

February 13, 1986

Dr. M. Van Elswyk, Jr.
Director of International
Agricultural Programs
School of Agriculture and Home Economics
California State University
Fresno, California 93740-0079

Dear Dr. Van Elswyk:

I apologize for the office for not having communicated with you sooner about receipt of your fifth and final report. We changed offices about the time of its receipt and it was misplaced in the shuffle.

Your report is accepted as written. I appreciated your candid analysis of the difficulties for a new boy on the block to become engaged in A.I.D.-funded technical assistance. Your experience has been shared by a number of universities who participated in the Strengthening Grant Program. Hopefully, you will be able to capitalize on the resource building which occurred in the program by successfully bidding on contracts. John Shields' experience with BIFAD should be of use to Fresno State to this end.

Again, I wish to thank you for the timely report on your last year of this program. Please stop by to visit our office when you are in the Washington, D.C. area. We would be interested in discussing further with you the optimal role for institutions such as yours in A.I.D.'s program.

Sincerely,

David O. Hansen
Joint Career Corps
Research and University Relations
Bureau for Science and Technology

Handwritten signature

CALIFORNIA STATE UNIVERSITY • FRESNO



FRESNO, CALIFORNIA 93740-0079

SCHOOL OF AGRICULTURE AND HOME ECONOMICS
Office of the Dean
(209) 294-2061 TWX 910-362-5006 CSUF-AG FSO

September 24, 1985

Dr. Erven J. Long, ST/XII
Room 309 SA-18
U.S. Agency for International Development
Washington, DC 20523

Dear Dr. Long:

I have enclosed five copies of the fifth and final report for the California State University, Fresno Strengthening Grant (No. AID/DSAN-XII-G-0194). This report covers actual expenditures for the period of Years 4 and 5; that is, for April 1, 1983 to March 31, 1984 and April 1, 1984 to March 31, 1985.

California State University, Fresno is grateful to Congress, AID and BIFAD for the Title XII Program in general and the University Strengthening Grant Program in particular. We feel our program and staff have been greatly strengthened in terms of our ability to deliver technical assistance overseas. Our faculty and administration are now more knowledgeable, experienced and interested in working on agricultural development issues in the Third World. Even though we were not rated "actionable", we feel our contribution to agricultural development has been significant and expect it to continue.

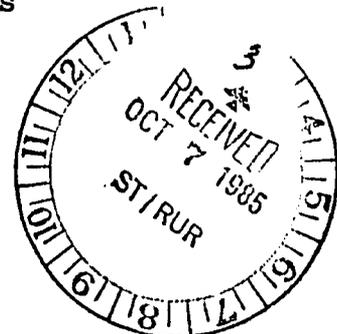
Sincerely yours,

M. Van Elswyk, Jr.

M. Van Elswyk, Jr.
Director of International
Agricultural Programs

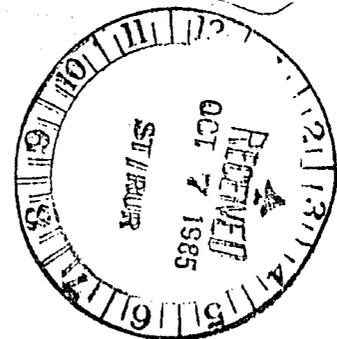
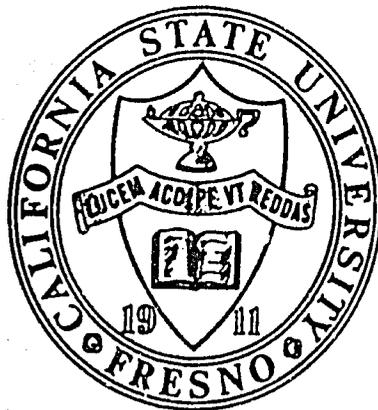
MVE:jag

cc: Charles M. Smallwood
John Shields



**Title XII
Strengthening Grant
BIFAD/AID**

**Year Five
and
Final Report**



*School of Agriculture
and
Home Economics*

Fifth and Final Progress Report
for
Title XII Strengthening Grant

BIFAD/AID

Grant No. AID/DSAN-XII-G-0194

Project No. 931-1282

by

California State University, Fresno
School of Agriculture and Home Economics

September 1, 1985

Submitted by



Charles M. Smallwood, Title XII Officer
Dean, School of Agriculture
and Home Economics



M. Van Elswyk, Jr. Director
International Agriculture
Programs

TABLE OF CONTENTS

	<u>Page</u>
I. BRIEF SUMMARY	1
II. ACTIVITIES AND ACCOMPLISHMENTS OF YEAR 4.	6
a. Enhanced Administrative Capacity.	6
b. Faculty Development	8
c. Expanding Research Capability	11
d. Enrich Instructional Programs and Increase Institutional Capacity for Training	13
e. Expand Institutional Resources.	14
III. DESCRIPTION AND JUSTIFICATION OF EXPENDITURES - YEAR 4	16
IV. YEAR 5 - ACCOMPLISHMENTS AND ACTIVITIES	27
a. Enhancing Administrative Capability	29
b. Developing Faculty Competencies	33
c. Extend Research Knowledge	39
d. Enhance Instruction	41
e. Expand Institutional Resources.	44
V. DESCRIPTION AND JUSTIFICATION OF EXPENDITURES - YEAR 5	48

CALIFORNIA STATE UNIVERSITY, FRESNO

Year 5 and Final Report

(April 1, 1984 - May 31, 1985)

I. BRIEF SUMMARY

This is the final report for the California State University, Fresno Strengthening Grant (AID-DSAN-XII-G-019-4). It contains the actual accounting for Year 4 activities, the description and justification and actual expenditures for Year 5. This brief summary concludes with a philosophy and objectives for the future based on the outcome of five years of strengthening effort.

The School of Agriculture and Home Economics has achieved certain benefits from five years of strengthening efforts. There has been an awareness raised of the LDC needs, the development process and the protocols for working with the Agency for International Development (AID). A more thorough understanding of the importance of language capability has interested some faculty in learning or sharpening Spanish and French capabilities.

The elements of technology transfer and the requirements for successful development are better understood by most faculty. This has led to an improved program for technology transfer here at home as well as for delivery overseas.

The most striking impact on the program at California State University, Fresno (CSUF) has been in the area of technical training. Several faculty have participated in the training

programs developed and presented to participants from about a dozen countries. These programs are more relevant to LDC than before due to a more thorough and clearer understanding of the conditions in the participant's country. More complete training is offered as a result of the known relationship between the technical need and the need for good management practices. Even the need for the participants to understand the nature of organization and the requirements it places on individual project personnel has contributed to a more holistic approach to development issues.

Through several attempts to win projects with AID, an appreciation of the process necessary to compete for Title XII projects has been gained. The development of responses to REI's and RFP's has given us a keen awareness for the elements of several kinds of projects. Technical assistance in on-farm water management has been the subject most clearly within our resource capability. We have competed for three projects with this component. The knowledge gained has benefited the domestic program and has impacted positively upon the training programs conducted.

Institution building as a development process has been presented to several faculty representing a wide range of disciplines. This understanding has contributed to faculty interest in the process because it reflects the same belief faculty have about how to improve agriculture. That is, the impact a multidisciplinary approach can have on the ability of people to increase produce food, improve post-harvest handling

In a number of areas individuals have gained an appreciation for development needs and processes. Some faculty have begun to apply these processes and they have been able to work on small projects and/or for other projects to gain first-hand experience. Some of this work was done by faculty with the strengthening grant supporting travel while other faculty have used resources generated through their own efforts including a Fulbright scholarship, consulting and sabbatical leaves.

An important characteristic of conducting agricultural development is that it seems to require a grass roots level of support. Such grass roots support is difficult to achieve under certain circumstances. It is conspicuously absent when it appears that the project, technical assistance, training or even institution building, is seen as being associated with particular commodities. It is from those commodities with financial or marketing difficulties that the constituents have the most difficulty in showing support for international programs. California has more specialized commodities for which international markets are important and also has the most market sensitive foreign competition.

