uncertainty of new AID/S&T funding has created apprehension among the non-tenured staff about their future and any additional loss of staff would further disrupt specific work assignments.

COSTS

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
M. Moran	USDA/OICD	19	\$25,000	936-4109 Program
G. Shove	USDA/OICD	17		
2. Mission/Office Professional Staff Person-Days (Estimate) _____ 20 _____		3. Borrower/Grantor Professional Staff Person-Days (Estimate) _____ 15 _____		

- b -

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Purpose of evaluation and methodology used • Purpose of activity(ies) evaluated • Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> • Principal recommendations • Lessons learned |
|--|--|

Mission or Office:

S&T/AGR/AP

Date This Summary Prepared:

8/30/90

Title And Date Of Full Evaluation Report:

Evaluation of the Postharvest Grain Systems Research & Development Project, July 1990

1. Purpose of the Activity

The purpose of the project is to improve the capability of lesser developed countries (LDC's) to reduce postharvest cereal grain and legume losses. The project is directed toward resolving storage, handling, processing, and marketing of grain, and agribusiness development. To accomplish this task, the project has been involved in four major activity categories: research; technology transfer; training; and networking.

2. Purpose of the Evaluation and Methodology Used

A five-year cooperative agreement terminates February 15, 1991, between the U.S. Agency for International Development/Bureau of Science and Technology (USAID/S&T) and the Food and Feed Grains Institute (FFGI) at Kansas State University (KSU), Manhattan, Kansas. The agreement funds the activities of a Postharvest Grain Systems Research and Development Project. In June, 1990 an agricultural economist and an agricultural engineer served as a team to conduct the final evaluation as stipulated in the cooperative agreement. The team evaluated the progress of FFGI in completing the goals of the agreement to reduce postharvest cereal grain and legume losses in lesser developed countries (LDCs). Based on the evaluation, recommendations were made concerning future activities and funding.

During a 16-day visit to KSU, annual work plans and reports, research publications, short course manuals, and other documents were reviewed and interviews held with most of the FFGI staff. Students from three LDCs enrolled in the June 1990 Grain Storage and Marketing Short Course (GSMSC) were interviewed as well as administrators at the departmental, College of Agriculture and University levels. The team also met with USAID officials in Washington, D.C.

3. Findings and Conclusions

The project and Cooperative Agreement were budgeted at \$3,245,000 as AID's total funding for five years. Based on obligations to date, and assuming no further reductions in the AID funding level, \$2,245,000 will be the actual AID funding level. This funding level is a 30 percent reduction from the programmed level at the beginning of the five-year project.

FFGI has made significant progress, despite a 30% reduction of the AID funding, in reaching five improvement goals cited in a 1988 evaluation. (1) publication and distribution of research output has increased 95 percent, (2) a newsletter was initiated in 1989 to maintain contact

with former students and other postharvest professionals, (3) a new research and teaching facility was opened in 1989, (4) an attempt was made to initiate cooperation with international research centers but no interest was indicated, and (5) there has been some collaboration with other S&T projects, although no well-defined mechanism for cooperation has been developed.

FFGI has an experienced, dedicated staff located on the campus of KSU, a university that cited involvement in international activities as a major emphasis in its 1989 strategic plan. The time inputs of the FFGI research staff have exceeded budgeted times and most of the research has been pertinent to the goals of developing economically sound grain systems for LDCs. Technical assistance in policy analysis related to grain storage and marketing has increased in recent years and technical documents have been developed to address this important area. The Postharvest Documentation Service (PHDS), a computerized data retrieval system, plays a major role in the transfer of technology, especially, since the initiation of a new "Documents by Mail" system. PHDS is also involved in assisting other postharvest information centers manage their data.

A very successful annual GSMSC at KSU has gained an international reputation; and in addition to providing training for participants from many LDCs has generated LDC graduate students for KSU in agricultural economics, agricultural engineering, entomology, and grain science. Not taking advantage of the expertise of all FFGI staff to guide graduate student research projects is a deficiency in the academic training program, since only three of the staff are tenured and hold appointments on the KSU graduate faculty. Since funding for in-country training is dependent on USAID missions, FFGI has participated in limited in-country training related to the Cooperative Agreement activities.

Staff members of FFGI have given technical assistance to AID missions through contracts and purchase orders. However, the Basic Order Agreement to enable AID missions to contract on a non-competitive basis for FFGI services, has not been as successful as anticipated, since it depends on mission circumstances, funding levels and knowledge of FFGI capabilities.

FFGI membership in the Group for Assistance on Systems Related to Grain after Harvest (GASGA) is its most active networking activity, although the Institute does have linkages in Costa Rica, Honduras, Asia, Pakistan and with the Mississippi State University Seed Technology Laboratory and the University of Idaho Postharvest Institute's documentation center. FFGI needs to develop a strategy to improve the effectiveness of its networking activities.

FFGI appears to have sufficient professional and administrative staff to meet the requirements of the Cooperative Agreement, BOA delivery orders, and other contracts awarded on bid. However, at peak work load times researchers devote considerable time to other activities. The uncertainty of new AID/S&T funding has created apprehension among the non-tenured staff about their future. Any additional loss of staff would further disrupt specific work assignments. Obtaining contracts on bids should not be discouraged since the Institute in the past five years has

achieved a leverage position of 2.8 bid contract dollars to every dollar allocated by AID/S&T.

4. Principal Recommendations

AID has played a decisive role in creating a unique center of expertise in postharvest grain systems in FFGI/KSU. To maintain this center's effectiveness, the evaluation team's recommendations are:

1. USAID/S&T should continue to provide a funding base for FFGI and the decision to do so should be made as soon as possible. Two options are suggested, with the first receiving the highest priority:

a. Fund FFGI/KSU under a new cooperative agreement, but requiring the Institute to develop a strategic plan and procedures leading toward self sufficiency of FFGI by the end of the cooperative agreement period (four to five years).

b. If funding at KSU is to be eliminated, extend the current agreement to allow an orderly phase out of FFGI.

2. Technology transfer activities should be given a higher priority to improve FFGI's performance in dissemination of its research and technical support services.

3. The annual FFGI Grain Storage and Marketing Short Course should be institutionalized abroad in LDCs.

4. KSU/ FFGI should develop a mechanism for non-tenured staff to formally participate in research and training of graduate students, for example, guest lectures, seminars, supervision of graduate research through tenured professors, etc.

5
Target PHDS data management activities and FFGI networking activities to priority institutions that have regional outreach functions and the capability of sustaining on-going efforts related to postharvest grain activities.

6. The FFGI director and coordinator and USAID/S&T project officers should continue exchange of information and be alert for potential linkages among new USAID projects. AID should take the initiative with joint KSU/FFGI participation, starting with annual meetings to discuss general planning and specific work plans.

7. Link FFGI in-country short courses to on-going projects. Specific short courses in themselves are not likely to have an impact. With increased buy-ins, courses should be linked with project initiatives that have sufficient resources to make an impact and should emphasize training of trainers.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

One evaluation report.

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

ST/AGR comments:

Two outstandingly qualified experts, who did an excellent job, comprised the evaluation team. The evaluation was conducted very professionally and the ST/AGR office agrees in general with most of their findings and recommendations. The project made excellent progress, is on schedule and has exceeded its goals in many areas. Some of their recommendations cannot be implemented, such as non-tenured staff to conduct research, training of graduate students (University regulations) and in-country short-term training courses (lack of teaching equipment). The office supports the following recommendations:

1. Since AID has invested large amounts of funds over 25 years to create a unique center of excellence, the project should be extended as soon as possible to avoid losing personnel with specific expertise and to provide enough time to merge the project into a larger postharvest project with a broader scope.
2. Since the project had such severe budget reductions, the technology transfer portion of the project should not be increased by reducing the research component, but should be increased through buy-in funding.
3. Target PHDS data management activities and PFGI networking activities to priority institutions that have regional outreach functions.



ANZAC CORPORATION

EVALUATION of the

POSTHARVEST GRAIN SYSTEMS RESEARCH AND
DEVELOPMENT PROJECT, FOOD AND FEED GRAINS
INSTITUTE, KANSAS STATE UNIVERSITY

Project No. 936-4144
Cooperative Agreement DAN-4144-A-00-5095-00
Basic Ordering Agreement DAN-4144-B-00-6002-00

Prepared by:

Michael J. Moran
Consultant, Agricultural Economist

Gene C. Shove
Consultant, Agricultural Engineer

Under:

ANZAC Corporation

for

Office of International Cooperation and Development
United States Department of Agriculture

and

United States Agency for International Development
Bureau of Science and Technology, Office of Agriculture

July 1990

ACRONYMS

AID	Agency for International Development (USAID)
ALAGRAN	Asociacion Latino Americano de Postcosecha de Granos
ASEAN	Association of South Eastern Asia Nations
BOA	Basic Ordering Agreement
CA	Cooperative Agreement
CARE	Cooperation for American Relief Everywhere
CGIAR	Consultative Group on International Agricultural Research
CIGRAS	Research Center for Grains and Seeds, University of Costa Rica
CNP	Consejo Nacional de Produccion
EAP	Escuela Agricola Panamericana (Zamorano, Honduras)
FAO	Food and Agriculture Organization
FPGI	Food and Feed Grain Institute (Kansas State University)
GASGA	Group for Assistance Relating to Grains After Harvest
GSMSC	Grain Storage and Marketing Short Course
IICA	Interamerican Institute for Cooperation on Agriculture
KSU	Kansas State University
LDC	Less Developed Countries
MIAC	Mid-American Agricultural Consortium
OICD	Office for International Cooperation and Development
NGO	Non-Governmental Organization
PVO	Private Voluntary Organization
PHDS	Postharvest Documentation Service
RFP	Request for Proposal
SADCC	Southern African Development Coordination Conference
S&T	Bureau of Science and Technology, USAID
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

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be discouraged since the Institute in the past five years has achieved a leverage position of 2.8 bid contract dollars to every dollar allocated by AID/S&T.

4. Principal Recommendations

AID has played a decisive role in creating a unique center of expertise in postharvest grain systems in FFGI/KSU. To maintain this center's effectiveness, the evaluation team recommends:

1. USAID/S&T should continue to provide a funding base for FFGI and the decision to do so should be made as soon as possible. Two options are suggested, with the first receiving the highest priority:

a. Fund FFGI/KSU under a new cooperative agreement, but requiring the Institute to develop a strategic plan and procedures leading toward institutionalization of FFGI by the end of the cooperative agreement period (four to five years).

b. If funding at KSU is to be eliminated, extend the current agreement to allow an orderly phase out of FFGI.

2. Technology transfer activities should be given a higher priority to improve FFGI's performance in dissemination of its research and technical support services in USAID future funding levels.

