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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT

(Contract AID/NE-C-170')

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EIGHTH SEMI-ANNUAL REPORT

February 25 to August 25, 1984

Submitted to

Agency for International Development
Washington, DC

by

International Programs in Agriculture
School of Agriculture
Purdue University
West Lafayette, IN

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

Eighth Semi-Annual Report
February 25 to August 25, 1984

INTRODUCTION

Implemented on August 25, 1980, the Portugal University Institutes Development Project has been in existence for four years. The Agency for International Development (AID) contracted Purdue University to assist the Government of Portugal to strengthen the education, research and extension capabilities of three Portuguese University Institutes, namely:

- the Instituto Universitario de Tras-os-Montes e Alto Douro (IUTAD), located at Vila Real
- the Universidade de Evora (UE), at Evora, and
- the Instituto Universitario da Beira Interior (IUBI), at Covilha.

Since the University Institute at Covilha is involved in the technical and managerial aspects of the textile industry, Purdue subcontracted Clemson University to provide assistance in this area.

This report covers the activities and accomplishments during the period February 25 to August 25, 1984.

SUBSTANTIVE REPORT

Status of Work

Technical assistance and training, are being provided fairly close to the time-frame suggested in the contract schedule. Advisors continue to furnish technical assistance in a variety of disciplines to faculty of the three cooperating university institutes. Faculty from the universities continue to receive training in the United States, both academic and non-academic.

Advisors who have returned from second and third assignments in Portugal are enthusiastic about the progress that is being made at the university institutes since their first visits. A number of new research initiatives have been implemented and there are indications that overall university development is taking place.

For example, Dr. James Outhouse, a Purdue short-term advisor who was at Vila Real in 1983 and Evora in 1984 to assist with sheep production, states: "In the animal science field, sheep production in the Tras-os-Montes region has increased. My Portuguese counterpart, Jorge Azevedo, has initiated research in crossbreeding to improve the quality of sheep. He is conducting performance testing of lambs for weight gain and feed efficiency, slaughtering and evaluating carcass quality according to U.S. standards, and testing the practice of raising lambs and goats on milk replacers in order to allow the ewes milk to be used for making cheese. I believe all of these activities are a direct result of materials presented and recommendations offered by advisors."

Likewise, Professor David Moses, who served at IUTAD in 1983 and

1984 as an advisor, reports that progress towards the establishment of a Teaching/Learning Resource Center has been made. The Center is an ambitious endeavor which will serve the communication needs of the University by providing expanded library facilities, audio-visual and printing services for the students, faculty and staff. On a more limited basis, the Center will also serve other government and private agencies and the people of the Tras-os-Montes region. The new facility should prove to be extremely useful to the University and the region.

There has been a significant increase in the number of person months to be provided for academic training. The original contract schedules specified a four year total of 12 person months (PM) of academic training and 204 PM of non-academic training. It is now anticipated that approximately 271 PM of academic and 152 PM of non-academic training will be provided by the end of the program. Funding for the additional academic training will be made available by a small reduction in the number of short-term advisors and by savings in expenditures for several line items in the dollar budget.

Purdue continues to furnish limited quantities of research supplies, equipment, reference materials and publications to the institutes to assist with their ongoing research and development. A list of supplies and equipment furnished during the past six months is provided in this report under "Activities and Accomplishments."

Activities and Accomplishments

Dr. Ario Lobo Azevedo, Reitor, University of Evora, was at Purdue from May 2 through May 23 for a combined administrative/training visit. He met with Dr. D. Woods Thomas, Associate Dean of the School of Agriculture and Director of International Programs in Agriculture (IPIA) and International Education and Research (IE&R); Dr. James L. Collom, Associate Director of IPIA and IE&R and the on-campus project coordinator; the administrative assistant and the training coordinator for the project; and personnel from Purdue's Office of Contracts and Grant Business Affairs. The status of program activities being carried out at Evora were reviewed. Scheduling of advisors and trainees for the remainder of the project were discussed and budgetary issues, such as expenditures to date and projected expenditures, were analyzed.

Dr. Azevedo also met with Dr. B. J. Liska, Dean of the School of Agriculture and with short-term advisors who had previously served at UE--Drs. J. Ahlrichs, D. Bache, E. Monke, C. Rhykerd, D. Franzmeier and Prof. David Moses. He met with Carlos Marques and Amilcar Serrao, UE faculty members who are currently at Purdue pursuing M.S. degrees under the auspices of the Portugal project.