One faculty member in Agricultural Economics who had the opportunity to participate in international activities over the past two years evaluated the benefit/cost factors for international involvement. In his review, he identified several groups that would benefit from international activities at CSUF. Among the groups identified were students, faculty, the university itself and local agriculture interests. Extracts from his review illustrate the interests to be considered.

The benefits derived from CSUF efforts in other parts of the world accrue to several different groups. Students would benefit from an enhanced understanding of world food and agricultural problems. The idea of global interdependence would be fostered. A deeper understanding of international markets would better prepare them for any career in agriculture. Course content would contain real examples gleaned by instructors from personal overseas experience.

It might be possible to trace benefits to the CSUF service area as returned overseas faculty would be better able to advise Central Valley farmers and agricultural businessmen. Improved understanding of political, economic and cultural environments abroad would lead to better marketing decisions here. It is likely that eventually some markets (either input or output or both) would be opened leading to increased purchases or sales.

The university would benefit at several levels. Enhanced prestige both at home and abroad would attract students and further diversify the student body. The school would benefit from the interdisciplinary cooperation required in development efforts. Individual faculty members should experience personal satisfaction, professional growth, and international recognition. Increased sensitivity from interdisciplinary involvement and foreign experience should improve the level of teaching, research, advising and (public) service provided by a faculty member.

The major benefit should accrue to the developing nation. Since the university cannot capture such benefits, it is unlikely that these will be considered. Development efforts will have to be subsidized if the proper level of development is to be achieved.

This report sums up the value of a university being involved in international work. It does not overstate the case for any one group that may benefit from such activities. There is an increased interest in a worldwide perspective in all aspects of agriculture, food supply, and food security. It is for these reasons that the following is offered as a philosophy and goal to be achieved by the CSUF School of Agriculture and Home Economics.

Philosophy for Future International Programs:

We do not live in the world alone. We believe it is necessary for students to be exposed to agriculture worldwide and to the opportunities it affords not only in the United States but also on an international scale.

In order to carry out this philosophy, the School of Agriculture and Home Economics sees three principle areas for specific attention--curriculum, faculty expertise and outreach. As a result of the strengthening effort the objectives are to continue:

To internationalize curriculum in order to provide students relevant information on all aspects of the world's food and fiber production, processing, marketing and utilization. Special recognition is to be given to opportunities to relieve pressures on people's dependence on a subsistence agriculture.

To develop cadres of faculty expertise in areas critical to agricultural development and consistent with our strengths and resources.

To respond to opportunities to provide technical assistance and training programs to developing countries, agencies and others seeking to improve world food and fiber production as well as raise the standard of living for all peoples.

The resources to accomplish these worthy goals for CSUF School of Agriculture and Home Economics (SAHE) are its faculty and administration. The Director of International Agriculture Programs will report to the Dean of the School of Agriculture and Home Economics. This position will give leadership and visibility to the international activities. The Director will represent the Dean on the All-University Task Force on International Programs.

II. ACTIVITIES AND ACCOMPLISHMENTS OF YEAR 4

As was stated in the fourth year report, the Office of International Agriculture Program provided the leadership for the strengthening activities. The strengthening activities were divided among the five objectives, i.e., 1) enhancing administrative capacity; 2) developing faculty competencies; 3) extending research knowledge; 4) enriching instructional programs; and 5) expanding institutional resources. Progress toward meeting these objectives was made in Year 4.

The description and justification of expenditures listed in Table 1 cover the activities for the period April 1, 1983 to March 31, 1984. The actual expenditures are reported.

a. Enhanced Administrative Capacity

The administration was involved in providing opportunities and resources to carry out strengthening activities. The commitment to those strengthening activities is evident from the increase in assigned time in administrative and faculty development. In Year 4, there was an increase of .5 FTE assigned to administrative roles. There was also an assignment of .25 FTE for the Department Chairs role. In addition, the support for the IADC Task Forces assured faculty involvement in development of any project proposals and strengthened the faculty base. Thus, Year 4 was a time in which the role played by administration, faculty and International Agriculture Program personnel was brought together in an operational mode. The

awareness of the need for faculty and department involvement resulted from raising the recognition of the impact of projects on faculty and department resources. Without the involvement of all interested parties, there is built up a competition instead of collaboration. This recognition gave the strengthening grant program visibility and brought about more collaborative work on meeting the strengthening grant objectives.

As was noted in the Year 4 report, the international commitment of President Harold H. Haak is evident by his travel to Egypt and the development of a university linkage between CSUF and Zagazig University. This agreement includes programs for agriculture, engineering and cultural exchanges. To further demonstrate the commitment to international development and the strengthening of the linkage with Zagazig University, the President will host the Zagazig University administrators and /or faculty for a visit to CSUF. This effort came about through contacts between Dr. Harold Best, Administrative Assistant to the President, and the Mayor of the City of Zagazig.

The SAHE administration is involved in the development of capability in project management and backstopping. The Office of International Agriculture Program provides the central management role for all project activities. Department chairs gained insight into their role in project staffing and operations.

Department chairs gained knowledge and understanding of AID operations, the Title XII concept and the requirements placed on a university faculty when asked to participate in technical assistance efforts. Through their attendance at AID, BIFAD and other meetings throughout the year, a better understanding and a stronger commitment to provide leadership in our efforts at internationalizing the curriculum and research programs is evident. There is a decided increase in the support of efforts to select potential projects and to recognize staffing needs.

The administrative roles for department chairs rested mainly on the hiring and staffing of faculty expertise. In their administrative role, department chairs have been strengthened through activities associated with project proposal preparation. The department chairs are responsible for the development of faculty who are responsible for the subject matter elements, participant training and technical assistance activities. General faculty were assigned to special task forces dealing with subject matter training and technical assistance programs.

b. Faculty Development

Faculty were involved in five task forces designed to improve the understanding of geographic regions, subject matter needs, instruction and training requirements and strengthening library holdings for agricultural development. Faculty competence in subject matter with relevance to Third World needs has been increased through the work of this task

force. Several meetings were held to determine the appropriate areas for emphasis. The eight specialties listed in the BIFAD Registry of Institutional Resources (RIR) have been brought together and given focus to Crop Production and Management, Agricultural Natural Resources Development and Utilization (including soils and irrigation), and Farm Management and Farming Systems. The subject matter teams are now cooperating in projects from the California Agricultural Technology Institute (CATI). CATI is an umbrella organization developed by the School of Agriculture and Home Economics to provide support for and backstopping to problem-solving on-farm research and technology transfer. Many of these projects have relevance to Third World needs as they are specifically designed to solve existing on-farm problems. In addition, the faculty are working on the best methods of technology transfer for the results obtained.

The allocation of 1.08 FTE release-reimbursed faculty time to provide leadership to the task forces led to the development of several increased capabilities. The geographic area focus for CSUF was better understood and the faculty informed about opportunities in those areas. The subject matter strengths for technical assistance were better identified and the development of training curriculum was prepared. Faculty are more capable in aspects of technical assistance and training as a result of the work of the task forces.

With the review and assessment of our program strengths, the task forces indicated the priorities for CSUF as:

1. Training Projects
2. Africa and The Near East (Egypt)
3. Irrigation and Irrigated Crops
4. Farm Management and Farming Systems

The specific subject matter focus for CSUF listed in the earlier Year 4 report were:

1. Crop Production and Management
2. Agricultural Natural Resources Development and Utilization (Soils, Water and Irrigation)
3. Farm Management and Farming Systems

With the expertise in irrigated agriculture, it is natural for CSUF to develop programs appropriate to arid and semi-arid zones. This will capitalize on the crop production and management strengths in semi-arid lands and utilizes the natural backstopping the local agriculture industry offers. Through a long history of working directly with the local agriculture economy in the San Joaquin Valley, CSUF has developed a total program for technology transfer that is a model to follow.

Faculty traveled to attend meetings relevant to AID/BIFAD organization and operation. Particular emphasis was on meetings with information useful to understanding development assistance work. A total of 11 faculty attended meetings and participated in programs on technical assistance delivery and technology transfer. Dissemination of their findings was made through task force activity, seminars, and individual faculty discussions.

A total of 47 faculty were involved on subject matter teams. The subject matter teams worked within the farming systems concept and included the following disciplines.