3. The annual FFGI Grain Storage and Marketing Short Course should be institutionalized abroad in LDCs.

4. KSU/ FFGI should develop a mechanism for non-tenured staff to formally participate in research and training of graduate students, for example, guest lectures, seminars, supervision of graduate research through tenured professors, etc.

5. Target PHDS data management activities and FFGI networking activities to priority institutions that have regional outreach functions and the capability of sustaining on going efforts related to grain postharvest activities.

6. The FFGI director and coordinator and USAID/S&T project officers should continue exchange of information and be alert for potential linkages among new USAID projects. AID should take the initiative with joint KSU/FFGI participation, starting with annual meetings to discuss general planning and specific work plans.

7. Link FFGI in-country short courses to on-going projects. Specific short courses in themselves are not likely to have an impact. With increased buy-ins, courses should be linked with project initiatives that have sufficient resources to make an impact and should emphasize training of trainers.

**EVALUATION OF THE POSTHARVEST GRAIN SYSTEMS RESEARCH AND
DEVELOPMENT PROJECT, FOOD AND FEED GRAINS INSTITUTE,
KANSAS STATE UNIVERSITY (¹)**

I. BACKGROUND ON THE PROJECT

Since 1967, the Food and Feed Grains Institute (FFGI) at Kansas State University (KSU), Manhattan, Kansas, has been providing assistance with postharvest grain systems to developing countries in Africa, Latin America, and the Near East. This assistance has involved activities in the storage, handling, processing, and marketing of grain, and in agribusiness development.

FFGI has carried out activities under a U.S. Agency for International Development and Bureau of Science and Technology (USAID S&T) 5-year Cooperative Agreement (CA) DAN-4144-A-00-5095-00, which was initiated September 30, 1985, to be in effect until February 15, 1991. A Basic Ordering Agreement (BOA) DAN-4144-B-00-6002-00, awarded on April 1, 1986 as a companion to the Cooperative Agreement, enables AID missions to contract on a non-competitive basis for services available from FFGI as a direct result of the research carried out under the Cooperative Agreement. These agreements represent the Postharvest Grain Systems Research and Development Project No. 936-4144. The purpose of this project is to improve the capability of lesser developed countries (LDCs) to reduce postharvest cereal grain and legume losses. The long-term beneficiaries of this project are producers and consumers of basic food grains in LDCs, marketing intermediaries, and personnel involved in education, research, and marketing in these countries. In addition, FFGI provides assistance to a number of LDCs through purchase orders and contracts separately awarded and funded by USAID missions and other national and international agencies.

Under the present agreement with USAID, FFGI is involved in four major activity categories: research, technology transfer, training, and networking. In recent years, emphasis has been primarily placed on research, technology transfer, and on-campus training. The Institute provides other services such as project design and evaluation, field testing, in-country training, policy analysis and management of agribusiness activities. Such activities have increased in recent years under buy ins, such as purchase orders, BOA contracts, sole source mission contracts, and contracts awarded on bid to Request for Proposal (RFP).

¹Evaluation was conducted at KSU in June 1990 by outside consultants (an agricultural economist and an agricultural engineer) and covers the period July 1, 1986 to June 30, 1990, which overlaps the previous evaluation by one year.

The allocation of FFGI staff members' time to all activities of the Cooperative Agreement, Basic Ordering Agreement, and other contracts and time devoted to each of the funding sources appears in Table 1 (Appendix I).

II. RESPONSE TO APRIL 1988 EVALUATION

An evaluation of the USAID S&T supported postharvest activities at KSU was conducted by outside consultants in April, 1988. As a result of the project evaluation, five specific goals for improvement were selected by FFGI. These goals and the results to date are described as follows:

A. Increase Publication and Distribution of Research Output

Progress has been made on achieving the goal to increase publication and distribution of research output; however, lack of FFGI staff, particularly during peak work load periods, to edit, rewrite, and prepare graphics to produce good quality, readable publications to meet the demand is a major limitation to this effort. Although most of the completed research projects have published reports, there still exist research results that have not been published.

To further increase the distribution of FFGI reports, the Institute began in January, 1990 a monthly mailing of "FFGI Abstracts," a single page abstract of new reports, to over 600 names, including LDC individuals in research and training centers, international agencies, universities, and other developing country institutions. These abstracts include an order form which the recipient can use to order the report from FFGI. Requests for reports are being received from nearly 30 percent of the mailing list. In FY 1989, FFGI distributed 1,056 reports as compared to FY 1988 when only 256 reports were distributed. In FY 1990, FFGI distributed 1,116 reports.

B. Outreach Development

A goal was set to develop an outreach device to establish and maintain contacts with former students and other postharvest professionals throughout the world. A newsletter was initiated September 1, 1989 (with a second mailing March 1990) in three languages: English, Spanish and French. Due to limited financial resources, the newsletter is directed only to former short course and academic graduates who have requested to be on the mailing list; 400 newsletters are distributed, including bulk mailings to FFGI's Storage Technology Development and Transfer Project in Pakistan and to the Toledo Agricultural Marketing--Public Sector Project in Belize. The goal of developing an outreach mechanism is being achieved. Technical assistance to missions and technology transfer activities further support this goal in selected countries on an ad-hoc basis.

C. Linkages with International Research Centers

Letters were sent to international research centers inquiring about the extent of their postharvest activities and

attempting to determine if there were an interest on their part in cooperative activities with FFGI. The response from these letters revealed that postharvest activities were either minor or non-existent in undertakings of the Consultative Group on International Agricultural Research (CGIAR) and no interest in cooperative actions was indicated. As a result of this response, FFGI has deleted this goal from further consideration and efforts will be directed to other forms of collaborative actions.

D. Science and Technology Collaboration

A goal was established to develop a mechanism for further collaboration with other S&T sponsored projects. To date, no well-defined mechanism has been developed. However, there has been periodic collaboration with S&T project "Research and Development of Improved Seed Production/Utilization In LDCs" operated by the Seed Technology Laboratory at Mississippi State University.

E. Research Facilities on Kimball Avenue

At the time of the 1988 evaluation, the transfer of physical research facilities to a new site on Kimball Avenue in Manhattan, KS had not yet been accomplished. This new grain storage research and laboratory facility opened in August, 1989. It is being used to conduct research on both short and long-term grain storage under controlled environmental conditions. This facility is used for instruction, demonstration, and hands-on participation for the annual Grain Storage and Marketing Short Course (GSMSC) and other short courses and classes.

III. CURRENT PROJECT PROGRAM DESCRIPTION

A. Organization and Operation of FFGI

At KSU the FFGI is under the Department of Grain Science and Industry. FFGI has a director and a coordinator who manage day-to-day operations of the Institute. FFGI staff members have shared appointments which allow them to have direct contacts with the Departments of Agricultural Economics, Agricultural Engineering, Entomology, and Grain Science and Industry. Part of the training and research activities are conducted by FFGI staff in their respective departments. Currently, only three out of fifteen professional staff members of FFGI are tenured staff while the rest are on annual appointments.

B. Program Components

The five-year agreement between USAID S&T and FFGI at KSU is designed to carry out activities related to postharvest grain systems in the following four categories: applied research, technology transfer, training, and network building.

1. Research

Research activities include grain drying, conditioning, handling, storage, processing, marketing systems, food security programs, and price and market policies. These activities are designed to solve problems of small farms and agribusiness enterprises in developing countries, and the research is conducted under actual or simulated LDC conditions. In addition, graduate students perform research at KSU or in their respective countries, and FFGI professional staff collaborate with developing-country agencies to develop technologies for grain conditioning, storage, processing, marketing and postharvest loss assessment.

During the four-year period, 1987--1990, many research projects were conducted of an applied or adaptive nature related to grain drying, handling, storage, and marketing. The draft copy of the Annual Report Review of Activities FY 1990 listed under current research six projects on grain drying, handling, and storage and four projects on grain marketing. An additional 20 projects were listed under completed research. The Annual Report FY 1989 listed 15 grain drying, handling, and storage projects; four marketing projects; and seven completed projects. In FY 1988 the numbers were 16, 4, and 2. The allocation of FFGI staff members' time to research for the past four years is shown in Table 1 (Appendix I).

2. Technology transfer

Technology transfer encompasses the publishing and dissemination of research findings and instructional materials, demonstration of research results to public and private sector institutions and individuals, collection and dissemination of documentation on postharvest problems; and on-site problem solving (technical assistance), including feasibility and marketing studies, evaluation and recommendations for improving postharvest grain systems, and evaluation of economic and technical studies and proposals. The number of publications prepared by FFGI staff 1987--1990 is given in Table 2 (Appendix I).

The FFGI staff have attended professional society and international meetings, technical seminars, short courses, conferences and workshops to present papers and to keep abreast of current research and technologies in their respective areas of expertise. As an example, in FY 1989 and FY 1990 five researchers presented papers in Ecuador, Korea, Republic of China, U.S. and Canada. However, budgetary reductions have created a need to limit travel funds which may severely decrease attendance at future meetings.

The Postharvest Documentation Service (PHDS), a computerized data retrieval system created in August 1978, provides a centralized collection of documents pertaining to the postharvest systems of cereal grains, legumes, and oilseeds and distributes copies of these documents upon request. To aid in the dissemination of information on postharvest grain systems, FFGI provides access to PHDS to researchers, government agencies, and private institutions in developed and developing countries. Services available from PHDS include bimonthly acquisition lists, document copies, and computerized document searches. During FY 1989 documents and searches for information were provided to individuals and institutions in 58 different countries, including requests by researchers, extension personnel, project managers, and administrators in developing countries. The annual and cumulative acquisitions, clients, and requests are given in Table 3 (Appendix I).

In FY 1989 an abbreviated, portable version of the computerized PHDS database (Title-Author-Database) was prepared for use by selected centers of postharvest activities in developing countries. This database requires a minimum of ten megabytes of memory in an IBM-compatible personal computer.

PHDS organized and presented for the Group for Assistance on Systems Related to Grains After Harvest (GASGA) a Workshop on Postharvest Information Management, which was held at KSU April 17-19, 1989. Fifty individuals from 12 countries participated in the workshop. Fourteen papers were presented on topics

pertaining to the information needs of postharvest projects, agricultural databases for postharvest research, microcomputers as networking tools for postharvest centers, and the role of information management in agricultural assistance. Workshop participants requested that PHDS maintain a database of postharvest information resources to be used by regional postharvest information networks. PHDS established on-line links with the Asian Institute of Technology that will serve to update the database from the regional Southeast Asia network of postharvest information centers. (See Networking Activities, Appendix II.)