Conferences were held with numerous Purdue staff regarding farm accounting, management of research farms and record keeping, the Cooperative Extension Service, soil analysis, minimum tillage and multiple cropping systems. Dr. Azevedo spent two days touring the State of Indiana to visit Purdue research farms with Farm Director H. Paarlberg.

Dr. Azevedo spent five days at the University of Wisconsin observing their Teaching/Learning Resource Center and Soil Testing Laboratory and meeting with faculty to discuss extension programs.

After his return to Purdue from Wisconsin, Dr. Azevedo and Dr. David Bache, who served as an advisor at Evora in 1983, spent two days at Covington, Indiana, where they attended a seminar on Farm Management/Marketing Extension, presented by the University of Illinois. After the seminar, Dr. Azevedo discussed the program the University of Illinois has on farm business/farm management record keeping with faculty from that University.

Mr. Michael Lukomski, USAID Affairs Officer, Lisbon, also visited Purdue on April 30. He met with Director D. Woods Thomas; James L. Collom, Purdue's project coordinator; the administrative assistant and training coordinator for the Portugal project; and personnel from the Purdue contract office. The dollar budget was reviewed, scheduling for the remainder of the project was discussed, and possibilities explored to obtain funding from other sources to continue activities initiated under this program after the contract expires in December 1985.

Four non-academic training programs, totaling 9.75 person months, were developed and administered for faculty members who arrived in the United States during this reporting period. Eight academic trainees pursuing M.S. degrees in the U.S. continued to receive support from Purdue and Clemson Universities during this same period. Specific details of their training are provided under "Educational and Training Programs" in this report.

Fourteen short-term advisors were selected and fulfilled 18.75 person months of technical assistance to IUTAD, UE and IUBI during the past six months. Seven of the advisors had previously served the project.

Faculty at the University of Evora and the University Institute at Covilha received graduate credit for courses offered by professors from Purdue and Clemson Universities. At the University of Evora, 30 individuals enrolled in an animal science course offered for graduate credit by Dr. James B. Outhouse; 20 received credit. At Covilha, five IUBI faculty received credit for course work in Human Resources Management offered by Dr. David W. Grigsby, Clemson University.

Clemson University is responsible, under a subcontract with Purdue, to provide training in the U.S. and short-term technical assistance to IUBI in the fields of textile and business management. Revisions in the program have enabled us to increase substantially the number of trainees and advisors from the original schedule. In order to incorporate these changes, the Clemson subcontract is being amended.

USAID/Portugal authorized Purdue to purchase, from the dollar budget, a gyroscope and order repair for three components of a spectrometer for IUBI. The cost of the equipment and repairs totaled \$3040.77. These funds were reallocated from the short-term training line item. In addition, the following items were purchased from the dollar budget for the Portuguese institutes.

For IUTAD:

- A set of video cassettt tapes (12) on various aspects of sheep production
- Ion exchange media chemicals

- Potascreen for testing potato virus

For each of the university institutes:

- A variety of textbooks and reference materials

During Dr. Hassan Behery's short-term assignment at Covilha in 1984, he, USAID and IUBI administrators developed training and advisor schedules for the remainder of the project. The number of person months in the new schedule were determined by summarizing person months used to date and subtracting the total from the number of person months available to be used. Long-term training for IUBI staff is now 12 person months over the budgeted number of 144. The cost differential will be made up from cuts in short-term training and advisors.

Problems Encountered and Recommendations

Administrative problems were minimal during the past six months. One problem that has existed throughout the project and still remains unresolved is the non-negotiable, prepaid airline tickets. A number of problems are associated with the way the tickets are issued. For example, three advisors who were scheduled to travel to other European countries after their assignments ended in Portugal were unable to modify tickets to combine travel. This creates major problems for administration and traveler. We again request that tickets be issued as open, negotiable prepaids.

Advisors returning from Portugal have been enthusiastic about their visits and most complimentary about the assistance and hospitality offered them. Several did, however, make a few suggestions that they believe would benefit future advisors as well as the project. These

have been listed in Appendix C. It is suggested that they be considered and discussed by project coordinators at the three institutions.

We are pleased that there has been a significant improvement in a problem mentioned in the last semi-annual report--the amount of time it was taking to receive authorizations from AID. The turn-around time is now much shorter.