- Crop Production and Management
- Irrigation and Water Management
- Soils
- Farm Management and Farming Systems
- Plant Protection
- Energy
- Agricultural Analytical Laboratory
- Human Resources Development
- Mechanized Agriculture
- Food Science
- Agricultural Sector Analysis
- Animal Science
- Nutrition

In order to focus their efforts, the overall objective was to relate subject matter to the three programmatic topics of a) Irrigated Crop Production Systems; b) Agricultural Natural Resources; and c) Farm Management and Farming Systems. Progress was made and is reflected in the activities for Year 5.

c. Expanding Research Capability

The value of a research capability and the importance of technology transfer are both known to be essential for the Third World agricultural development. CSUF has made progress toward an enhanced capability in this area.

The creation of the CATI organization is going to have important implications for research on problems at home, but also on problems in Third World agriculture. The support it can give to the ongoing programs of the Center for Irrigation Technology, the Viticulture Research Center, and the San Joaquin Experimental Range will allow full development of their respective resources.

Research focused on applied, problem solving activities in California agriculture which, in an arid climate, has relevance throughout many developing countries. Many of the problems are the same within a similar climatic zone. Special competence is being developed in irrigation, soils, crop production, and management.

The development of research capability in terms of Third World agriculture was enhanced by the faculty working on three activities. The first is on irrigation technology for Third World conditions. In this case, the Director of the CIT participated in an AID review of irrigation and water management needs. Secondly, there was some development of irrigation technology for the Hmong farmers in Fresno County. The Hmong farmers provide an example of development needs within a Third World culture, albeit in a developed country. In a sense, this situation is more demanding than in situ AID projects because of a lack of indigenous leadership and agents for the Hmong farmers in Fresno County.

There was an FSR/E approach given to their farming systems. Several faculty performed farming systems research and extension techniques to the problems observed in the local farm situation.

The third area of research dealt with the post-harvest technology in preventing huge food losses in Third World conditions. While this was not conducted as a direct strengthening grant activity, it included participation in Post-Harvest Technology for Agricultural Produce Workshop held in Taiwan. Contributed papers outlined the program of

post-harvest handling of citrus and grapes in California. Faculty from CSU, Fresno also gained insight into the post-harvest technology throughout the developing world.

d. Enrich Instructional Programs and Increase Institutional Capacity for Training

Strengthening occurred in curriculum areas, instruction and special subject matter, and in the capacity for training. The curriculum contains courses on international agriculture, agriculture development, agriculture sector planning and tropical agriculture. Instruction in special subject matter areas relevant to development needs has been enhanced by knowledge faculty gained through travel and participation in other development activities.

The participant training task force evaluation produced a list of courses that faculty are interested in and capable of offering to Third World personnel. The list is long and reflects the expertise of nearly all agriculture faculty. It will be pared to a manageable size and to units that are appropriate for delivery overseas.

There was strengthening in participant training as evident by the number of training projects conducted including participants in the BS and MS degree program. Several special training programs included agricultural refrigeration technology; agricultural training center management; monitoring and evaluation of training programs; agricultural in-service training in dairy, swine, nursery, fruit, vegetable, agronomy and beef.

Faculty time was assigned to develop the area of irrigation for instructional relevance to Third World conditions. Furthermore, special on-farm water management training modules were developed for use in irrigation programs. Micro-computer applications and models for on-farm water management are in process. These are consistent with the irrigation program at CSUF in that the same program can be used for application in arid climates anywhere in the world.

e. Expand Institutional Resources

Institutional resources were expanded again in Year 4. The language training, library holdings and the formation of the California Agricultural Technology Institute followed a commitment to provide resources that improved the capacity to conduct technical assistance programs to meet developing country needs.

Language training was continued and the addition of French was made in order to prepare for activities in Africa. There were six faculty and staff involved in French which represents about 5% of the total faculty. Disciplines represented include Agricultural Economics, Animal Science, Industrial Technology, Administration, Agronomy, Horticulture and Soil and Water Science.

In the Spanish program, there were two faculty that achieved at or near the R-3/S-3 capability and about six who were beginning to achieve at the 1 or 2 level. Disciplines included soils, horticulture, nutrition and crop science.

The strengthened capacity to deal with problems of Third World agriculture includes the Henry Madden Library collection "Bibliography of Third World Agriculture and Development". This document has been prepared based upon needs expressed by faculty in subject matter areas and the suggestions of the geographic area task forces. It, therefore, is useful to anyone planning to work on a problem that has potential impact on Third World problems.

The documentation of materials appropriate to Third World conditions include country specific and subject matter information. Books on the development process and methods of good management are particularly helpful. Materials on the process of orienting staff to overseas assignments is included.

III. DESCRIPTION AND JUSTIFICATION OF EXPENDITURES

Year 4 - Actual

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
I. ENHANCE ADMINISTRATIVE SUPPORT		
Administration (including fringe)		
C. M. Smallwood, Dean of the School of Agriculture and Home Economics for time spent on the grant -5%	\$3,233.00	
M. Van Elswyk, Jr., Asst. Dean of the School of Agriculture and Home Economics and Director of International Agriculture Programs for time spent on the grant -50%	\$27,710.00	\$27,710.00
Tommie Slappey, Admin. Aid, School of Agriculture and Home Economics for time spent on the grant - 5% to August 22, 1983	\$611.00	
Caroline Ramirez, Admin. Aid, School of Agriculture and Home Economics for time spent on the grant - 5%	\$866.00	
Judy Gong, Clerical Assistant, School of Agriculture and Home Economics for time spent on the grant - 100%	\$22,234.00	
Office Supplies and Services		
20% of office budget for paper, supplies and maintenance of Vydec Word Processor	\$3,000.00	
Communication Support		\$1,085.71

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
Travel		
M. Van Elswyk to East Lansing, Michigan to attend a conference on accelerated development in Sub-Saharan Africa: policy implications of the World Bank Agenda and to visit Michigan State University Institute of International Agriculture (April 26-29, 1983)		\$592.10
M. Van Elswyk to Davis, California to attend California University International Agriculture - Fred Hutchinson seminar (May 10-11, 1983)		\$73.25
M. Van Elswyk to Tuskegee, Alabama to attend 19th Annual Conference of AUSUDIAP and participate in discussions on international agricultural development relevant to CSU, Fresno/AID strengthening objectives (June 20-23, 1983)		\$956.29
M. Van Elswyk to Hot Springs, Arkansas to attend American Association of State College of Agriculture and Renewable Resources annual meeting. Meet with staff of Winrock International and University of Arkansas International Agriculture Program staff to discuss possible joint enterprise activity on USAID technical assistance projects (October 9-14, 1983)		\$1,416.22

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
C. M. Smallwood to Hot Springs, Arkansas to attend American Association of State College of Agriculture and Renewable Resources annual meeting and to chair legislative committee (October 9-13, 1983)	\$1,033.10	
M. Van Elswyk to Washington, DC to attend annual meeting of NASULGC International Affairs Committee; AUSUDIAP committees, and visit BIFAD Office; AID Bureau Offices; and USDA OICD/IT Offices (November 12-18, 1983)		\$1,180.25
James Brownell to Washington, D.C. to attend annual meeting of NASULGC International Affairs Committee; AUSUDIAP committees, and visit BIFAD Office; AID Bureau Offices; and USDA OICD/IT Offices (November 13-17, 1983)		\$786.67
M. Van Elswyk to Taiwan to attend the workshop on Post-harvest Technology on Agricultural Produce and to plan and conclude details for future National Chung Hsing University and CSUF Joint Seminars (January 6-27, 1984)	\$1,970.60	
Earl Bowerman to Moscow, Idaho to attend Title XII Seminar to increase understanding of the role the university plays in AID projects (January 11-13, 1984) including 3 days - Salary and Fringe	\$625.00	\$520.97

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
James Brownell to Moscow, Idaho to attend Title XII Seminar to increase understanding of the role the university plays in A.I.D. projects (January 11-13, 1984)		\$520.28
M. Van Elswyk to Hawaii to attend BIFAD/AID pre-departure orientation and project support workshop (February 26 - March 11, 1984)		\$1,886.00
M. Van Elswyk to Sacramento, CA to attend a collaborative group meeting to discuss joint collaboration on an AID/RFTP for Uganda Manpower for Agriculture Development Project		\$94.00
C. M. Smallwood to Sacramento, CA to attend a collaborative group meeting to discuss joint collaboration on AID/RFTP for Uganda Manpower for Agriculture Development Project		\$92.00
SUBTOTAL I.	\$61,282.70	\$36,913.74