3. Technical Assistance

Under the BOA in FY 1990 two staff members traveled to Guinea-Bissau to conduct a rice marketing study. The results were presented in two reports translated into French. The two-member team also presented a seminar in May 1990 on the study at a joint meeting of World Bank and USAID personnel in Washington, D.C. In August, October-November 1987 five staff members were in Costa Rica to provide technical assistance to the Government of Costa Rica in evaluating the current and alternative policy scenarios and programs of the Consejo Nacional de Produccion (CNP). Two reports were prepared and published in both English and Spanish. Four staff members traveled to Belize at different times in January, April, and May 1987 to assist the Government of Belize in developing a plan to restructure the Belize Marketing Board and to assist in developing a price stabilization program. One report was prepared. According to FFGI personnel, there has been an emerging trend to provide technical assistance in policy analysis and price stabilization issues, such as those requested by Guinea-Bissau, Belize, Costa Rica, and the forthcoming request from El Salvador. The allocation of staff members' time to technology transfer is shown in Table 1 (Appendix I).

4. Training

Training activities are designed to reach developing country operational personnel, research and extension personnel, managers, government officials, and graduate students and include the annual seven-week Grain Storage and Marketing Short Course (GSMSC) presented on the KSU campus, special short courses and programs presented upon request at KSU or overseas, and academic training for graduate degrees at KSU.

The four disciplines encompassed by FFGI academic training on the KSU campus are agricultural economics, agricultural engineering, entomology, and grain science. Students can work towards M.S. or Ph.D. degrees in these fields. FFGI staff advise and assist students sponsored by other national and international organizations who are working on degrees in fields related to postharvest grain storage, handling, and marketing practices.

In FY 1990, four students received M.S. degrees, two received Ph.D. degrees, and these students came from four different countries. In FY 1989 four received M.S. degrees, two Ph.D. degrees, representing five countries. In FY 1988 two received M.S. degrees, three Ph.D. degrees, and were from five different countries; and in FY 1987 five received M.S. degrees, four Ph.D. degrees, and five countries were represented. Most of these students returned to employment in their respective countries, including prominent positions such as: staff members in research institutes, universities, and quality control laboratories; chiefs of divisions; etc. (Appendix II).

The GSMSC has had a yearly average enrollment of approximately 33 during the past four years representing 17 countries each year. The course is designed to increase participants' knowledge and skills in the basic principles of grain storage, causes of grain loss, prevention of grain deterioration, grain inspection, management of grain businesses, and grain marketing techniques. FFGI staff members' time devoted to on-campus training is shown in Table 1 (Appendix I).

The Postharvest Documentation Service (PHDS) developed a six-week postharvest information management short course scheduled for June 4--July 13, 1990. This short course, intended for librarians and information managers from postharvest research and extension institutions in developing countries, was canceled--not from lack of interest but rather from potential participants not obtaining funds for travel and short course fees.

Through a contract with the Office of International Cooperation and Development (OICD), USDA, a six-week course in agroindustrial project analysis is being offered at KSU July 2--August 10, 1990. This course is designed to increase participants' knowledge and skills in: (1) critical issues of agroindustrial project analysis relating to marketing, procurement, and processing, and (2) techniques available to analyze the operational, economic, financial, and social feasibility of a potential project. The course has an enrollment of 14 from ten countries.

Contracts have been obligated under the BOA to assist with in-country training but have not been very productive. A project in Sudan scheduled for May 1987--February 1991 to conduct training and provide assistance with pilot projects in warehouse grain storage was de-obligated in March 1990 with no accomplished activity because of warehouse construction delays, civil war, and other disturbances in Sudan. A contract, August 1986--September 1987, was established with USAID/Panama to provide assistance and training for personnel in the management and operation of three grain silo facilities in San Pablo, La Honda, and Santiago. A consulting agricultural engineer traveled to Panama City, September 17--October 5, 1986, to assist in selecting and

purchasing tools and electronic parts to be used with the grain dryers in the silo facilities. A report on grain storage facilities in Panama was prepared in English and Spanish. The contract expired with only this limited assistance. In-country training took place in Pakistan under a USAID Pakistan contract "Storage Technology Development and Transfer Project."

5. Networking

Networking activities are designed to promote collaborative research, technology transfer, and training with national and international institutions involved with postharvest grain systems. FFGI continues active membership in GASGA and has linkages in Costa Rica and Honduras and with the Mississippi State University Seed Technology Laboratory. The GASGA involvement is clearly the most consistent, compared to other linkages, over the life of the project. The allocation of staff members' time to networking is shown in Table 1 (Appendix I).

C. Funding Levels

The project and Cooperative Agreement were budgeted at \$3,245,000 as AID's total funding for five years. Based on obligations to date, and assuming no further reductions in the AID funding level, \$2,245,000 will be the actual AID funding level, a 30 percent reduction from the programmed level at the beginning of the five-year project. As of May 31, 1990, \$2,105,761 have been spent, which represents 94 percent of the obligated CA funding.

In the original budget for AID's contribution to the Cooperative Agreement, 29 percent of the funds were planned for research, 39.5 percent for technology transfer, 15 percent for training, 5 percent for networking, and 11 percent for administrative support. According to expenditure figures as of May 31, 1990, made available to the evaluation team, 44 percent of expenditures were for research, 26 percent for technology transfer, 16 percent for training, less than one percent for networking, and 14 percent for administrative support as indicated in the Table 1. below. This represents a major shift in priorities, especially between research and technology transfer.

Table 1. Annual FFGI Cooperative Agreement Expense (%) by Activity.

Activity	Original	FY 87	FY 88	FY 89	FY 90 ¹	Average
	Budget					FY 87-90
Percent						
Research	29	36	37	39	44	39.0
Tech. Trans.	39.5	31	23	24	26	26.0
Training	15	17	19	23	16	18.6
Networking	5	5	2	2	0 ²	2.3
Administration	11	11	19	12	14	14.0
Total	100	100	100	100	100	100.0

¹As of May 31, 1990.

²Two-tenths of one percent.

Annual FFGI Cooperative Agreement Expense (\$) by Activity.

Activity	FY 1986 ¹	FY 1987	FY 1988	FY 1989	FY 1990 ²
Dollars					
Research	65,020	148,666	162,875	234,633	175,087
Tech. Trans.	81,616	129,073	101,384	148,165	105,031
Training:					
In-country	2,175	1,938	-0-	-0-	-0-
On-Campus	32,035	68,658	85,673	137,454	66,296
Networking	15,988	18,691	9,057	12,504	732
Adm. Support	42,439	48,616	83,712	74,292	53,954
	239,272	415,641	442,701	607,047	401,100

¹This period is from February 15 to June 30, 1986.

²As of May 31, 1990.

IV. EVALUATION OF COMPONENTS

Due to the time constraint and USAID's limited resources for this activity, the present evaluation does not include any field visits to recipient institutions in LDCs to validate the impact of the training, research, information, and technical assistance received. The evaluation team considered this a limitation in carrying out the evaluation scope of work. Nevertheless, every attempt was made to carefully review and analyze all available printed information. Interviews were held with FFGI and other KSU staff and also with four GSMSC participants from three LDCs-- Honduras, Belize, and Guinea-Bissau. In addition, a request for in-country information was cabled or faxed to AID missions and host country institutions, Appendix II. Responses to the questions can be summarized as indicating strong support for FFGI and a continuation of USAID/S&T core funding. In addition, examples of non-CA projects and activities are cited, not for the purpose of evaluation, but to underline the dynamic potential for FFGI core staff funded under the CA to generate other important project activities, eg., Pakistan, Belize, and the Agro Business Analysis Course.

A. Research

Since FY 1986 the actual time inputs to research have been approximately twice the budgeted times. In fact, it was three times as much in FY 1989, Table 8 (Appendix I). There appears to be a good mix of research projects among storage facilities design, drying methodologies, insect control, milling, processing, and marketing. The projects on non-fossil fuels drying systems, storage facilities, and insect control are clearly pertinent to goals of developing economically sound systems to condition, preserve quality, and decrease grain losses in LDCs.

A stable, if not expanding, scope of research has been maintained despite overall budget cuts. This appears to have been achieved by reallocating existing resources, primarily from technology transfer. This decision reflects the priority of FFGI as agreed with USAID under the CA and annual work plans. The FFGI research facilities and capable, qualified staff provide an environment conducive to achieving research results and the preparation of grant proposals to garner research grants.

B. Technology Transfer

Technical assistance through other contracts and purchase orders is becoming a more prominent part, as compared to contracts through the BOA, of staff members' assistance. During the period FY 1987 to FY 1989 FFGI staff had 53 technical assistance assignments of which only three came under the CA and BOA. Pakistan and Belize received 68 percent of the above total

technical assistance. USAID missions' requests for technical assistance to solve in-country problems by taking advantage of the BCA funding have not been used to any great extent.

PHDS has continually strived to improve its effectiveness in acquisition, document delivery, information retrieval and general exchange of ideas on postharvest information management. The effectiveness of its service can be measured in three specific areas:

(1) Applicability of the PHDS collection

The applicability of PHDS' documentation services is directly related to how it obtains information. There are three important sources where PHDS obtains information: (1) acquisitions from individuals including project managers, technicians, and scientists (Presently this is the most important source of information which has applicability); (2) information from LDC institutions and organizations such as AEAN (Asia), ALAGRAN (Latin America), SADC Food Security Program (South Africa region), and the Asian Institute of Technology; and (3) information from USA and European institutions such as universities, GASGA, USAID Documentation Center, American Society of Agricultural Engineers, etc. Based on the information provided by FFGI/PHDS, growth rate in request for information exceeded the target rates projected under the CA. This indicates the interest in the information and potential application in research, training and technical assistance.

(2) Response to and quantity of PHDS requests

Until recently, PHDS felt that the response to requests was not satisfactory so it made a self-correction decision to change the old "Quarterly Acquisition List" to the new "Document by Mail" system. The old system was characterized as being outdated, not well balanced in terms of technical material, and had a slow turn around. The new request form (Appendix II) provides a lower cost, faster turn around to requests from individuals and LDC institutions. In recent months, acquisitions from those who receive the new flyer "Documents by Mail" has become a major source of information received from LDCs. Since 1986, PHDS acquisitions increased by 103% to 18,458, clients increased by 95% to 1,339, and the number of requests for information increased by 52% to 36,386 (Table 4, Appendix I). This growth is well above the target growths of 40%, 20%, and 25%, projected under the cooperative agreement.