Plans for the Next Six Months

Efforts will be made to secure final, approved training and technical assistance schedules. We have had difficulty in getting schedules far enough in advance to identify and adequately prepare advisors for assignments or to develop effective training programs. The schedules also will be needed to facilitate inventorying of the dollar budget. As the program draws to a close and funds are depleted, considerable effort will be expended to ensure that all planned activities can be carried out within the budgetary limits.

Since there is an inter-relationship between the PROCALFER* project and the AID Portugal project, continued effort will be made to coordinate activities of the two projects. In the past, PROCALFER has provided funds to continue training initiated under the AID program. They have also purchased much needed laboratory and computer equipment for the institutes involved in the AID project. Likewise, advisors who have been at the three institutes under the Purdue/AID project have, at PROCALFER's request, presented seminars and provided assistance to the PROCALFER program. These cooperative efforts will not only help

*Program for Liming, Fertilization and Forages, funded by USDA/OICD.

to fulfill the objectives of both programs, but will greatly benefit the three Portuguese university institutes.

ADMINISTRATIVE REPORT

Personnel Employed Under the Project

Purdue, under the terms of the contract, is responsible for providing personnel for the performance of the project. The personnel consists of field staff and on-campus staff. The field staff is comprised of long- and short-term advisors who provide technical assistance at the three university institutes in a wide range of disciplines. The on-campus staff consists of a project coordinator, an administrative assistant/executive secretary and a training coordinator who backstop the program in the United States.

The long-term staffing obligations have been fulfilled. Five long-term advisors completed assignments in Portugal for a total of 102.5 person months of technical assistance. Fifty short-term advisors have, to date, provided 80.75 person months of technical assistance to faculty of the cooperating institutes and others are scheduled during the remainder of the project. Individuals selected at the beginning of the program for the on-campus positions continue to serve, with the exception of the training coordinator.

Advisors employed under the contract during the past four years are listed in Appendix A. The 13 who served during the past six months, with a brief summary of their activities, are listed below.

Short-term Professional Staff

Dr. Frederick T. Simon, School of Textiles, Clemson University, spent two months at IUBI to provide assistance in the area of Application of Color Science in Industry. He offered a short course on the same subject to industry-related personnel.

Dr. Simon presented a seminar on the basic principles of color science and the application of computers and other instruments in color formation and control. In addition, he advised IUBI staff concerning their ongoing research programs and investigated the possibility of initiating new research activities.

Dr. Simon was at IUBI from March 7 through April 12 and from May 18 to June 3, 1984.

Dr. James R. Davis, School of Accountancy, Clemson University, departed for IUBI on March 18 and returned to the U.S. on May 16, 1984. The area of his work was in accounting information systems, cost accounting and micro computer applications.

Dr. Davis offered a graduate-level course on Accounting Information Systems and taught a class in an undergraduate course on controls. He met, individually, with eight IUBI faculty members to discuss their research interests/potential and to identify possible research topics. Specific topics were recommended to each and Dr. Davis suggested how to approach the process to initiate the research.

Several of IUBI's computer application programs had never been utilized so Dr. Davis introduced the faculty to some of the programs' basic functions. Thirty people attended his seminar on Accounting

Information Systems. Visits were made to local industries and banks to evaluate their application of accounting information systems.

Dr. Davis presented the IUBI library with eight reference books and 15 journal articles from his personal collection.

Dr. Edward D. Carter, Senior Lecturer in Agronomy, University of Adelaide, South Australia, returned to Portugal for a third assignment. From April 23 through May 4, 1984, Dr. Carter was at the University of Evora; from May 6-18 and May 28-June 1, he was at IUTAD. During the week of May 20, he presented a course for the USDA/PROCALFER project.

The area of his consultancy was forages and pastures. He reviewed, analyzed, and discussed research programs being conducted on forage and pasture production management with faculty from the Soil/Plant and Animal Science Departments. He provided advice and assistance on the implications of future research projects. Dr. Carter presented several seminars and visited the regions to observe and offer advice on established research work implemented by the universities and the Regional Agriculture Services.

Dr. James B. Outhouse, Professor Emeritus, Department of Animal Science, Purdue University, served at the University of Evora from April 30 to June 1, 1984. The primary thrust of his visit was to teach a graduate-level course on sheep management, consisting of 20 lectures. The course was attended by 30 students and staff. Of this number, 20 received one hour of Purdue graduate credit.