25

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - CSUF	3/31/84 AID
II. FACULTY DEVELOPMENT		
Sayed A. Badr, Professor of Horticulture/Viticulture - 25% release of time for faculty development activities		\$2,416.00
James R. Brownell, Professor of Soil Science - 25% release time for faculty development activities		\$8,697.00
Allan Hewitt, Professor of Pomology - 25% release time for faculty development activities in the subject matter area of plant production and management		\$3,134.00
Mahendra Bhangoo, Professor of Soil Science - 25% release time for faculty development activities in the subject matter area of soils, water, and irrigation		\$3,635.00
Travel - Domestic		
Sabry Shehata to Washington, DC to meet and visit with BIFAD office staff personnel and USDA Office of International Training (April 5-7, 1984) including 3 days - Salary and Fringe	\$558.00	\$130.59
Carl Pherson to Tuskegee, Alabama to attend 19th Annual Conference of AUSUDIAP and participate in discussions on	\$751.00	\$953.26

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
international agricultural development relevant to CSU, Fresno/AID strengthening objectives (June 20-23, 1983) including 4 days - Salary and Fringe		
Allan Hewitt to Tuskegee, Alabama to attend 19th Annual Conference of AUSUDIAP and participate in discussions on international agricultural development relevant to CSU, Fresno/AID strengthening objectives (June 20-23, 1984) including 4 days - Salary and Fringe	\$787.00	\$956.54
International Agriculture Development Committee		
Chairperson of Task Forces are assigned 10% of effort and members assigned 5% of effort on grant activities		
Africa and Near East Task Force	\$3,963.00	
Latin America Task Force	\$6,882.00	
Participant Training Effectiveness Task Force	\$4,868.00	
Subject Matter Expertise Task Force	\$8,259.00	
Library Task Force	\$8,839.00	

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - CSUF	3/31/84 AID

Department Chairs assigned 5% of effort on grant activities		
Agricultural Economics	\$1,739.00	
Animal Science	\$1,739.00	
Plant Science	\$1,739.00	
Enology, Food Science and Nutrition	\$1,739.00	
Industrial Arts and Technology	\$1,739.00	
Student Assistant Support -		
Anne Koss Salary and Fringe		\$3,315.59
Delores Pires Salary and Fringe		\$234.52
Exchange Faculty		
Abd El-Tawab Bahgat, Vice President and M. El Beheidi, Dean of Agriculture of Zagazig University to discuss further university linkage development	\$490.44	
Mohamad Kamal El-Khishin, Vice Dean of Zagazig University and Amer M. El-Ahraf to consult on possible collaboration between CSUF and Zagazig University - Benha Branch in Fresno, CA	\$236.79	

SUBTOTAL II.	\$44,329.23	\$23,472.50

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - CSUF	3/31/84 - AID
III. EXTEND RESEARCH KNOWLEDGE		
Robert Osland, Professor of Dairy Science - 25% release time for faculty development activities in the subject matter area of farming systems research and application		\$2,850.00
Travel - Domestic		
Ed Norum to Washington, DC to attend AID Conference on International Irrigation Development to gather information pertinent to development of irrigation projects in conjunctin with international agriculture programs (May 2-6, 1983)	\$928.06	\$41.18
Jeffrey Steiner to Manhattan, Kansas to attend Farming Systems Research Symposium on the role of animals in the farming system and addressing procedural, methodological and conceptual issues in the FSR approach (October 31 - November 2, 1983) including 4 days - Salary and Fringe	\$684.00	\$804.24
Robert Osland to Manhattan, Kansas to attend Farming Systems Research Symposium on the role of animals in	\$802.00	\$811.50

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84 CSUF	AID
the farming system and addressing procedural, methodological and conceptual issues in the FSR approach (October 31 - November 2, 1983) including 4 days - Salary and Fringe		
Dennis Nef to Manhattan, Kansas to attend Farming Systems Research Symposium on the role of animals in the farming system and addressing procedural, methodological and conceptual issues in the FSR approach (October 31 - November 2, 1983) including 4 days - Salary and Fringe	\$718.00	\$730.74
Travel - Overseas		
Sayed Badr to Taiwan to participate in the workshop on Postharvest Technology for Agricultural Produce and to assist and plan the details for the National Chung Hsing University and CSUF Joint Seminar (January 6-27, 1984)	\$345.00	
Student Assistant - Ann Vaughan assigned to assist in workshops and seminars and assist in development of brochures to advertise institutional capacity for training Salary and Fringe		\$769.42
SUBTOTAL III.	\$3,477.06	\$6,007.08

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - CSUF	3/31/84 AID
IV. ENRICH INSTRUCTIONAL PROGRAMS AND INCREASE INSTITUTIONAL CAPACITY FOR TRAINING		
Kerry Osio assigned to assist in developing training programs for participant practical training		\$124.66
Charles Krauter, Professor of Irrigation - <u>8.3% release time for preparing response materials and proposals for RFP's in the area of irrigation</u>		\$1,152.00
Shirley Bowden to Washington, DC to attend Women in Development Conference to participate in discussion in including women in development policy and planning and institutionalizing Title XII efforts on behalf of women in development (October 13-15, 1983)	\$782.00	\$1,164.00
3 days - Salary and Fringe		
Joanne Kite, Graduate Program, School of Agriculture and Home Economics for time spent on the grant - 10%	\$2,332.00	
SUBTOTAL IV.	\$3,114.00	\$2,440.66

Table 1. Description and Justification of Expenditures - Year 4

Activity	Total	
	4/1/83 - 3/31/84. CSUF	AID
V. EXPAND INSTITUTIONAL RESOURCES		
Library resources, additional material in support of grant related activities	\$5,553.64	\$5,265.10
Faculty development resources and materials		\$435.06
Language training for faculty, staff spouses		
Spanish		
Instructor - Miguel Vinuela Salaries and Benefits		\$2,158.08
French		
Instructor - Alice Manukian Salaries and Benefits		\$1,735.15
Language Tapes for French Class		\$5.28
SUBTOTAL V.	\$5,553.64	\$9,540.37
Total All Expenditures	\$117,756.63	\$78,374.35
Summary Table		
I. Enhance Administrative Support	\$61,282.70	\$36,913.74
II. Faculty Development	\$44,329.23	\$23,472.50
III. Extend Research Knowledge	\$3,477.06	\$6,007.08
IV. Enrich Instructional Programs and Increase Institutional Capacity for Training	\$3,114.00	\$2,440.66
V. Expand Institutional Resources	\$5,553.64	\$9,540.37
TOTAL	\$117,756.63	\$78,374.35

IV. YEAR 5 - ACCOMPLISHMENTS AND ACTIVITIES

The Title XII Strengthening Grant received in 1979 has made an impact on the School of Agriculture and Home Economics at California State University, Fresno. Without this matching dollar funded project and the ability to dedicate local resources to international activity, there would likely have been no change in the program. To that extent the CSUF administration is to be commended for their commitment of significant resources to this project.

The original goal was to prepare CSUF to respond to USAID project needs for technical assistance in less developed countries. This was to be done by the accomplishment of five (originally four) objectives. These were to 1) increase administrative capacity, 2) facilitate faculty development, 3) extend research knowledge. 4) increase institutional capacity for training and 5) expand institutional resources.

It is felt that in each year progress was made toward the ultimate goal. Unfortunately, though several proposal were made, no contract with AID was received over the grant period. Several different modes of joint ventures and go alone proposals were used. It seems that without having prior experience or some kind of recognized field of competence, it is difficult for the new kid on the block to win a contract. The experience gained in pursuing a grant was quite worthwhile and instructive.

California State University, Fresno is capable of carrying out technical assistant projects overseas. The capability to

design, implement and manage such programs are present in the university and specifically in the School of Agriculture and Home Economics. The commitment to international activities is real and can be seen in the university linkages now in place.