(3) Appropriateness of PHDS technology in LDCs

A major turning point occurred for PHDS after the last GASGA workshop hosted by FFGI in April, 1989. This was due to a strong recommendation of the participants to strengthen existing

regional information systems to overcome problems of information gathering and dissemination. Since that time, PHDS has decided on two main focuses for their operations: (1) to continue to maintain individualized services, and (2) to begin investigating the alternatives and cost of strengthening international and regional information systems. The targeted institutions for the latter initiative are listed in Appendix II. This new focus implies a change in orientation of PHDS to continue document acquisition, delivery and retrieval but to begin to place more emphasis on data base management. As part of this new orientation, PHDS is currently studying the possibility of transfer of its data base to EAP for serving Central America and the development of a current directory of information in the postharvest field which would indicate where, what, when, and who has postharvest information. This is very different from information acquisition but has the advantage of placing the information in the country or region where it will be used.

Training includes the short courses and the academic program at KSU. The most significant short-course training during the period 1986 to 1990 (In fact, perhaps the most significant since the beginning of the USAID agreement in 1967) has been the annual seven-week GSMSC for LDC participants. Typical participants in this course have been grain facilities and processing plant operating personnel, managers, and mid-level professionals. See Appendix II.

There have been no in-country short courses financed under the Cooperative Agreement in the last three years. These activities are placed in the technical assistance category. Nevertheless, direct interviews with participants from Guinea-Bissau and Belize, who attended the GSMSC at KSU in June--July 1990 indicated that specialized in-country courses would be welcome. The most significant in-country courses have been non-CA and BOA supported but were initiated under larger projects that FFGI won on bids such as the Pakistan project. For example, three courses were offered in FY 1989 in Pakistan which have direct impact on the training of master trainers and operational personnel in the development of storage technology and integrated pest management programs.

Another short course offered recently at KSU is called Agrobusiness Project Appraisal. Although not financed under the CA, it reflects the impact potential of the core staff of FFGI funded under the CA. Few participants attended the first course, but 14 from ten countries have signed up for the second to be held in July 1990. Such courses are being offered by other institutions and assistance has been given by multilateral donor agencies to regional organizations to help develop capacity in this area. FFGI should not duplicate efforts in this area but rather seek opportunity of collaboration and make efforts to develop regional or in-country capacity for such training.

C. Networking

Networking activities implemented by FFGI have been designed to promote research and planning among national and international programs, identify and develop appropriate programs for specific locations, promote existing programs by exchanging information, and organize working group meetings and information transfer methodologies and technologies.

The network building by FFGI has been sporadic and since 1986 has faced a continued decline in resource allocation, especially during the last three years. This was primarily due to budget cuts related to the USAID funding levels. Only two-tenths of one percent of the cooperative agreement expenditures were allocated to networking in 1990, Table 5 (Appendix I). The primary network-building effort has been with GASGA; in addition, sporadic effort over the years has included the following linkages: CNP, EAP, AND CICRAS.

It is quite clear that although much effort has been given to the important networking activities, there has been a lack of continuity in many cases. Furthermore, no clear strategy seems to exist for targeting key institutions. Also, the concept of networking is not clear. For instance, the development of a master plan for a grain stabilization program in Costa Rica is more than a networking activity, but it is included in this category.

FFGI should concentrate on a few priority organizations for CA networking activities, given the limited resources allocated for this activity in close coordination with PHDS activities in targeted countries and institutions; EAP/Honduras and ASEAN are but two examples. A strategy needs to be developed for this activity, keeping in mind the cost effectiveness of such an approach. Continued linkages with GASGA are encouraged which provides linkages to FAO, European countries, Africa, Asia, and those of Latin America.

V. BUY-INS

During the last three years \$122,778 of service was contracted by the missions through BOAs compared to \$434,237 during the period FY 1986-1987, Table 6 (Appendix I). It should be noted that the most significant in-country activities of FFGI during the last three years (1987-1990) have been financed by contracts awarded on bid to RFPs. This contract approach has generated five times more in dollar amount than the BOA mechanism during the period 1987 to 1990. (Contracts = \$627,507 compared to BOA = \$122,778). The former contracts were for Pakistan and Belize while the latter was for Guinea-Bissau.

At the time of this evaluation, none of the eight outputs related to BOAs had been met. This is particularly significant since the outputs not completed are critical for building a base to impact on the LDCs. The magnitude of outputs to be completed under the BOA during the life of the project (LOP) was 79. As of May 31, 1990, the number of current outputs completed is 11, or 14 percent of the total, Table 7 (Appendix I). The FFGI coordinator stated that some of these outputs were unrealistic projections. It should be noted that if other FFGI activities which fall outside the CA and BOA, such as purchase orders and mission contracts, are taken into consideration some activities under the BOA magnitude of outputs have been completed. It appears that FFGI has shifted some of its human and financial resources to obtain the highest performance of the Institute's activities given the budget constraints it has faced since the reduction in 1986-1987.

The BOA has not produced the expected results and is unpredictable, making it difficult to plan ahead regarding staff needs and the programming of other Institute obligations. After five years of implementation, it appears that the missions are not fully utilizing this mechanism. Continued awareness building on behalf of FFGI is still encouraged to increase its level of buy-ins.

VI. CURRENT STATUS OF PROGRAM

A. Staffing Level

In June 1990 the FFGI staff of 18 people included a director, a coordinator, two secretarial persons, five agricultural economists, three engineers, an entomologist, a mycologist, a grain storage specialist, a PHDS coordinator, a market research analyst, and a linguist. Not all of these staff members are financed under the Cooperative Agreement.

At the present time, FFGI has indicated that under normal conditions the present level of professional and administrative staff is sufficient to meet the requirements of both the Cooperative Agreement and delivery orders issued under the BOA. The mix of professional staff is a definite asset to the Institute. Three staff members have been involved with the Institute since its founding in 1967, and several have seven or more years of experience. A few are relatively new. For example, the mycologist, responsible for grain properties and fungi in stored grain, was hired since the last evaluation.

The five-year activity was planned on the basis of AID support of 152.4 person-months per year, but was later reduced due to funding reductions. For FY 1988--FY 1990 annually 91 person months were programmed in the work plan, which represents a reduction of approximately 40 percent. However, the actual person months performed during this time averaged over 108 for each of the three years.

Any reduction of the present staff will substantially alter the scope and objectives of the Cooperative Agreement. Since only three of the professional staff have tenure, a great deal of apprehension exists among the others as to their future.

B. Actual Compared to Planned Inputs and Outputs

Table 8 (Appendix I) compares the actual input of FFGI staff time with budgeted time inputs for the Cooperative Agreement FY 1986 to FY 1990. It can be seen from these figures that FFGI has consistently exceeded its budgeted targets for staff time spent on activities funded by the Cooperative Agreement. While time devoted to individual categories has varied slightly from anticipated targets, the total effort put forth by FFGI staff members is well above the required level.

Table 9 (Appendix I) presents a comparison of the projected outputs of the project, the magnitude of expected outputs, and the current status of outputs to date. Once again, FFGI efforts have produced results ahead of schedule according to the outputs budgeted for the life of the project. After approximately four and one-half years of the five-year contract, FFGI has completed

target outputs as follows: 214 percent of the research projects, 173 percent of graduate student dissertations, 95 percent of research publications disseminated, 400 percent of research results demonstrated, 258 percent of the increase in PHDS acquisitions, 475 percent of the increase in PHDS clients, 208 percent of the increase in annual requests for PHDS services, 100 percent of the GSMSC, 173 percent of academic training of graduate students, and 33 percent of networking activities. The areas in which FFGI has fallen short of its goals indicated in the Cooperative Agreement are in the research publications disseminated and networking. FFGI recently began a new form of documentation service called "Documents by Mail." This service has been in operation for only two months and the demand has increased three to four times according to the PHDS coordinator. It is expected that this service will increase significantly during the last seven months of the contract.

C. Matching Funds

The present status of KSU matching funds, \$1,004,584 spent as of March 31, 1990, represents 88 percent of the total budget cost-sharing expenditures under the Cooperative Agreement, Table 10 (Appendix I). The distribution of these KSU expenditures, as of March 31, are as follows:

Salaries, including fringe benefits	60%
Travel and allowances	5%
Supplies/other cost	1%
Equipment	10%
Overhead	<u>24%</u>
	100%

The physical plant, such as office space for all FFGI staff, International Grains Program laboratories, classrooms and the Kimball Avenue research laboratory, are not included in the matching funds. These physical facilities offer a unique asset to the Institute, which allows course participants hands-on experience related to grain storage practice. The benefits of these facilities would be hard to replicate in another setting.

D. Additional Sources of Funding

FFGI has been very active in identifying additional sources of funding other than S&T support. From 1986 to 1990 FFGI has managed to achieve a leverage position of 2.8 dollars to every dollar allocated by AID/S&T to the project. Some examples of alternative sources of funding are: OICD, World Bank, Mission Buy-ins, CARE, Food for Peace, and the private sector. The following is a summary of the categories of funding. More details are in Table 6 (Appendix I).

Contracts Awarded on Bid to RFP	Sole Source Contracts & POs	BOAs	CA
\$4,569,920	\$757,127	\$627,974	\$2,105,761

It is evident that without S&T funding to support the FFGI core staff, it would be highly unlikely that the Institute would have attracted the level of funding indicated above. This is a critical point to consider in any deliberation on AID's level of support to FFGI.

In addition, at a recent Mid-America International Agricultural Consortium (MIAC) meeting held May 3, 1990, a program of action was agreed upon, which included the development of new linkages with more donors, PVOs, and NGOs. Although FFGI was not explicitly mentioned as a possible recipient of additional avenues of funding, the Institute would have an opportunity for consideration since Kansas State University is a member of MIAC.

E. Funding Levels in Terms of Project Effectiveness

One of the main objectives of AID's continuing support of FFGI is to maintain a core of expertise in postharvest grain storage and marketing systems and direct this unique capability toward research, technology transfer, training and networking for the benefit of LDCs. In regard to the cost effectiveness of FFGI activities, there exists no comparable institution in terms of purpose, scope of activities, and services for making a comparison. There are many different resources being allocated to the FFGI's effort from both AID and KSU. For example, KSU has recently completed a university-wide strategic plan which recognizes international activities as a major emphasis of the University, Appendix II. Furthermore, this review is being made seven months before the Cooperative Agreement terminates. Many budget allocations and targeted outputs are in the process of being completed. Finally, any discussion of cost effectiveness should recognize the contribution of FFGI's experienced and dedicated staff in terms of expertise, cross cultural dynamics capabilities, commitment to development issues, and time put into their activities. However, there are several areas of concern in terms of funding levels being provided as related to cost effectiveness.

1. Graduate student research input

The input of graduate students funded under the Cooperative Agreement was one of the ingredients for achieving the goals of FFGI. However, during the past four years there has been no graduate student funding from the CA. Most of the Institute's staff are not directly linked into graduate research

activities since only three FFGI staff are tenured and have official appointments as graduate faculty. Other staff may periodically provide input to a few graduate student programs through the tenured faculty but this does not fully utilize the expertise and experience of FFGI staff. A formal mechanism for linking all professional FFGI staff to graduate student research could increase FFGI's cost effectiveness.