Dr. Outhouse consulted with UE faculty regarding teaching, research and extension methods to improve livestock production in Portugal. He

visited University farms to observe research programs in progress and to offer suggestions for future research projects. He visited privately owned farms and regional research stations of the Ministry of Agriculture and Fisheries where he discussed methods of disseminating information to farmers and how to further expand cooperation with other research stations and the University of Evora.

He met with PROCALFER representatives to suggest methods to increase the effectiveness of their program in Portugal.

This was Dr. Outhouse's second assignment on the Purdue/AID project, having previously served at IUTAD and UE in 1982.

Dr. David W. Grigsby, Department of Management, Clemson University, served as an advisor at IUBI in the area of business management, personnel, and human resource systems. Specific areas covered were human resource planning systems, job analyses, recruitment, selection and placement of qualified personnel in a firm, training and development, performance enhancement and review/compensation systems.

IUBI faculty attended a graduate-level course on Human Resources Management offered by Dr. Grigsby. Nine faculty enrolled in the course and five received Clemson graduate credit.

Dr. Grigsby also conducted a seminar on Employment Training and Development for IUBI staff and local plant managers. He visited textile plants and the local employment service to find ways to strengthen ties between IUBI and area businesses. He assisted faculty research efforts by identifying possible research topics, methods of collecting and analyzing data and reporting the results.

At the request of Rector C. M. Passos Morgado, Dr. Grigsby completed an analysis of the IUBI library to determine what the library needs to support independent advanced degree study. He recommended a program for the acquisition of library journals. Before his return to the United States, Dr. Grigsby presented to the IUBI library four basic references in the area of human resources management from his personal collection.

Dr. Grigsby served at IUBI from May 9 through June 30, 1984.

Dr. Sydney C. James, Agricultural Economics Department, Brigham Young University, was at the University of Evora from May 14 through June 18, 1984. He assisted UE's Department of Management with farm management, electronic data processing, and analysis and implementation of farm accounting systems.

Dr. James reviewed and provided recommendations on teaching methods and approaches to staff in the Department of Management. He visited UE experimental farms to observe the accounting systems they were using. He met with the Management Committee of the farms to recommend an accounting system for their particular needs.

Three presentations were made by Dr. James at a one-week workshop held for agricultural extension technicians in the Alentejo region of the Ministry of Agriculture. Topics covered in his presentation included U.S. agricultural cooperative extension services, measuring efficiency with the income statement and single entry accounting systems. Dr. James also presented two seminars entitled "Farm Management and Agribusiness Analyses" and "Farm Accounting Systems and Computerization" to attendees from the UE Department of Management, RICA,

the regional agricultural extension services and the UE University Farms Committee.

The advisor held numerous meetings with Management faculty to discuss and offer advice pertaining to their current research programs and the possibility of future research initiatives.

Prof. David F. Moses, Assistant Director, Undergraduate Library Services, Purdue University, returned to Portugal for a second assignment at IUTAD, from May 20 to July 13. During his 1983 visit, Professor Moses assisted IUTAD to develop plans for a Teaching/Learning Resource Center (T/LRC). While the objective of the 1984 visit was to assist with the execution of the earlier plans, implementation of some aspects has been slower than planned. Since hiring of key personnel, completing the remodeling of the new facility and purchasing necessary equipment for the T/LRC are still underway, Professor Moses focused his activities on acquiring the remainder of the equipment, planning for site preparation and developing recommended procedures for the new facility and T/LRC staff.

Job descriptions were expanded and discussions held relevant to hiring qualified people to operate the T/LRC. Considerable detail was provided for remodeling the new building. A review was made of equipment that had been ordered in 1983 and a new list was prepared to purchase items that had not been ordered. Plans were formulated for moving equipment and the existing library from their present locations in town and at the present Documentation facility to the new T/LRC.

After Professor Moses returned to the U.S., he compiled a bibliography of reference materials for use by the IUTAD staff and clients of the T/LRC.

Dr. Hassan M. Behery, Department of Textiles, Clemson University, returned to IUBI for a third assignment on May 23 and remained until July 16, 1984.

Dr. Behery offered a short course on "Problems and Requirements for Instrumentation and Process Control in the Textile Industry." He presented two seminars; a one-day seminar on Non-wovens, What Future, and a two-day seminar on Textile Physics.