In a follow-up to the commitment to the development of international university linkages, the CSUF administration hosted a visit by Zagazig University Vice President - Dr. Abd El-Tawab Bahgat; Dean of Agriculture - Dr. M. El Beheidi; Dean of Engineering - Dr. Talat M. Owais; and two faculty. During the visit, a familiarization with CSUF faculties and programs were given. Discussions then developed further the linkage agreement including faculty exchange and student programs.

Travel by faculty and administrators has been for the purpose of gaining knowledge of and exposure to technical assistance activities as conducted by USAID. Attendance at AID/BIFAD-sponsored programs in the U.S. as well as FSR symposias and other programs was done by 10 different faculty. Subjects of the meetings included women in development, farming systems research, project administration, REI and RFP response, AID/BIFAD procedures, international training, and project evaluation.

Overseas travel involved seven faculty including three in administrative positions. Trips made to Egypt were to explore opportunities to gain firsthand insight into the problems and constraints to development of improved farming systems.

The loss of federal funding has meant that reduced support will be given to international activities in the future. Thus, the International Agriculture Development Committee (IADC) has been disbanded. In terms of encouraging the faculty to

participate in international programs, the IADC has been effective. Although the committee did not meet as frequently in Year 5 as before, the participants were as active in support of the subject matter teams.

The actual expenditures for Year 5 are presented in Table 2 including the description and justification of activities.

a. Enhancing Administrative Capability

The objective of enhancing administrative capabilities in the management of international programs has been accomplished through the Office of International Agriculture Programs (IAP). This office in the School of Agriculture and Home Economics has program responsibility for response to projects of technical assistance and special training activities.

Administrative support has been provided by the School of Agriculture and Home Economics throughout the strengthening grant period. As administrative capability improved, there was increased recognition of the Office of International Agriculture Program in development work. This office in the fourth and fifth years provided leadership and management to project proposals and collaborative efforts with other universities and development agencies. It was also responsible for the development of several special training projects.

Department chairs in the SAHE were liaison resources for the IAP in the sense that they provided a clearing house activity on potential projects. They were actively involved

in setting priorities, goals and objectives with their faculty. The department chairs are the focal point for staffing projects and lead the faculty toward a more committed involvement in international agriculture.

The University recognizes international activities of faculty and staff for tenure and promotion purposes. These activities are recognized and evaluated for their contribution to the goals of the University and performance is measured. The SAHE has included international activities in its position announcements and followed up by evaluating activities associated with international efforts of the school whether overseas or on campus. The school has had no long-term overseas assignments, however, faculty performance on short-term overseas assignments has been evaluated.

1.0 Administrative Support

The administrative capacity in the School of Agriculture and Home Economics for international agriculture activities has been increased by 1.5 FTE during the grant period. Unfortunately after the grant, the support will be reduced.

The department offices will take more responsibility for the management of international activities within their disciplines. In regard to curriculum development in international areas, the faculty will continue to discuss the needs for special attention given to knowledge about agriculture in the developing world. Internationalization of courses will assure that no student should graduate without some exposure to

international trade, other agricultural resources in the world or some other introduction to production in environments that compete or complement each other.

2.0 Office

The Office of International Agriculture is located in the School of Agriculture and Home Economics. The Director reports to the Dean and is responsible for coordinating all activities of the program. For specific projects, personnel from the appropriate department are brought in to be coordinators, instructors or technicians. This flexibility allows for the development of research, training or extension projects which are designed to meet specific needs of less developed countries.

More of the effort in administrative strengthening has been in terms of project management and backstopping. Emphasis also was on RFP response and project design with the expectation that we would get a project.

3.0 Travel

CSUF has developed five linkages with LDC agencies and has made contact both at CSUF and in-country. There are also several linkages with non-Title XII institutions including one with National Chung Hsing University in Taiwan.

During Year 5, faculty and administrators from CSUF visited Ain Shams University, Zagazig University and The Ministry of Agriculture in Egypt to conduct activities important to the linkage agreements. In

addition, the faculty and administration of Ain Shams University and Zagazig University visited CSUF for the same purpose.

Dean Charles M. Smallwood traveled to Egypt to meet with his counterparts at Ain Shams University and Zagazig University. His role at Zagazig University was to lead discussions on the development of mutually beneficial exchanges in furtherance of agreements reached on their earlier visit to Fresno. Emphasis was given to the requirements for development of a university farm. Discussions at Ain Shams University included the development of a linkage between the two institutions for enhancing the instructional program. In this program ways to improve instruction through the use of micro-computers was discussed.

Dean Smallwood commented in his end-of-trip report, that "The itinerary of the CSUF team provided an excellent view of Egyptian agriculture, educational processes, problems and opportunities for CSU, Fresno. The visit was a beneficial strengthening activity."

Faculty development requires the strengthening of administrative capacity to recruit staff and manage programs for technical assistance overseas and training programs at home. During the fifth year, the Associate Dean for Agriculture Operations and the Director of the University Farm Laboratory visited Egypt to view and discuss the development of university farms in the academic setting. The knowledge gained of the

requirements for development assistance will improve faculty and staff recruitment.

4.0 As further evidence of administrative commitment to international agricultural technical assistance, the School of Agriculture and Home Economics Dean, Assistant Dean, and Director of International Agriculture Programs has worked with the deans from other California Schools of Agriculture in development of an informal California University Workgroup on International Agriculture. The objective of this group is to provide liaison for collaboration on international development projects.

b. Developing Faculty Competencies

1.0 Faculty development has given way to subject matter expertise, participant training and university personnel commitment. Faculty were asked to participate in strengthening subject matter team response capability for RFP's. The development of teams in soils, irrigation, plant protection, crop production, and farming systems was accomplished.

There were 20 faculty involved in the task forces in Year 5. The accomplishments included the follow-through on university linkage agreements culminating in faculty exchanges with Ain Shams University and Zagazig University in Egypt, and National Chung Hsing University in Taiwan. Faculty exchange was made in both directions. The exchange between CSUF and Egypt

faculty created a cadre of professionals with some experience and knowledge of conditions in Egypt agriculture.

The Latin America and Caribbean task force increased the awareness and understanding of conditions in the region. The concentrated effort given by four faculty to the development of our response to the On-Farm Water Management project in the Dominican Republic contributed to our capability to provide technical assistance in the LA&C region.

2.0 The extent of faculty involvement in Title XII-related technical assistance and other activities was broadened over the period of the strengthening grant. Over the five-year strengthening grant period, faculty have been supported through \$220,666 in released-reimbursed positions to work on strengthening grant objectives. An additional \$204,329 has supported faculty in overload activities. This represents approximately 42% of the total strengthening grant that was committed to faculty activities.

The strengthening grant funded 16 faculty directly on local projects while there were another 20 faculty supported by other funds (including USDA, FAO, and private agencies) working on grant related projects on campus. To date, 16 faculty have been directly involved in overseas development issues supported by the grant funds. An additional six faculty members, funded by other means, have traveled to other

developing countries on missions to learn or assist on agriculture projects. Accomplishments include first-hand experience in agriculture under a limited infrastructure and resource base. Additional strengthening occurred with faculty involved in proposal development and technical training programs.

3.0 Faculty professional development included language training (15 faculty) and participation in conferences and overseas travel related to Title XII (29 faculty). Information gathered at these and other activities related to international development was transmitted to other School of Agriculture and Home Economics faculty through the IADC seminars and other meetings as well as personal contacts.

4.0 The CSUF farming systems research group studied, diagnosed, designed and delivered a training program to the local refugee Hmong population. This was a strengthening grant supported effort to accomplish three objectives - one, to provide faculty with experience in working with a different culture and the problems associated with language, family and technology problems. The second objective was to provide an opportunity to gain experience with the Farming Systems Research and Extension (FSR/E) concept. The third objective was to provide some technical assistance to the Hmong farm population.

There were eight faculty and several staff who worked on this project. The outcome of the project was of mixed quality with the most success in satisfying objective one. The faculty did learn a great deal about working with a different culture and under conditions of poor communications. The presentation of workshops was well done from an American culture standpoint, but were poorly attended. The faculty gained experience in operating in the FSR/E style and some technical assistance was delivered to a few Hmong farmers.