2. Clerical support staff overload

Clerical staff overload during peak periods causes delays in publication output which constrains technology transfer with regards to the dissemination of materials, networking, and training activities. FFGI staff indicated that the overload is primarily related to the changing mode of operations of FFGI during the life of the Cooperative Agreement. Initially, when the Institute was supported primarily by S&T funds, the administrative and reporting tasks were quite simple. The expansion of non-CA projects has created more reporting to institutions, travel arrangements, and accounting activities. When overloads occur due to non-CA project activities, technical staff are asked to do administrative and some clerical work which affects their time-management schedules for research and other technical activities. If such project activities continue to expand, a full-time project administrator may need to be hired to deal with non-CA projects. AID should monitor this situation closely.

3. Technology transfer

The original budget of the Cooperative Agreement allocated 29 percent of the total budget to research and 40 percent to technology transfer. During the period FY 1987 to FY 1990, the average expenditures for these activities have been 39 percent for research and 26 percent for technology transfer. This is a complete reverse in priorities indicating the relative importance FFGI gives to research. It appears this growing "gap" between research and technology transfer has had a negative impact on the ability of FFGI to disseminate and demonstrate research to LDCs and provide technology transfer related to problem-solving activities and networking. It should be noted that with budget cuts technology transfer activities could be easily compared to long-term research activities.

4. Continuity of Activities

As indicated previously, FFGI operates almost exclusively in a re-active mode, responding to mission requests under the CA/BOA and increasingly to purchase orders and sole source funding contracts. This extension characteristic of the Institute leaves staff, especially those without tenure, little time for research and programming of activities. This re-active

mode could affect the uniqueness of FFGI's operation and could cause it to become a consulting firm in disguise. The only group of staff members who have an action plan which indicates short and long-term goals and one-year output targets, including a review process, is the agricultural economics marketing group. Development of an action plan for the Institute would help it target institutions and develop integrated strategies among activities and allocate time to develop cutting-edge grain storage and marketing research related to both technical and policy matters. For instance, there has been an increasing demand to assist countries as they "privatize" to develop policies and technical capabilities in grain systems. Future initiatives should address this issue. If FFGI is to be effective, it not only has to respond to immediate needs but also must anticipate major problem areas and assist LDCs in addressing them. There should be a balance between the re-active and pro-active modes of operation.

5. Postharvest Documentation Service

The change to the new "Document by Mail" system has tremendously increased the request for documents. The ability of PHDS to respond to this increased demand should be monitored carefully. Such a system may cost more, demanding that resources be shifted from other activities of the Institute. The strategy of strengthening existing regional documentation centers in LDCs appears to be appropriate but could change the network structure for PHDS from individual contacts to primarily institutional contacts, which could affect the cost effectiveness. The effort to strengthen EAP in Honduras is a good approach. FFGI needs to explore other linkages to become more cost effective. For example, in the area of policy analysis and documentation service, FAO, IICA, and other specialized centers should be considered not as competitors but as allies in this initiative.

6. Networking

No clear strategy has existed for targeting key institutions during the past four or five years except for GASGA. Although networking accounts for relatively small amounts of funds, it is not definite how much time is allocated to this activity since the concept is not clearly defined. FFGI would probably increase its impact if a strategy were developed to target key institutions, EAP/Honduras could again be cited. It is almost impossible to determine the cost effectiveness of this activity.

7. Multiplier effect

The reputation and visibility of FFGI has helped in generating other contracts to supplement the Cooperative Agreement at almost a three to one ratio, Table 6 (Appendix I).

The non-CA projects have had a multiplying effect on FFGI's output, which should be considered in attempting to evaluate cost effectiveness.

F. Constraints to Implementing Program Activities.

The major constraint to the provision of additional and improved services by FFGI continues to be the limited budget support for core activities. The S&T funding is not only absolutely essential to the preservation of a critical mass of professional expertise but also provides the basis for the generation of other assets and obligations, such as technical assistance paid from mission buy-ins, and generation of graduate students from course participants. The ultimate goal will be the institutionalization of selected in-country national and regional activities, e.g., Zamorano, Pakistan, Belize, Guinea-Bissau.

The BOA instrument of the Cooperative Agreement has not met the expectations of FFGI or AID staff. The BOA concept is considered useful but less responsive in a short-term frame than PO's or sole source contracts for achieving quick response to USAID missions' needs. Purchase orders and non-bidding sole source contracts directly with FFGI are viewed as having greater short-run impact. It should be noted that buy-ins are not a substitute for obligated core funding--core funding creates the required base for generating buy-ins. However, there is no incentive to do so at the present time.

The procedures by which USAID missions request assistance and various governmental agencies generate agreements and contracts does not promote an easy linkage of projects among private contractors, institutes, universities, etc. Although some informal linkages occur as project managers become aware of potential linkages, there is a need for a more formal procedure that would encourage the development of mutually beneficial coordination of S&T projects.

FFGI has continued to do an excellent job of retaining an experienced, high quality staff with a good mix of expertise. There has been additional staff acquisitions during the past two years; however, these new professionals and others who have been with FFGI for several years are not tenured nor are they on a tenure track. Therefore, they cannot be appointed to the graduate faculty which limits their supervision of graduate students' research. Research on priority problems identified in LDCs is critical to the activities of the Institute; however, there was not always clear evidence to validate a match up of research with problems.

With the increase in demand for policy analysis services, FFGI is attempting to develop analytical approaches that can be applied to most countries. Initiatives in Costa Rica, Pakistan,

and Guinea Bissau have resulted in real-problem issues and documents for implementing successful food policy programs and action plans. One important document dealing with the profitable utilization of grain post-harvest technology uses a technical/marketing approach that links policy level constraints that tend to limit technology adaptation. Important documents like this are being delayed in their publication due to limited resources and the demand for technical assistance services of some staff members.

The expectation of the termination of S&T AID support is causing concerns and major uncertainty for some of the non-tenured staff. This situation is not healthy for the smooth running of the Institute. The Director and Coordinator of the Institute have told the staff they should start considering other options between now and February 15, 1991. The delay of AID's decision about the continuation of funding for this project can only cause further apprehension. If the team breaks up for only six months, it may be very difficult to bring them together again. Perhaps the most important characteristics of the FFGI beside their professional assets, is their loyalty, dedication and spirit of cooperation with the developing world.

VII. RECOMMENDATIONS

AID has played a decisive role in creating a unique center of expertise at the Food and Feed Grain Institute (FFGI). During the past five years it has met most of its targeted outputs. In looking at the future, any recommendations regarding the Institute will be conditioned by the fact that the present Cooperative Agreement terminates on February 15, 1991. With continued S&T core funding, FFGI would be in the best position to assist LDCs, AID missions and other S&T projects as well as generate additional sources of funding. With future cuts in funding, the Institute could lose its uniqueness and mix of professionals, which may have serious impact on its performance. Without S&T funds, FFGI/KSU would still have a residual of technical expertise to response to grain storage and marketing programs abroad, but at a minimal level. With this in mind, the recommendations of the review team are as follows:

1. USAID/S&T should continue to provide a funding base for FFGI and the decision to do so should be made as soon as possible. Two options are suggested, with the first receiving the highest priority:

a. Fund FFGI/KSU under a new cooperative agreement, but requiring the Institute to develop a strategic plan and procedures leading toward institutionalization of FFGI by the end of the cooperative agreement period (four to five years).

b. If funding at KSU is to be eliminated, extend the current agreement to allow an orderly phase out of FFGI.

2. Technology transfer activities should be given a higher priority to improve FFGI's performance in dissemination of its research and technical support services in USAID future funding levels.

3. The annual FFGI Grain Storage and Marketing Short Course should be institutionalized abroad in LDCs.

4. KSU/ FFGI should develop a mechanism for non-tenured staff to formally participate in research and training of graduate students, for example, guest lectures, seminars, supervision of graduate research through tenured professors, etc.

5. Target PHDS data management activities and FFGI networking activities to priority institutions that have regional outreach functions and the capability of sustaining on going efforts related to grain postharvest activities.

6. The FFGI director and coordinator and USAID/S&T project officers should continue exchange of information and be alert for potential linkages among new USAID projects. AID should take the

initiative with joint KSU/FFGI participation, starting with annual meetings to discuss general planning and specific work plans.

7. Link FFGI in-country short courses to on-going projects. Specific short courses in themselves are not likely to have an impact. With increased buy-ins, courses should be linked with project initiatives that have sufficient resources to make an impact and should emphasize training of trainers.

APPENDIX I

Table 1. Allocation of FFGI Staff Members' Time in Person-Days to the Cooperative Agreement, Basic Ordering Agreement, and Other Contracts for Each Activity.

<u>ACTIVITY</u>	<u>CA</u>	<u>BOA</u>	<u>Other</u>	<u>Total</u>
<u>Research</u>				
FY 1990	462.0	N/A	N/A	N/A
FY 1989	895.0	0	83.5	978.5
FY 1888	519.5	0	324.0	843.5
FY 1987	593.5	0	343.5	937.0
FY 1896	507.0	0	588.5	1095.5
<u>Technology Transfer</u>				
FY 1990	725.5	227.5	N/A	N/A
FY 1989	996.0	0	670.5	1666.5
FY 1888	660.5	355.5	473.5	1489.5
FY 1987	770.5	98.0	672.5	1667.0
FY 1986	396.5	0	843.5	1240.0
<u>Training In-Country</u>				
FY 1990	0	N/A	N/A	N/A
FY 1989	0	0	262.0	262.0
FY 1888	0	2.0	116.0	118.0
FY 1987	27.0	21.5	41.0	89.5
FY 1986	8.5	78.5	135.5	222.5
<u>Training On-Campus</u>				
FY 1990	342.5	N/A	N/A	N/A
FY 1989	698.5	0	61.5	760.0
FY 1888	361.0	0	67.0	428.0
FY 1987	404.0	0	30.0	434.0
FY 1986	232.5	0	232.0	464.5
<u>Net-Working</u>				
FY 1990	19.0	0	N/A	N/A
FY 1989	53.0	0	0	53.0
FY 1888	40.0	0	0	40.0
FY 1987	25.5	0	0	25.5
FY 1986	62.5	0	59.5	121.5
<u>Administration Support</u>				
FY 1990	416.0	N/A	N/A	N/A
FY 1989	389.0	0	365.0	754.0
FY 1888	427.5	0	323.0	750.5
FY 1987	267.0	0	295.0	562.0
FY 1986	243.0	0	587.5	830.5

Source: Annual Reports

N/A = Not available at the time of the evaluation

continuation of Table 1 .