IUBI is interested in developing a support service for instrumentation and process control as a component of the Department of Physics and Textiles. Dr. Behery defined the appropriate orientation for such a service and the necessary equipment to carry out its activities.

In the capacity of project coordinator at Clemson University, Dr. Behery spent a portion of his time discussing the status of IUBI's program with USAID personnel and IUBI administrators. Training and technical assistance schedules for IUBI were developed for the remainder of the project.

Dr. Charles L. Rhykerd, Department of Agronomy, Purdue University, carried out a project assignment from May 29 through July 14, 1984. He spent the first three weeks at IUTAD where he assisted faculty with soil fertility research as it relates to forage production. He

spent the next four weeks at the University of Evora on similar activities. At both universities, he presented several seminars on forage production and nitrogen fertilization. He observed progress of current research programs in forage and pastures production/management under rain-fed conditions, analyzed the results, and discussed plans for the continuation of the research.

Dr. Rhykerd brought back approximately 300 forage samples for analysis at Purdue for faculty at IUTAD and UE.

This was the third short-term assignment for Dr. Rhykerd on the Purdue/AID Portugal project.

Dr. Michael Collins, Department of Agronomy, University of Wisconsin, returned to IUTAD on June 24, 1984, for his third assignment. His 1984 advising program was in the area of forage management and quality.

The majority of Dr. Collins' time was allocated to discussing and interpreting data for Eng.^o A.M. Ferreira's Ph.D. dissertation. The remainder of his time was spent working with and advising other staff from the Department of Agronomy who are involved in forage production and utilization research.

Dr. Collins was most impressed by the quality and quantity of research being conducted in the forage area at IUTAD. He believes that the studies will contribute significantly to answering questions that exist in the forage area and provide information to increase knowledge of factors affecting forage quality.

Dr. Milton B. Jones, Department of Agronomy and Range Science, University of California/Hopland, provided advice and assistance to the University of Evora on the subject of soil fertility and plant

nutrition of rain-fed pastures of the Alentejo.

Dr. Jones visited UE experimental farms and privately owned farms, experiment stations and field experiments. He observed the soils, fertilization practices, crop rotation, and irrigation farming in the Alentejo region. Considerable time was spent observing and discussing approaches for soil fertility experiments being conducted and for future studies. Various techniques were proposed and discussed.

Dr. Jones presented four seminars for University of Evora staff. They included: 1) Determining Phosphorus Requirements for High Yielding Clover-based Pasture; 2) Why Sulfur May Become More Important for the Pastures of Portugal; 3) Nitrogen Fixation by Annual Clovers Versus Nitrogen Fertilization; and 4) Cycling of Nitrogen, Phosphorus and Sulfur in Annual Pastures.

Dr. Jones was at the University of Evora from June 27 through August 1, 1984.

Dr. Barry M. Cunfer, Department of Plant Pathology, University of Georgia, served as a short-term advisor at IUTAD from July 1 - 30, 1984. He provided assistance with the disease control program for wheat and triticale in the Tras-os-Montes region of Portugal.

His activities included advising Mr. Carlos Abreu on disease control research for his Ph.D. thesis; discussing with and offering assistance to other faculty involved in small grain research; visiting small grain field trials at Montealegre, Mirandela and Macedo de Cavaleiros; visiting research stations and the National Agronomy University in Lisbon to discuss research being conducted in plant pathology and small grains.

Dr. Cunfer presented seminars at two research stations to promote the exchange of information. He presented another seminar at Vila Real for IUTAD staff and members of the Regional Services entitled, "Diagnosis and Occurrences of Diseases of Small Grain Cereals."

Dr. Stephen C. Bunting, Department of Range Resources, University Of Idaho, returned to Portugal for a second assignment from July 6 to August 3, 1984, at IUTAD.

The scope of Dr. Bunting's work included assisting IUTAD to develop capabilities and expertise in the practice of burning range vegetation in order to prevent summer wild fires; advising on the improvement of natural rangeland forage quantity and quality; and providing additional training in techniques and methods used in range science/fire control.

Advisors Scheduled During the Remainder of the Project

The technical assistance schedules for the remaining months of the project have not yet been completed. The following advisors have, however, been tentatively selected.