The report from the FSR/E Group highlighted some potentials and constraints that should lead to improved efforts in the future. Among the important conclusions positive aspects were identified as faculty gained experience with 1) FSR/E, 2) a different cultural group and 3) the act of working together with divergent agencies. Among the constraints identified was the 1) limited time for preparation, and 2) failure to realize the potential impact of conditions within the Hmong population. It was noted that the limited time, political and personal disagreements of Hmong leaders and a traditional authoritarian leadership discouraged participation in non-Hmong activities. Other constraints include the fact that harvest of some commodities conflicted with the time of the workshop and that faculty were operating only on an overload basis - not assigned time. These conclusions suggest

that the FSR/E efforts were timely and beneficial to the faculty.

It is recommended that efforts to further develop the FSR/E concept among the faculty be continued. Even if this must be on a voluntary basis it will pay dividends for the domestic program as well as the international capability at CSUF.

5.0 Another important activity involved a faculty member on sabbatical leave. During Year 5, Dr. James R. Brownell Professor of Soil Science, used a portion of his sabbatical to conduct activities relevant to the Third World need. His work included a stay in Taiwan at the Food and Fertilizer Technology Center where he worked on the fertilizer placement in rice in a wet tropical climate.

Dr. Brownell also spent four months in Egypt working on soil and fertilizer problems in an arid tropical climate. This provided important information on the knowledge of Third World fertilizer needs.

The knowledge gained through Dr. Brownell's sabbatical leave will enhance soil science instruction program and give an important level of understanding to development agriculture.

In Egypt, he also worked on identifying soils for use in stabilized sun-dried brick manufacture. This is important because Egypt has been using good Nile Delta soil as a source of making brick. This practice has

now been outlawed and the stabilized brick provides an excellent alternative.

Mr. James R. Dilliard, CSUF University Farm Laboratory Director, worked with Dr. Brownell on the project for alternate soils and methodologies in sun dried brick manufacture. There was a great deal of interest in the technology of stabilized sun dried brick. Working with the Soil Department of the Institute for Agriculture Research in Cairo, they conducted preliminary investigations on approximately 30 different soils. After laboratory tests and rough test bricks were made, one soil location was selected for re-testing. Subsequent mini-tests indicated that bricks could be made from that soil but that higher soil salinity than expected was encountered. There was considerable cooperation and agreement on procedure among the cooperating agencies. Further tests were outlined and are to be completed by the Egypt agencies. With the experience gained in the selection of Egyptian soils for the stabilized brick process and with cooperation of the CSUF International Housing Institute, there can be many benefits from this activity.

James R. Dilliard also participated on the CSUF exchange team with Ain Shams University and Zagazig University while in Egypt. During the exchange he was involved in the program at Zagazig University to develop plans for a university farm laboratory. Zagazig University has received 1,000 fedan of desert

land and are in the process of developing it as a university laboratory. Mr. Dilliard's experience in operation of the CSUF Farm Laboratory is potentially useful to the program at Zagazig. His knowledge of conditions in Egypt has been enhanced and made more relevant to potential technology transfer. The proposed program for full development of the Zagazig Farm Laboratory is now being reviewed by their administration.

c. Extend Research Knowledge

1.0 Research was supported for development of faculty competence in farming systems research. The faculty conducted a Farming Systems Research and Extension (FSR/E) project using the small farms available to the Hmong refugee families in Fresno County. Local activities included a project to provide technical assistance to the Hmong population who are trying to establish themselves as farmers in Fresno County. This included workshops held on agriculture economics, irrigation, farm management, mechanization, vegetable production and animal husbandry.

This project was able to bring together the key personnel from various agencies with roles in the resettlement of Hmong refugees from Laos. Many elements of working with the Hmong population are the same as those encountered when working overseas in Third World countries. Faculty experience was gained

in cross cultural communication, limited input and labor intensive farming and in dealing with organizational difficulties. Faculty were taken step by step through the first three stages for FSR/E, i.e., diagnostics, design and testing. These steps were then used to prepare a project to assist the local Hmong refugees group in their efforts to farm. A special training program was presented after the Farming Systems Research was carried out.

In this case, cultural awareness was needed in both directions whereas in the projects located overseas only the ex-patriot is required to develop the cultural awareness. Now both the Hmong participants (displaced refugee) and the CSUF faculty (the TA team) are looking at cultural adjustments.

Faculty from the following departments were involved in the project at various times.

<u>Department</u>	<u>No. of Faculty</u>
Agricultural Economics	2
Animal Science	1
Plant Science and Mechanized Agriculture	5
University Farm	2
Center for Irrigation Technology	1
Anthropology	1
Fresno County Office of Adult School, Adult Refugee Services	2

The outcome of this FSR/E project showed that the capability exists at CSUF for working with groups that are culturally different, educationally and technically behind the current available knowledge and skills. While the participation by members of the local Hmong community was limited, there was ample evidence that the program was successful. The diagnosis of the gap between Hmong farmers knowledge and skills relative to local farm technology was appropriate for the design of the training curriculum. The technology adopted for this group of small-limited in-put farms was appropriate and acceptable to the Hmong farmers.

The research conducted by the faculty confirmed the need for an importance of the multidisciplinary FSR/E approach. The application of the FSR process in a culturally different setting and under adverse conditions demonstrated clearly the importance social science and anthropology can have in understanding the recipients of technology transfer. The faculty learned valuable lessons on the FSR approach and quite dramatically on cross cultural awareness.

d. Enhance Instruction

The most successful strengthening efforts were seen in the several training projects conducted. There were 24 projects over the five-year strengthening grant period. Two in Years 1 and 2 with four in Year 3 and 9 in each of the last two years. Eight less developed countries were represented in

the projects and four were in the other country category. Fifteen different subject matter curriculums were covered. The length of training varied from several days to 18 months, but most of the training projects lasted six to eight weeks. Countries represented include Egypt, Brazil, Morocco, Guinea, Pakistan, Spain, India, Republic of China, Afghanistan, Philippines, Japan and Israel. Subjects include the following:

- Training center directors
- Monitoring and evaluation of training projects
- Management and planning
- Communications in agriculture
- Viticulture- raisins production and processing
- Horticulture and vegetable crops production and processing
- Mushroom production and technology
- Refrigeration for agriculture produce
- Horticulture
- Fruit processing technology
- Agriculture in California

1.0 There is no doubt that the teaching, research and outreach programs in the university have been significantly modified as a result of the strengthening grant activities. The concept of Title XII is understood by more faculty and the various subject matter has been broadened to include food and fiber production problems and relationships from around the world.

The total faculty in the SAHE has become more aware of development issues and this is reflected in the subtleties of the individual aspects of the program. It is difficult to quantify the revisions of curriculum and courses and outreach development programs in terms

of Title XII. There have been many courses and outreach efforts that deal in one way or another with the world's food production, processing, storage, delivery and consumption. Many of these include recognition of the need for agriculture programs to overcome problems unique to the developing countries.

2.0 There was a survey of faculty conducted in Year 4 to determine the type of course that could be provided by faculty in each discipline. The response was excellent and there were about 30 individual topics identified. The following summary is indicative of the disciplines and characteristics of available special training at CSUF.

Eight short courses developed and presented to groups from seven countries. The topics, country and number of participants are shown below.

<u>Topic</u>	<u>Country</u>	<u>No. of Participants</u>
Agricultural Management and Planning	Egypt	9
Agricultural Communications	Egypt	6
Agricultural Refrigeration (2)	Republic of China	2
Irrigation Technology	Japan	2
Viticulture (Raisins)	India	1
Agricultural Technology	Pakistan	7
Fruit Processing	Brazil	1
Vegetable and Nursery Farm Management	Guinea	1

In Year 5, several training programs were conducted at CSUF. These consisted of:

<u>Generalized Topic</u>	<u>Available Faculty</u>	<u>Language</u>	<u>Available</u>	
			<u>CSUF</u>	<u>Overseas</u>
Agricultural Mechanization	6	English Korean	x	x
Animal and Dairy Science	2	English	x	x
Farm Management Systems	4	English	x	x
Soil and Water Management	4	English Spanish	x	x
Horticulture and Field Crops Production	5	English Arabic Korean	x	x

3.0 CSUF Faculty and staff attended the training seminar sponsored by the International Science and Education Council (ISEC). Discussions on policy, procedures and expectations for future programs were discussed. Of particular importance were the discussions on AID, FAO and other sponsor's future programs and expectations. Our faculty and staff were strengthened in their knowledge and understanding of operations and standards for participant training.

e. Expand Institutional Resources

1.0 As evidence of the SAHE commitment to the goal of strengthening our capacity for Title XII activities, the university assigned office space, equipment and clerical help to International Agriculture Programs. This is seen as strong support and has made possible

50

the development of responses to opportunities for technical assistance projects. It is important for the IAP to have a visibility in the university and with other institutions operating in international technical assistance. It has contributed to our ability to make RFP and REI responses and is responsible for many of the collaborative efforts made.