<u>SUMMARY</u>	<u>FY 1990</u>	<u>FY 1989</u>	<u>FY 1988</u>	<u>FY 1987</u>	<u>FY1986</u>
	<u>Person-Days</u>				
CA	1965.0	3031.5	2008.5	2087.5	1449.5
BOA	N/A	0.0	357.5	119.5	78.5
Other	N/A	1443.0	1303.5	1508.0	2446.5
Total	N/A	4474.5	3669.5	3715.0	3974.5

Percent of All Activities Total

CA	N/A	67.8	54.7	56.2	36.5
BOA	N/A	0.0	9.7	3.2	2.0
Other	N/A	32.2	35.6	40.6	61.5

Note: FY 1990 CA person days through May 31, 1990

Table 2. Publications Prepared by FFGI Staff.

	<u>Reports</u>				
	<u>Technical Assistance</u>	<u>Research</u>	<u>Special</u>	<u>Working Papers</u>	<u>Other</u>
FY 1990	6	4	9	1	19
FY 1989	0	2	2	2	22
FY 1988	3	1	2	0	4
FY 1987	6	0	2	0	4

Table 3. Number of Acquisitions, Clients, and Requests for Information of the PHDS at KSU During FY 1987--FY 1990.

<u>Service</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>
Acquisitions				
Annual	785	4,207	2,625	1,751
Cumulative	9,875	14,082	16,707	18,458
Clients				
Annual	144	438	-5	77
Cumulative	829	1,267	1,262	1,339
Requests				
Annual	2,947	4,562	2,826	2,115
Cumulative	26,883	31,445	34,271	36,386

Table 4. Targeted and Actual Growth in Numbers of Acquisitions, Clients, and Requests for Information of the PHDS from FY 1986 to FY 1990.

<u>Service</u>	<u>FY 1986</u>	<u>FY 1990</u>	<u>Target Growth</u>	<u>Actual Growth</u>
Acquisitions	9,090	18,458	+3,636 (40%)	+9,368 (103%)
Clients	685	1,339	+137 (20%)	+654 (95%)
Requests	23,936	36,386	+5,984 (25%)	+12,450 (52%)

Table 5. Annual FFGI Cooperative Agreement Expense (%) by Activity.

<u>Activity</u>	<u>Original Budget</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90¹</u>	<u>Average FY 87-90</u>
				<u>Percent</u>		
Research	29	36	37	39	44	39.0
Tech. Trans.	39.5	31	23	24	26	26.0
Training	15	17	19	23	16	18.6
Networking	5	5	2	2	0 ²	2.3
Administration	11	11	19	12	14	14.0
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100.0</u>

¹As of May 31, 1990.

²Two-tenths of one percent.

Annual FFGI Cooperative Agreement Expense (\$) by Activity.

<u>Activity</u>	<u>FY 1986¹</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990²</u>
			<u>Dollars</u>		
Research	65,020	148,666	162,875	234,633	175,087
Tech. Trans.	81,616	129,073	101,384	148,165	105,031
Training:					
In-country	2,175	1,938	-0-	-0-	-0-
On-Campus	32,035	68,658	85,673	137,454	66,296
Networking	15,988	18,691	9,057	12,504	732
Adm. Support	42,439	48,616	83,712	74,292	53,954
	<u>239,272</u>	<u>415,641</u>	<u>442,701</u>	<u>607,047</u>	<u>401,100</u>

¹This period is from February 15 to June 30, 1986.

²As of May 31, 1990.

INFORMATION FOR AID/WASHINGTON
BUYINS AND CONTRACTS
(Federal Fiscal Year)

28

	Country	\$ Amount
BUYINS (Purchase Orders, BOA Contracts, Sole Source Mission Contracts)		
<u>FY90</u>		
Basic Ordering Agreement DAN-4144-B-00-6002-00		
Delivery Order 6	Guinea Bissau	80,278
Delivery Order 7	USA	42,500
OICD Contract (APASC)	USA	28,151
GSMSC	USA	95,200
Guinea Bissau Contract	Guinea Bissau	43,679
Flour Millers Trg/PPTP	USA (Pakistan)	17,590
CARE PO	Dominican Republic	2,303
Haiti PO	Haiti	12,816
GSMGTSC/PPTP PO	USA (Pakistan)	34,000
Haiti PO	Haiti	3,987
		360,504
<u>FY89</u>		
APASC	USA	14,140
GSMSC	USA	102,300
S&T/AGR PO	USA	8,266
Plan Asst PO	Guatemala	3,057
FFP PO	Haiti	15,000
Ecuador PO	Ecuador	8,184
OICD Contract (APASC)	USA	3,000
World Bank PO	Egypt	8,043
World Bank PO	Egypt	10,731
		172,721
<u>FY88</u>		
GSMSC	USA	108,500
World Bank PO	Egypt	11,468
Price-Waterhouse/AMP Subcontract	Kenya	12,396
		132,364
<u>FY87</u>		
Basic Ordering Agreement DAN-4144-B-00-6002-00		
Delivery Order 2	Panama	67,732
3	Belize	40,000
4	Sudan	203,420
5	Costa Rica	90,961
Belize PO	Belize	21,300
Honduras PO	Honduras	10,000
Guinea-Bissau/OICD PO	Guinea Bissau	9,918
OICD Contract (GSMSC)	USA	43,478
		486,809

FY86

Cooperative Agreement DAN-4144-A-00-5095-00		
Modification 1	Belize	70,959 ²⁹
Basic Ordering Agreement DAN-4144-B-00-6002-00		
Delivery Order 1	Chad	32,124
OICD Contract (GSMSC)	USA	36,543
Costa Rica PO (CNP)	Costa Rica	20,961
Costa Rica PO (GIGRAS)	Costa Rica	24,116
Bolivia Contract	Bolivia	<u>48,000</u>
		196,160

FY85

Cooperative Agreement DSAN-CA-0256		
Modification 22	Ecuador	31,326
Modification 21	Honduras	14,351
	Senegal	9,034
	Peru	<u>10,489</u>
		65,150

FY84

Cooperative Agreement DSAN-CA-0256		
Modification 20	Peru	3,979
Modification 19	Sudan	20,970
Modification 18	Peru	19,541
Modification 17	Uganda	6,967
Modification 16	Guatemala	9,912
Modification 15	Haiti	<u>2,450</u>
		63,819

CONTRACTS (Awarded on Bid to RFP)

FY90

Modification 5 to Pakistan Contract	373,000
Modification 4 to Pakistan Contract	566,651

FY89

Belize Contract	611,282
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FY87

Modification 1 to Pakistan Contract	382,537
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FY86

Pakistan Contract	2,636,450
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As of June 28, 1990.

Table 7. Basic Ordering Agreement Output Performance²

<u>Activity</u>	<u>Magnitude of Outputs per Contractual Agreement</u>	<u>Current Outputs</u>
RESEARCH		
Collaboration with LDC research agencies in development of cost-effective technologies	3	1
TECHNOLOGY TRANSFER		
Research results demonstrated to LDC	2	0
Training manuals developed and disseminated	5	3
Problem-solving assistance	50	6
TRAINING		
In-country and KSU short-courses, workshops, seminars	10	1
Short-term in-country and/or KSU training of trainers courses	5	0
Short-term training courses for decision-makers	2	0
In-service and on-the-job training at the operational level for public/private operational level personnel	2	0
Total	<u>79</u>	<u>11</u>

²See Table 1, Projected Outputs and Current Status of Outputs, FFGI Annual Report, 1990, for a detailed exposition of output performance.

TABLE 8

BUDGETED VERSUS ACTUAL TIME INPUTS

Person-Months

31

	FY 1986*		FY 1987		FY 1988		FY 1989		FY 1990**		Total	
	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>
Research	12.8	26.4	15.6	30.9	15.6	27.1	15.6	46.7	15.6	24.1	75.2	128.1
Technology Transfer	20.5	20.7	30.6	40.2	30.6	34.5	30.6	52.0	30.6	37.9	142.9	185.3
Training	17.9	12.6	26.8	22.5	26.8	18.8	26.8	36.4	26.8	17.9	125.1	108.3
Networking	1.7	3.2	3.0	1.3	3.0	2.1	3.0	2.8	3.0	1.0	13.7	10.4
Admin.	<u>8.3</u>	<u>12.7</u>	<u>15.0</u>	<u>13.9</u>	<u>15.0</u>	<u>22.3</u>	<u>15.0</u>	<u>20.3</u>	<u>15.0</u>	<u>21.7</u>	<u>68.3</u>	<u>90.9</u>
Total	61.2	75.6	91.0	108.8	91.0	104.8	91.0	158.2	91.0	102.6	425.2	523.0

*The Cooperative Agreement did not initiate activities until February 15, 1986.

**As of May 31, 1990.

Table 9. Projected Outputs of FFGI Under the Cooperative Agreement and Current Status of Outputs.

<u>Projected Outputs</u>	<u>Magnitude of Outputs</u>	<u>Current Outputs¹</u>
<u>Research</u>		
	<u>Life Of Project (LOP)</u>	
Methodologies for non-fossil fuel grain drying	1	1
Methodologies for handling, storage, and processing	5	5
Quality preservation methods	4	12
Marketing systems, policies, price, and food security programs	4	12
LDC graduate students at KSU	10 to 15 MS & PhD thesis completed	26
<u>Technology Transfer</u>		
Research findings disseminated in publications & instructional manuals	20	19
Research results demonstrated	3	12
Increased capacity of PHDS	Acquisitions +40% Clinets +20% Annual Requests 25%	+103% +95% +52%
<u>Training</u>		
Annual GSMSC with 35 participants	5	5
Academic graduate students	10 to 15 MS & PhD thesis completed	26
<u>Networking</u>		
Continue as active member GASGA	Active participation in GASGA activities	1
Linkages with international and regional institutions, IICA, IRRI, CIMMYT, ICARDA, etc	One new linkage	0
Collaborative research, technology transfer, or training linkages with institutions and new linkages with CEGRAS, CNP, IMA, etc	One new linkage	0

¹As of May 31, 1990

TABLE 10

**COST SHARING EXPENDITURES
COOPERATIVE AGREEMENT**

	Budget 2-15-86 to 2-15-91	Prior Expenditures	FY 1990		Total Expenditures To Date
			This Period 3-31-90	To Date 3-31-90	
Salaries including Fringe Benefits	699,613.00	511,679.29	52,780.93	91,618.24	603,297.53
Travel and Allowances (4-60245)	46,624.00	36,339.24	7,228.05	10,491.62	46,830.86
Supplies/Other Costs (4-60245)	7,200.00	5,605.12	1,772.43	3,803.13	9,408.25
Equipment/Supplies (4-60245)	123,120.00	83,243.04	305.50	18,231.34	101,474.38
Overhead	<u>259,564.00</u>	<u>202,796.61</u>	<u>23,785.84</u>	<u>40,776.50</u>	<u>243,573.11</u>
TOTAL	1,136,121.00	839,663.30	85,872.75	164,920.83	1,004,584.13