Universidade de Evora

- Dr. William Sims, University of California/Davis, one month, Horticulture
- Dr. Robert Thompson, Department of Agricultural Economics, Purdue University, one month, Common Market Accession
- Dr. Mehehich, North Carolina State University, one month, Fertility of Soils
- Two other advisors have been requested, one in Livestock Production and another for Crop Science, but individuals have not as yet been selected.

Instituto Universitario de Tras-os-Montes e Alto Douro

- Dr. Daniel Gianola, Department of Animal Science, University of Illinois, two months, Quantitative Genetics
- Dr. James L. Ahlrichs, Department of Agronomy, Purdue University, two months, Soil Acidity
- Dr. Homer T. Erickson, Department of Horticulture, Purdue University, one month, Vegetable Production
- Prof. William H. Friday, Department of Agricultural Engineering, Purdue University, six weeks, Agricultural Machinery
- Dr. Stephen Garrison, Department of Horticulture, Rutgers University, one month, Horticulture Production
- Dr. Raymond Wright, Department of Animal Science, Washington State University, two months, Embryo Transfer

Instituto Universitario da Beira Interior

- Dr. J. J. Porter, Department of Textiles, Clemson University, two months, Effluent Treatment (textile chemistry)
- Dr. G. L. Gaddis, Department of Mechanical Engineering, Clemson University, two months, Energy Conservation
- Dr. Stephen B. Sello, Polytechnical Institute of New York, two months, Chemical Auxiliaries
- Dr. R. C. Peterson, Paper Science and Engineering Department, Miami (Ohio) University, two months, Pulp and Paper Engineering
- Dr. Farrell B. Brown, Dean of Graduate School, Clemson University, one month, Graduate Studies
- Dr. Hassan M. Behery, Department of Textiles, Clemson University, six weeks, Latest Developments in the Textile Industry
- Dr. George T. Friedlob, School of Accountancy, Clemson University, two months, Preparation and Appraisal of Investment Projects

On-campus Staff--Purdue and Clemson Universities

Project support is provided at Purdue University by Dr. James L. Collom, Associate Director of International Programs in Agriculture, who serves as overall project coordinator; Vivian L. Rider,

administrative assistant/executive secretary; and Kim Irwin who replaced June Lang as training coordinator. Dr. Hassan Behery coordinates project activities at Clemson University under the Purdue/Clemson subcontract.

Educational and Training Programs

As stated earlier in the report, non-academic training programs have been "cut" in order to provide additional academic training. This is reflected in Appendix B which lists training that occurred prior to this reporting period. Training programs that took place during the past six months are described below.

Academic Training Programs

Eduardo Figueira, Universidade de Evora

January 4, 1983 to January 4, 1985
M.S. in Rural Extension at the University of Wisconsin

Carlos Marques, Universidade de Evora

January 5, 1984 to December 5, 1985
M.S. program in Production Economics at Purdue University

Amilcar Serrao, Universidade de Evora

January 5, 1984 to December 5, 1985
M.S. program in Farm Management at Purdue University

Joao Lisboa, Instituto Universitario da Beira Interior

August 24, 1983 to November 30, 1984
M.S. in Quantitative Methods at Clemson University
Mr. Lisboa has requested a one month extension to complete his M.S. studies.

Amandio Baia, Instituto Universitario da Beira Interior

January 1, 1984 to June 30, 1985
M.S. studies in Operations Research at Clemson University

Alberto Pereira, Instituto Universitario da Beira Interior

August 1, 1983 to March 30, 1985

M.S. in Administration and Decision Making at Clemson University
Mr. Pereira has requested a three month extension (to May 30, 1985) to complete his M.S. program.

Mario Nunes, Instituto Universitario da Beira Interior

January 1, 1983 to May 30, 1984

M.S. degree program in Textile Science/Rheology at Clemson University

Mario Barros, Instituto Universitario da Beira Interior

January 1, 1983 to July 30, 1984

M.S. program in Industrial Management at Clemson University

Non-academic Training Programs

Joao Araujo, Universidade de Evora, April 29 - June 30, 1984.

Mr. Araujo spent two months at the University of California/Davis under the direction of Dr. H. P. Olmo, Department of Viticulture and Enology. His program involved training in general viticulture and enology, including trailing systems, fertilization, irrigation, vine disease and grape gathering. He also visited traditional vineyards where he witnessed the harvesting of early table grapes.