- 2.0 The library again increased the holdings in the Third World Development Collection. Significant additions were made in most areas of agricultural development with emphasis on Africa. Over the five-year period, there has been in excess of \$35,000 spent on library collections.

This is a significant level of support and represents a real contribution to the institution's goal of preparing to Title XII technical assistance work.

The library has developed a Third World Development Collection that over the grant period has been supported by over \$20,000. Other university library funds have supported purchase of journal subscriptions. The Office of International Agriculture program has a collection of specific Title XII related materials.

- 3.0 The commitment to building resources and programs for agricultural education, agricultural development, technical assistance and technology transfer is evident in the establishment of the California Agricultural Technology Institute (CATI). The CATI is committed to programs of on-farm problem solving, applied research

and technology transfer including training appropriate to California agriculture. It provides support to the Center for Irrigation Technology, the Viticulture Research Center and the San Joaquin Experimental Range. It is located in the School of Agriculture and Home Economics and the Director reports directly to the Dean.

4.0 Current support programs in CATI includes faculty exchange, cooperative research, participant training and technology transfer. These programs are supportive of international efforts and provide a backstopping role as well as opportunities to bring scientists from other countries to CSUF to work on problems of mutual importance. At present, there are two exchange faculty from Israel working on problems associated with selenium pollution in California water. This research can have worldwide applications.

5.0 Language training was continued in Year 5 with both French and Spanish offered to faculty and staff. There were 10 who studied French. From this group, three achieved approximately the R-3/S-2 proficiency level. Among the others, the proficiency was approximately at R-1/S-1. Disciplines represented include agronomy, soils, nutrition, animal science, agricultural economics and entomology.

6.0 Greater success was achieved in Spanish perhaps because language training had been provided all five years of the grant. Four faculty achieved approximately the R-

3/S3 proficiency level. The disciplines are horticulture, soils, nutrition, and plant physiology. There were an additional eight faculty that achieved between the R-1/S-1 and R-2/S-2 levels.

7.0 A total of 22 faculty and staff achieved some degree of language capability. This represents over 25 percent of the faculty and staff in the School of Agriculture and Home Economics.

V. DESCRIPTION AND JUSTIFICATION OF EXPENDITURES

Year 5 - Actual

Table 2. Description and Justification of Expenditures - Year 5

Activity	4/1/84 CSUF	Total -	3/31/85 AID
ENHANCE ADMINIS- TRATIVE SUPPORT			
Administration (including fringe)			
C.M. Smallwood, Dean of the School of Agriculture and Home Economics for time spent on the grant - 5% (April 1, 1984 - March 31, 1985)	\$4,038.00		
M. Van Elswyk, Jr., Director of Inter- national Agriculture Programs for time spent on the grant - 50% (April 1, 1984 - March 31, 1985)	\$31,326.00		\$31,326.00
Caroline Ramirez - Administrative Aid, School of Agriculture and Home Economics for time spent on the grant - 5% (April 1, 1984 - March 31, 1985)	\$1,643.00		
Department Chairpersons are assigned 5% of effort on grant activities (April 1, 1984 - March 31, 1985)			
Animal Science	\$2,225.00		
Agricultural Economics	\$3,135.00		
Plant Science	\$3,131.00		
Enology, Food Science and Nutrition	\$3,131.00		
Family Studies and Home Economics	\$2,043.00		
Industrial Arts and Technology	\$3,131.00		

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
Clerical Assistants (including fringe)		
Judy Gong, Clerical Assistant, School of Agriculture and Home Economics for time spent on the grant - 100% (April 1, 1984 - March 31, 1985)	\$25,660.00	
Office Supplies and Services		
20% of office budget for paper, supplies and maintenance of Vydec Word processor	\$2,400.00	\$13.60
Printing expense for Fourth Year Annual Report		\$321.32
Long Distance Telephone Charges	\$408.53	\$140.42
Telex Service Charges		\$1,028.16
Mailing Expense for RFP's and DOI's	\$39.00	\$100.33
Travel		
M. Van Elswyk to Cairo, Egypt to expand knowledge and understanding about conditions, resources, and current levels of activity of practical training in Egypt. To understand the training needs, facilities, available, and constraints to development of adequate training programs, assess current methods used for agricultural training; evaluate conditions and resources, human resource capabilities, and prac-	\$434.98	\$3,587.79

Table 2. Description and Justification of Expenditures - Year 5

Activity	4/1/84 CSUF	Total -	3/31/85 AID
tical training currently available in Egypt. (May 13 - June 8, 1984)			
Earl H. Bowerman, Associate Dean of School of Agriculture and Home Economics to Cairo, Egypt to expand knowledge and understanding about conditions, resources, and current levels of activity of use of the university farm for student skill development; to examine resources available, and constraints to development of adequate training programs, assess current methods used for agricultural training; evaluate university farm resources, human resource capabilities, and practical training currently available (May 13 - June 8, 1984)	\$3,598.00		\$3,523.03
M. Van Elswyk to Tucson, Arizona to attend project meeting for Dominican Republic On Farm Water Management and India Irrigation Development (June 13-15, and June 21-22, 1984)	\$0.00		\$0.00
M. Van Elswyk to Pullman, Washington to attend AUSUDIAP Conference to strengthen knowledge in the area of implementing and managing technical assistance projects. (June 26-29, 1984)			\$915.80
Charles M. Smallwood, Dean to Washington, DC to serve as an evaluator on the Strengthening Grant Evaluation	\$0.00		\$0.00
		(No expense to University)	

57

Table 2. Description and Justification of Expenditures - Year 5

Activity	4/1/84 CSUF	Total -	3/31/8, AID
Committee for BIFAD (July 25-28, 1984)			
Judy Gong to Washington, DC to attend International Science and Education Council meeting to discuss ways to make AID, FAO and other international training more effective; and to visit BIFAD Offices (March 9-15, 1985)		\$1,074.41	
M. Van Elswyk to attend a seminar on BIFAD pre- departure orientation process and attend a joint ACE/NASULGC annual meeting focusing on international issues. (November 10-14, 1984)			\$759.81
M. Van Elswyk to Cairo, Egypt, to consult as a technical expert with agricultural faculty at Zagazig University for the purpose of understanding the constraints to the development of the University farm laboratory for the skill deelopment of students in Agronomy; to pursue opportunities for faculty and student exchanges; and to gain a knowledge of the efforts underway to improve curriculum (January 5-31, 1985)			\$3,643.11
Charles Smallwood to Cairo, Egypt, to consult with the Zagazig University administration and the agricultural faculty on the agreement we have; to discuss the development of a long-term plan for carrying out the full development of the Zagazig			\$3,290.80

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
University Farm Laboratory pursuant to the Memorandum of Agreement between Zagazig and CSUF. (January 5-18, 1985)		
Exchange Faculty		
Abd El-Tawab Bahgat, Vice President; M. El Beheidi, Dean of Agriculture; Talaat M. Owais, Dean of Engineering of Zagazig University to discuss further continued university linkage development	\$660.37	
I. Total	\$88,078.29	\$48,650.17

II. FACULTY DEVELOPMENT

James R. Brownell, Professor of Soil Science - 25% release time for faculty development activities (April 1 - May 21, 1984)	\$2,014.00
Allan Hewitt, Professor of Pomology - 25% release time for faculty development activities in the subject matter area of plant production and management (April 1 - May 21, 1984)	\$2,014.00
Robert Osland, Professor of Dairy Science - 25% release time for faculty development activities in subject matter area of farming systems research and application (April 1 - May 21, 1984)	\$1,832.00