APPENDIX 11

POSITIONS OF PARTICIPANTS IN THE 1990 GRAIN STORAGE AND MARKETING
SHORT COURSE AT KSUPosition, Country, Education, and Years of Experience

Warehouse Manager, Belize, High School, 22
 Asst. Branch Mgr. Marketing Board, High School, 7
 Director of Grain Storage Plant, China, N/A, N/A
 Deputy Dir. of Grain Storage Facility, China, N/A, N/A
 Head, Quality Control Dept., Rep.Cap.Vert, Engineer, 11
 Dir., Socio-Economic Studies Center, Guinea-Bissau, B.A., N/A
 Trainer/Coordinator of Postharvest Training, Guatemala, Agron, 1
 PH Monitoring/Evaluation Specialist, Guatemala, Agronomist, 5
 Professor of Agronomy, Honduras, Agronomist, N/A
 Marketing Manager, Kenya, B.A., 1
 Deputy Manager, Grain Storage Operations, Mexico, B.A., 5
 Deputy Manager of Western Region/Grain, Mexico, Accountant, 8
 Commercial Analyst, Mexico, M.S. 1
 Entomologist, Chief of Study Section, Morocco, B.S., 7
 Engineer, Morocco, N/A, N/A
 Grain Storage Specialist, Paraguay, Agronomist, 4
 Marketing Technician, Paraguay, Agronomist, 6
 Grain Technician, Paraguay, Agronomist, 1
 Asst. Scientific Officer--Pest Control, Pakistan, M.S., 2
 Grain Storage--National Level, Pakistan, M.A., 6
 Senior Scientific Officer, Pakistan, M.S., 2
 Asst. Scientific Officer, Pakistan, M.S., 6
 Junior Trader/Grain Exports, Poland, M.A., 5
 Trader/Grain Imports, Poland, M.A., 3
 Director, Market Supply, Tunisia, Agronomist, 1
 Director, Tunisia, Diploma, 4
 Commercial Officer, Yugoslavia, M.A., 9
 Senior Grains Quality Control Officer, Zambia, N/A, 16

EMPLOYMENT OF LDC STUDENTS FOLLOWING GRADUATION FROM KSU

<u>Name</u>	<u>Country</u>	<u>Degree</u>	<u>Employment</u>
<u>FY 1990</u>			
N. Ullah	Pakistan	Ph.D	Pest Management Research Institute, Karachi, Pakistan
L. Pinel	Honduras	M.S.	Faculty Member, Escuela Agricola Panamericana, Zamorano, Honduras
H. Ben Hamza	Tunisia	M.S.	Plans to pursue further graduate study
A. Song	China	Ph.D.	Agr.Engg.Dept, Univ. of Ill., Urbana, IL
Y. Wang	China	M.S.	(unable to obtain previous background)
A. Hamid	Pakistan	M.S.	Punjab Province Dept. of Irrigation
<u>FY 1989</u>			
P. Guritno	Indonesia	M.S.	Ph.D. grad. program, Grain Science, KSU
E. Arce-Diaz	Costa Rica	M.S.	Ph.D. grad. program in Agr. Econ., KSU
M. Kerpisci	Turkey	M.S.	Returned to Turkey; position unknown
A. Itto	Sudan	Ph.D.	Faculty, Univ. of Jubba, Sudan
F. Flores	Costa Rica	Ph.D.	Grain Storage and Processing Management, FFGI, KSU
F. Mejia	Dominican Rep.	M.S.	Dominican Rep. Quality Control Laboratory
<u>FY 1988</u>			
V. Eusebio	Philippines	Ph.D.	Dept. of Transportation, State of Kansas
B. Kanjuso	Indonesia	Ph.D.	Prof., Chemical Engg. Dept., Gaja Mada Univ., Jakarta, Indonesia
C. Benavides	Costa Rica	M.S.	Chief, Engg. Div., Consejo Nacional de Produccion, San Jose, Costa Rica
R. Urrelo	Peru	Ph.D.	Prof., Universidad Nacional Agraria de la Selva, Tingo Maria, Peru

A.Arrevillagas Venezuela

M.S.

**Returned to Venezuela,
position unknown**

Networking Activities

1) Asian Institute of Technology - AIT (Thailand)

Remote access via BITNET was established in 1989. Primary use of the communications network has been electronic mail for requests from AIT and rapid file transfer of computer search results from PHDS. Investigations are underway on the feasibility of on-line searching by AIT.

2) Postharvest Institute for Perishables - PIP (USA)

Use of BITNET for electronic mail and file transfer has been substantial since 1989.

3) ASEAN Postharvest Exchange Network - APEX (Malaysia)

The possibility of combining APEX, PHDS, and PIP data records on a common medium for microcomputers is being investigated. Production of a CD-ROM version of the combined databases was estimated at close to \$30,000 by one vendor, not including costs for local data cleanup and standardization.

4) Escuela Agricola Panamericana - EAP (Honduras)

A proposal has been drafted for technical assistance to EAP's library, involving transfer of PHDS and PIP data records to their microcomputer. Pending USAID Mission support, a collection of Honduran postharvest documentation would be established at EAP, whose records would be transferred to the other databases in exchange for updates of their own records.

*** PHDS DOCUMENT ORDER FORM ***

Name _____
 Institution _____
 Address _____
 City _____ Country _____

Circle either the "P" (paper) or "F"(fiche) next to the order number for the documents that you wish to receive:

18076 P F	18025 P F	18210 P F	18888 P F	18632 P F
18102 P F	18075 P F	18294 P F	18061 P F	18019 P F
18113 P F	18081 P F	17536 P F	18030 P F	18029 P F
18368 P F	18101 P F	17244 P F	18140 P F	18062 P F
18357 P F	18359 P F	17424 P F	18603 P F	18096 P F
18020 P F	18618 P F	18904 P F	18066 P F	18052 P F
18226 P F	18629 P F	18661 P F	17555 P F	18018 P F
18682 P F	18089 P F	18174 P F	18008 P F	18032 P F
18268 P F	18218 P F	18349 P F	18011 P F	18133 P F
18249 P F	18353 P F	18566 P F	18641 P F	18170 P F
17937 P F	18652 P F	18323 P F	18042 P F	18279 P F
17941 P F	18177 P F	18106 P F	18227 P F	18337 P F
18021 P F	18362 P F	18573 P F	18287 P F	18137 P F
18026 P F	18668 P F	18612 P F	18119 P F	18260 P F
18037 P F	18308 P F	18298 P F	18111 P F	18342 P F
18180 P F	18063 P F	18611 P F	18147 P F	18577 P F
18219 P F	18197 P F	18644 P F	18243 P F	/ / /

Please Cut Along Dotted Line For Second Order Form

*** PHDS DOCUMENT ORDER FORM ***

Name _____
 Institution _____
 Address _____
 City _____ Country _____

Circle either the "P" (paper) or "F"(fiche) next to the order number for the documents that you wish to receive:

18076 P F	18025 P F	18210 P F	18888 P F	18632 P F
18102 P F	18075 P F	18294 P F	18061 P F	18019 P F
18113 P F	18081 P F	17536 P F	18030 P F	18029 P F
18368 P F	18101 P F	17244 P F	18140 P F	18062 P F
18357 P F	18359 P F	17424 P F	18603 P F	18096 P F
18020 P F	18618 P F	18904 P F	18066 P F	18052 P F
18226 P F	18629 P F	18661 P F	17555 P F	18018 P F
18682 P F	18089 P F	18174 P F	18008 P F	18032 P F
18268 P F	18218 P F	18349 P F	18011 P F	18133 P F
18249 P F	18353 P F	18566 P F	18641 P F	18170 P F
17937 P F	18652 P F	18323 P F	18042 P F	18279 P F
17941 P F	18177 P F	18106 P F	18227 P F	18337 P F
18021 P F	18362 P F	18573 P F	18287 P F	18137 P F
18026 P F	18668 P F	18612 P F	18119 P F	18260 P F
18037 P F	18308 P F	18298 P F	18111 P F	18342 P F
18180 P F	18063 P F	18611 P F	18147 P F	18577 P F
18219 P F	18197 P F	18644 P F	18243 P F	/ / /



Food and Feed Grains Institute

Shellenberger Hall
Manhattan, Kansas 66506
913-532-6161
TWX 5106000752
FAX: 913-532-7010

June 18, 1990

TO:

FROM:

SUBJECT: Postharvest Grain Systems Research and Development US/AID Project No. 936-4144 (Cooperative Agreement DAN-4144-A-00-5095-00 of the Food and Feed Grains Institute (FFGI) at Kansas State University

As part of a review of the above named project the following information is urgently requested:

1. How effective and/or appropriate has FFGI technical support been in improving postharvest grain drying, handling, storage, reduction of losses, processing, and marketing in the country?
2. How effective have the FFGI postharvest documentation service (PHDS) and technical transfer activities been in the country? Is the information being used? How often and by whom?
3. What are the positions of personnel trained by the FFGI Project during the past three years and are these people having an impact in the country?
4. How has the FFGI Project helped strengthen the country's institutions and staff related to postharvest systems?

Your name: _____
 Address: _____

 Position: _____
 Organization: _____
 Your major duties/responsibilities: _____

POSITIONS OF PREVIOUS TRAINEES IN LDC'S
(Representative examples)

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Many short as well as long-term training has appeared to be effective in preparing technical, managerial and academic personnel for implementing programs and projects with the goal of reducing post harvest losses in their respective countries. Some examples are the following:

Belize: (Mr. Bardales and Mr. Foreman). Both participated in the 1988 Grain Storage and Marketing Short Course. Both are employees of the Belize Marketing Board which has the only commercial rice mill in the country. Foreman is a rice mill operator at the Toledo mill.

Honduras: (Mr. Arturo Pinel). Attended the Grain Storage and Science Marketing Short Course, then earned a Masters Degree in Grain related to postharvest. Returned to Zamorano, Honduras to take the place of Mr. Espinal, who had earned a similar Masters before. Mr Espinal is returning to KSU this fall to work towards a Ph.D. Once Mr. Espinal returns to Zamorano, Mr. Pinel will come back to KSU and get his Ph.D. It is anticipated that these two persons will contribute much to the future leadership of the International Seed and Grain Postharvest Research Center at Zamorano. Also, this long-term educational and institutional building process will provide benefit to the Central American region.

Honduras: (Mr. D'estephen) Participated in the GSMSC in 1988 and is presently working as an agricultural technician with the agricultural credit unit of the Central Bank of Honduras.