Armando Melo, Instituto Universitario de Tras-os-Montes e Alto

Douro, June 24 - September 21, 1984. Dr. Melo spent three days at Purdue University where he met with several staff members regarding modern teaching strategies for training teachers of 3 to 12 year olds. He met with Department of Biochemistry staff to obtain information on course offerings and visited their laboratory facilities.

Dr. Melo is currently at the Washington University School of Medicine at St. Louis, Missouri. He will spend three months there

working with Dr. Luis Glaser, Department of Biochemistry. During this time, he will be introduced to updated experimental methods in applied research so he can provide lab support for the agrarian departments upon his return to IUTAD.

Jose Ribeiro, Universidade de Evora, August 3 - December 2, 1984. Mr. Ribeiro will spend four months at Purdue University in the Department of Agricultural Economics under the direction of Dr. David Bache. He will take three courses for credit and audit several others with emphasis on farm accounting and computers in agriculture. As part of his training program, Mr. Ribeiro will travel to the University of Illinois for a one-day program on farm record keeping. He will also attend the National American Agricultural Economics Association meetings at Cornell University and attend the On-farm Computer Use Conference and Trade Show at Purdue University.

The following non-academic programs, which occurred prior to this reporting period, have not yet been reported and are thus included here.

Nuno Magalhaes, Instituto Universitario de Tras-os-Montes e Alto Douro, August 29 - October 31, 1983. Mr. Magalhaes spent two months at the University of California/Davis, where he worked with Dr. H. P. Olmo, Department of Viticulture and Enology. His training consisted of learning electrophoresis techniques as applied to characterization of Vitis Vinifera clones; fertility and fruit setting in order to improve varieties; and the production of Port wine. He met with viticulture extension specialists to become acquainted with their programs and visited vineyards to observe management practices. He obtained a

number of scientific and technical bibliographic references for his Ph.D. research work and teaching activities at IUTAD.

Virgilio Alves, Instituto Universitario de Tras-os-Montes e Alto Douro, September 6 - December 10, 1983. Mr. Alves spent three months at Cornell University under the direction of Dr. Robert McDowell, Department of Animal Science. In addition to auditing several courses in animal genetics, animal nutrition, dairy cattle and meat science, Mr. Alves had the opportunity to visit several dairy farms, the State Agricultural Experiment Station and commercial meat packing plants. Mr. Alves' work focused on dairy and beef cattle production, including breeding, feeding and management problems.

Training Scheduled During the Next Six Months

The 1984/85 schedules indicate that three academic and seven non-academic training programs will take place during the next six months.

Programs are scheduled for:

- M. J. Geraldles, IUBI
January through December 1985, M.S. program in Fiber and Textile Physics at Clemson University
- J. P. Domingues, IUBI
January through December 1985, M.S. training in Fiber and Polymer Formation at Clemson University
- Victor Pereira, IUBI
January through December 1985, M.S. program in Paper Manufacturing at Miami(Ohio) University
- M. J. Santos Silva, IUBI
September 14 - October 24, 1984, non-academic program in Textile Technology (automation) at Clemson University
- Reitor C.M. Passos Morgado, IUBI
February 10 - March 10, 1985, General Administration

- Correia Pinheiro, IUBI
February 10 - March 10, 1985, Administration of U.S.
Universities
- Aveline Morgado, IUBI
January 2 - March 2, 1985, Energy Conservation
- M. Lurdes Fernandes, IUTAD
August 26 - December 20, 1984, Hydraulics and Irriga-
tion at Washington State University
- Francisco Rego, IUTAD
August 26 - December 20, 1984, Range Resources at
University of Idaho
- E. Cruz de Carvalho, UE
September 21 - December 6, 1984, Resource Planning and
Economics at the University of California/Davis and
Cornell University

Expenditures -- Dollar Budget

Dollar budget expenditures will need to be carefully monitored during the remaining months of the contract. This monitoring and a continual update of plans will be required so that funds will be available to complete the scheduled technical assistance and training programs.

A summary of actual expenditures/commitments against the dollar budget are included in this report as Table 1. Expenditures through September 30, 1984, are estimated to be \$2,127,914. This amount includes actual Purdue expenditures through August 30, 1984 and actual Clemson expenditures through June 30, 1984. The remaining months to September 30 have been estimated.