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
Mahendra Bhangoo, Professor of Soil Science - 25% release time for faculty development activities in the subject matter area soils, water, and irrigation (April 1 - May 21, 1984) (August 27 - December 27, 1984)		\$8,785.00
Faculty Travel - Domestic		
James Brownell to Tucson, Arizona to attend a meeting to discuss further collaboration with the Consortium for International Development regarding the On-Farm Water Management Project in the Dominican Republic (June 3-5 and 21-22, 1984)	\$0.00	\$0.00 (Expense paid by CID)
Allan Hewitt to Pullman, Washington to attend AUSUDIAP Conference to strengthen knowledge in the area of implementing and managing technical assistance projects (June 26-29, 1984)		\$681.60
Dennis Nef to Pullman, Washington to attend AUSUDIAP Conference to strengthen knowledge in the area of implementing and managing technical assistance projects (June 26-29, 1984)		\$681.60
Sabry Shehata to Washington, DC to visit BIFAD Offices and to visit other agencies sponsoring international projects (September 27-30, 1984)		\$687.55

BD

Table 2. Description and Justification of Expenditures - Year 5

Activity	4/1/84 CSUF	Total -	3/31/85 AID
Travel - Foreign			
Sayed Badr to Cairo, Egypt to consult as a horticultural technical expert with agricultural faculty at Zagazig University; to gain understanding of development needs and skill requirements among students; to explore curriculum and training programs requirements; to discuss the university farm and its role in curriculum with special attention to grapes and horticulture crops; to learn about the constraints to development (January 5-31, 1985)	\$4,677.00	\$3,776.56	
James Dilliard to Cairo, Egypt to consult as a technical expert with agricultural faculty at Zagazig University on university farm development and operation; to work with the Institute for Agricultural Research on the selection and utilization of soils in stabilized brick (January 5-31, 1985)	\$2,923.00	\$3,113.00	
International Agriculture Development Committee			
Faculty are assigned 5% to 10% of effort on the grant			
Mahendra Bhangoo - 10% (April 1 - May 21, 1984) (January 14 - March 31, 1985)	\$2,529.00		
Allan Hewitt - 10% (April 1, 1984 - March 31, 1985)	\$6,263.00		
Mahlon Hile - 10% (August 27, 1984 - March 31, 1985)	\$2,874.00		
Sabry Shehata - 10% (April 1 - May 21, 1984) (August 27, 1984 - March 31, 1985)	\$4,315.00		

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
Dennis Nef - 10% (August 27, 1984 - March 31, 1985)	\$3,090.00	
Sandra Gothe - 10% (April 1, 1984 - March 31, 1985)	\$5,054.00	
Manuel Garcia - 10% (April 1 - May 21, 1984) (August 27 - December 27, 1984)	\$3,514.00	
Robert Osland - 5% (April 1, 1984 - May 21, 1984)	\$366.00	
James Brownell - 10% (April 1 - August 27, 1984)	\$2,442.00	
Leslie Aldrich - 10% (January 14 - March 31, 1985)	\$1,731.00	
Sayed Badr - 5% (April 1, 1984 - March 31, 1985)	\$3,131.00	
Carlos Muller - 5% (April 1, 1984 - March 31, 1985)	\$2,930.00	
Student Assistant Support		
Anne Koss Salary and Fringe		\$2,682.60
Brian Haddix Salary and Fringe		\$1,237.61
Andrew Nangalama Salary and Fringe		\$115.84
Exchange Faculty		
Dr. Mohammad Hosny of Egypt invited to consult on international agriculture to the School of Agriculture and Home Economics (August 29, 1984)	\$139.25	\$195.99

62

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
Dr. Fawzy El-Shaarawy to travel to Fresno to consult on Egyptian University agricultural development and linkages between CSU, Fresno and Ain Shams University (October 3-8, 1984)	\$127.03	\$654.08
Dr. Ibrahim El-Din of Zagazig University - Benha Campus in Egypt to discuss and consult on potential university linkage, projects, and exchanges (January 25-28, 1985)		\$146.49
II. Total Faculty Development	\$46,105.28	\$28,617.92
I. EXTEND RESEARCH KNOWLEDGE		
Mahlon Hile to Gainesville, Florida to attend the Domestic Farming Systems Conference to discuss how to organize, implement, and institutionalize farming systems programs (September 10-13, 1984)		\$977.40
Dennis Nef to Gainesville, Florida to attend the Domestic Farming Systems Conference to discuss how to organize, implement, and institutionalize farming systems programs (September 10-13, 1984)		\$1,033.40
Charles Krauter, Professor of Irrigation - 8.3% release time for preparing response materials and proposals for		\$698.00

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
RFP's in the area of irrigation (April 1 - May 21, 1984)		
Joanne Osnas - Clerical Assistant, School of Agriculture and Home Economics for time on the grant - 10% (April 1, 1984 - March 31, 1985)	\$2,754.00	
Suzanne Brady Salary and Fringe	\$1,225.76	\$850.26
Cristel Andresen Salary and Fringe		\$830.21
Computer software and supplies		\$1,358.34
III. Total Extend Research Knowledge	\$3,979.76	\$5,747.61

IV. ENRICH INSTRUCTIONAL
PROGRAMS AND INCREASE
INSTITUTIONAL CAPACITY
FOR TRAINING

Shirley Bowden to New York to attend annual meeting of the Association of Women in Development (October 11-14, 1984)	\$884.25	\$955.25
M. Van Elswyk to Washington, DC to attend International Science and Education Council to discuss ways to discuss ways to make AID, FAO and other international training more effective (March 9-13, 1985)	\$1,042.32	
Sayed Badr to Washington, DC to attend International Science and Education Council meeting to discuss ways to make AID, FAO and other	\$2,227.99	

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
international training more effective; and to visit BIFAD offices (March 10-15, 1985)		
Geraldine Saris to Washington, DC to attend International Science and Education Council meeting to discuss ways to make AID, FAO and other international training more Offices (March 9-15, 1985)	\$1,078.65	
Farming Systems Hmong Workshop		
Faculty assigned to provide special training in crop production and management		
John Hagen		\$216.01
David Zoldoske		\$122.98
Howard Martin		\$216.01
Robert Osland		\$305.60
Mahlon Hile		\$155.23
Coordinators assigned to assist with development and dissemination of information to local Hmong groups		
Anne Haddix, Agricultural Economist, Director of Adult Refugee Services, Fresno Adult Schools		\$134.40
Lorna Kvammen, Anthropologist University of California, Davis		\$469.19
Equipment and Supplies for Hmong Workshop		\$386.12
IV. Total Enrich Instructional Programs and Increase Institutional Capacity for Training	\$5,233.21	\$2,960.79

65

Table 2. Description and Justification of Expenditures - Year 5

Activity	Total	
	4/1/84 CSUF	3/31/85 AID
EXPAND INSTITUTIONAL RESOURCES		
Library resources, additional material in support of grant related activities	\$4,533.00	\$1,460.87
Language training for faculty, staff, and spouses - Spanish		
Instructor - Miguel Vinuela Salary and Benefits		\$3,215.52
Language training for faculty, staff, and spouses - French		
Instructor - Alice Manukian Salary and Benefits (April 1 to June 30, 1984)		\$890.40
Instructor - Diana Kaye Salary and Benefits (October 16 to December 15, 1984)		\$509.79
Language training aids		\$22.00
International Agriculture Program subject matter training brochures on crop production and irrigation		\$1,734.09
V. Total Institutional Resources	\$4,533.00	\$7,832.67
Total All Expenditures	\$147,929.54	\$93,809.16

Summary Table

I. Administration	\$88,078.29	\$48,650.17
II. Faculty Development	\$46,105.28	\$28,617.92
III. Extend Research Knowledge	\$3,979.76	\$5,747.61
IV. Enrich Instructional Programs	\$5,233.21	\$2,960.79
V. Expand Institutional Resources	\$4,533.00	\$7,832.67
Total Expenditures	\$147,929.54	\$93,809.16