Venezuela: (Mr. Arrevillagas). Attended the Grain Storage and Marketing Short Course at KSU. Earned a Masters Degree Agricultural Engineering related to grain postharvest. Returned to his University in San Carlos, Venezuela. Proceed to enhance the agricultural engineering curriculum to include postharvest aspects of grain handling, storage, and processing.

Ecuador: (Mr. Sampedro). Participated in the Grain Storage and Marketing Short Course. Went back to work for the marketing board in Ecuador (ENAC). Became an independent consultant establishing his own firm. In 1989, he completed an important analysis and costing out for IDEA and FFGI three alternatives for the food security reserves program proposed by the Vice President of Ecuador.

Peru: (Mr. Pinella). Participated in the GSMSC at KSU. Returned to his University of Tingo Maria. Finished his Ph.D in Postharvest Entomology. Published 8 refereed articles from his thesis. Returned to Tingo Maria and initiated the grain postharvest research, teaching and extension program--one of the first of its kind in the hot/humid tropics according to FFGI.

China: (Mr. Yufen). A 1988 Grain Storage and Marketing Short Course participant, is serving as Acting Director of the Zhengzhou Grain Science Research and Design Institute. According to the FFGI, Mr. Yufen noted that his Institute offers grain storage design services and is expanding its influence in Africa and in Southwest Asia.

Indonesia: (Mr. Sukardi). Graduate of the 1986 GSMSC, and is currently working as head of the procurement department of his organization.

Colombia: (Mr. Pico). Graduate of the 1988 GSMSC, and is now an agronomist in the quality control division of the marketing board of Colombia (IDEMA).

Colombia: (Mr. Pena). Participated in the 1987 GSMSC at KSU and is now head of Analysis and Quality Control at Almacafe in Bogota. His main responsibility is the supervision of the quality of coffee at the national level.

Pakistan (Mr. Ali Baig). Participated in the 1987 GSMSC, and is presently general field manager of the Pakistan Agricultural Storage and Service Corporation (PASSCO).

Philippines: (Mr. Calpatura). Participated in the GSMSC and is now assistant professor and Chairman of the Department of Postharvest Technology, College of Agriculture, Isabela State University.

Zambia: (Mr. Katumbi). Participated in the 1988 GSMSC, is currently senior marketing officer of MINCOOPS.

Zambia: (Mr. Chilemya). Participated in the 1988 GSMSC, and is now senior stock office, grains Namboard in Zambia.

Chad: (Mr. Djido Ahmat). He was a participant in an in-country short course. He is now chief warehouseman for SECADEV (Catholic Relief and Development), a non-government organization which carries out development activities in rural areas of Chad.

PERSONS CONTACTED DURING THE EVALUATION

KANSAS STATE UNIVERSITY

Professional Staff

Walter Woods, Dean, College of Agriculture
 Charles Deyoe, Director, FFGI, Head Department of Grain
 Science and Industry and Director Inter-
 national Grains Program
 Marc Johnson, Head of Department of Agricultural
 Economics
 Roe Borsdorf, Agricultural Economist/Coordinator, FFGI
 Vernon Larson, Director, International Programs
 Rolando Flores, Grain Storage Management Specialist,
 Department of Agri.Engineering.
 Edrammul Haque, Storage and Processing Engineer, FFGI
 Cornelius Hugo, Agricultural Economist, FFGI
 John Pederson, Grain Storage Specialist, FFGI
 Richard Phillips, Agricultural Economist, FFGI
 Donna Schenck-Hamlin, PHDS Coordinator, FFGI
 Maurice Baalman, Marketing Research Analyst, FFGI
 John Lea, Agricultural Economist, FFGI
 Carl Reed, Grain Storage Specialist
 Khalid Kebatti, Translator, FFGI
 Dionisa Trigo-Stockli, Mycologist, FFGI
 Staff Meeting, FFGI

Grain Storage and Marketing Short-Course Participants at KSU

Carlos Ribeiro, Guinea-Bissau
 Egbert Jacobs, Belize
 Adam Gomez, Belize
 Faustino Reyes, Honduras

USAID/WASHINGTON

David Bathrick, Director, Office of Agriculture, Bureau
 of Science and Technology
 Frank Mertens, Project Officer, S&T/AGR
 Harvey Hortik, Chief, Agr. Production Div., S&T/AGR
 Vincent Cusumano, Chief, Economic Div., S&T/AGR
 Tom Meehen, Project Officer, AMIS Project, S&T/AGR
 Christopher Brown, Project Officer for Policy and Planning,
 S&T/AGR

EVALUATION CONTACTS

Guinea Bissau - Rice & Cashew production, marketing, and policy

USAID Study Assoc.	Ann Williams, USAID Rep Carlos Ribeiro	USAID, Bissau Part. in GSMSC at KSU
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Pakistan - Storage technology, handling, storage policy in wheat with special emphasis in the private sector

USAID	Tom Olsen, Project Officer (Pak national covering desk)	USAID, Islamabad
PASSCO	Maj. Gen. Tariq Nizami	Lahore, Pakistan
PMRI	Sajjjad Ahmed	Part. in GSMSC at KSU
	Mohamed Siraj Khan	Part. in GSMSC at KSU
PMRI	Akhlag Ahmed	Part. in GSMSC at KSU
PMRI	Tariq Mahmood	Part. in GSMSC at KSU

Pakistan Agriculture Storage and Services Corp.	TWX 95244368 PASSCO PK
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Honduras - Networking, training needs assessment in postharvest

EAP	Simon Malo	Zamarono, Honduras
Escuela Agricola de Produccion Box 93 Tegucigalpa HONDURAS		Ph. 504-33-2717 Fax 504-32-3543 TWX 1567 EAP ZAM HO

Guatemala - Food storage and handling training

INCAP	Dr. Roberto Cuevas	Guatemala City, Guatemala
INCAP	Hernan Delgado	Guatemala City, Guatemala
ROCAP	Joe Coblentz	Guatemala City, Guatemala

Instituto Nutricional de Central America y Panama	Ph. 502-723-762
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Optional Contact

USAID/ROCAP	Ph. 502-346-761 Fax 502-345-007
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Haiti - Wheat milling and mill operation

La Minoterie d'Haiti USAID	Mr. Alix Lilavois, Dir. Gen. Mr. Gerald Zarr, MD	Port au Prince, Haiti USAID, Port au Prince
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La Minoterie d'Haiti	Fax 509-1-2-5500
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Ecuador - Grain price stabiliztion, & reserve policy for wheat, rice, and hard corn

IDEA	Dr. David Tchirley	Quito, Ecuador
IDEA	Dr. Hugo Ramos	Quito, Ecuador
USAID	Jack Rosholt, Proj. Officer	USAID, Quito
USAID	Frank Almaguer, MD	USAID, Quito
MOA	Mr. Jalil, Minister of Ag.	Quito, Ecuador

Contact Mr. Rosholt, USAID/Quito for IDEA and MOA contacts

Egypt - Grain storage and fertilizer distribution

World Bank	Amar Sodhi	Nairobi, Kenya (previously Wash. D.C.)
World Bank	Scaduto Mandola	Washington D.C.

Scaduto
The World Bank
1818 H St. N.W.
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Ph. 202-473-2517

Kenya - Review of marketing of National Cereals Board

Price Waterhouse	Melissa Huey-Burns	Washington, D.C.
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Costa Rica - Marketing policy issues with Consejo Nacional de Producción

CNP	Javier Flores Galarza, Dir.	San José, Costa Rica
CNP	Virginia Molina	San José, Costa Rica
CNP	Carlos Benevides	San José, Costa Rica
CNP	Orlando Dorado	San José, Costa Rica
USAID	Frank Heilemann	USAID, San José

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COSTA RICA	

Belize - Commodity price stabilization, rice milling improvements

BMB	Bert Vaughan Manag. Dir.	Belize City, Belize
USAID	Stephen Szadek	USAID, Belize City
BMB	Adam Gomez	Part. in GSMSC at KSU
BMB	Egbert Jacobs	Part. in GSMSC at KSU

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117 N. Front St.
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BELIZE

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Evaluation Statement of Work

- A. Evaluate the effectiveness of the project in improving LDC postharvest grain systems, strengthening LDC institutions and staff, and implementing economically sound and environmentally safe programs with the goal of reducing losses in countries in which the project had major activities.**
- B. Determine the progress of the project since the last evaluation in 1987 and determine the degree to which its recommendations are being addressed.**
- C. Evaluate the effectiveness and appropriateness of the research program and its importance in improving grain storage, processing and marketing in LDCs to preserve nutritional value and minimize postharvest losses. Is the research provided cost efficient?**
- D. Evaluate the effectiveness of the postharvest documentation service (PHDS) and technical transfer to LDCs in terms of: applicability of the PHDS collection; quantity of requests to PHDS; nature of responses to requests; and adaptation and testing of PHDS technology for appropriateness in LDCs.**
- E. Evaluate the training programs (short and long term degree and non-degree) of the project. What are the positions of previous trainees in LDCs and do they have an impact in their country?**
- F. Determine the value of the networking activity of the project which KSU established with LDCs, IARCs, other international organizations, the U.S. and other countries.**
- G. Evaluate the problem solving services such as quality of project designs, evaluations, studies that the project conducted to missions through the BOA. Do missions effectively utilize the BOA?**
- H. Evaluate the staffing level of the project. Is the staffing level sufficient to perform all project matters, including BOA requests, in a timely matter? Make recommendations to overcome short-term peak personnel requirements.**
- I. Assess the achievement of present outputs of the projects with those for the life of the project.**
- J. Consider alternative additional avenues of funding that the project can tap into.**
- K. Review the potential for closer linkage with other S&T projects as a means to help facilitate technology diffusion and to increase project efficiency.**
- L. Make recommendations as to future program directions with respect to anticipated requirements for assistance in improving**

storage, processing, marketing, and utilization to reduce postharvest losses and improve human nutrition in LDCs.

M. Determine the status of matching funds of the University to the project in terms of personnel, physical plant and operating expenses.

In order to perform this evaluation, the review team will:

N. Review background information. Review Cooperative Agreement, scope-of-work, trip reports and the project output documents such as training workshop proceedings, publications, special studies, presented papers and inputs to PIDs, PPs and evaluation reports.

O. Review project design. The project's basic objectives is to reduce postharvest grain and legumes losses in LDCs.

P. Review the PPs. Cooperative Agreements, program descriptions, KSU annual reports, KSU final reports, midterm evaluations of trainees/training expenditures to numbers trained.

Q. Review the activity areas of the project and relate outputs to program description. Within each activity category, specific areas are to be addressed so as to formulate a comprehensive representation of project outputs.

R. The team will visit the KSU facilities in Manhattan, Kansas.