TABLE 1

Dollar Budget--Projected Expenditures/Commitments
Through 9/30/84



Portugal University Institutes Development Project

DOLLAR BUDGET-- PROJECTED EXPENDITURES/COMMITMENTS THROUGH 9/30/84

	Total Project Budget for 6 Periods**	Budget Periods 1-4**	Projected Expenditures Thru 9/30/84*	Balance Periods 1-4**	Budget Period 5**	Budget Period 6**	Balance Through 12/85
Salaries & Wages	\$1,040,530	\$ 900,176	\$ 881,388	\$ 18,788	\$ 85,869	\$ 54,485	\$159,142
Fringe Benefits	218,980	184,648	164,679	19,969	19,605	14,727	54,301
Education Allowance	2,050	2,050	2,050	--	--	--	--
Travel/Transportation	61,708	53,608	12,243	41,365	6,600	1,500	49,465
Participant Training	813,974	671,692	462,503	209,189	55,982	86,300	351,471
Other Direct Costs	127,284	110,308	171,364	(61,056)	12,726	4,250	(44,080)
Indirect Costs	632,899	542,776	433,714	109,062	52,916	37,207	199,185
TOTAL	\$2,897,425	\$2,465,258	\$2,127,941	\$337,317	\$233,698	\$198,469	\$769,484

* Actual Purdue expenditures through 8/31/84 only. Purdue expenses for 9/84 estimated.
 Clemson subcontract actual expenditures through 6/30/84 only. Clemson expenses for 7/84 through 8/84 estimated.

** 6 periods, from 8/25/80 through 12/31/85; periods 1-4, first four contract years; period 5, from 8/25/84 through 8/25/85; period 6, from 8/26/84 through 12/31/85.

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APPENDIX A

Advisors Who Have Completed Assignments in Portugal from
August 25, 1980 - August 25, 1984

PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUTAD -- Advisory Assignments Completed

Name	Area	University	Dates	PM
THOMPSON, Robert	Agricultural Economics	Purdue	5/18/81 - 5/23/81	.25
RHYKERD, Charles	Pastures and Forages	Purdue	6/14/81 - 7/24/81	1.75
TAYLOR, Robert	Farm Mgmt & Production Economics	Purdue	5/9/82 - 6/15/82	1.25
MARTIN, Marshall	Policy and International Trade	Purdue	5/9/82 - 6/15/82	1.25
GAROYAN, Leon	Mgmt. of Agr. Cooperatives	California/Davis	5/15/82 - 6/15/82	1.00
COLLINS, Michael	Forages	Wisconsin	7/17/82 - 8/7/82	.75
OUTHOUSE, James	Production & Mgmt. of Sheep	Purdue	9/20/82 - 11/28/82	2.25
MARTIN, Truman	Artificial Breeding & Reproduction	Purdue	10/11/82 - 11/28/82	1.75
BUNTING, Stephen	Forestry	Idaho	10/15/82 - 12/12/82	2.00
FOLEY, John	Purdue Project Coordinator/IUTAD	Purdue	8/20/80 - 11/2/82	27.00
AHLRICHS, James	Visiting Scientist/Soil & Agr. Sci.	Purdue	1/26/81 - 1/26/83	24.00
COLLINS, Michael	Forages Nutritive Value Testing	Wisconsin	2/21/83 - 3/28/83	1.25
TYLER, Horace	Teaching/Learning Resource Center	Purdue	6/5/83 - 6/25/83	.75
MOSES, David	Teaching/Learning Resource Center	Purdue	6/5/83 - 7/29/83	1.75
BASSETT, Day	Hydraulics and Soil Erosion	Washington State	7/15/83 - 8/26/83	1.50
FRIDAY, William	Agricultural Machinery	Purdue	9/15/83 - 11/15/83	2.00
FRANZMEIER, Donald	Soil Survey and Mapping	Purdue	9/22/83 - 10/21/83	1.00
MARTIN, Truman	Research Methods & Approaches	Purdue	9/22/83 - 11/3/83	1.50
LECHTENBERG, Victor	Research Methods & Approaches	Purdue	9/22/83 - 11/3/83	1.50

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUTAD -- Advisory Assignments Completed (Cont.)

Name	Area	University	Dates	PM
CARTER, Edward	Pastures/Forages	Waite, Australia	5/6/84 - 5/18/84 and 5/28/84 - 6/1/84	.75
MOSES, David	Teaching/Learning Resource Center	Purdue	5/20/84 - 7/13/84	2.00
RHYKERD, Charles	Pastures/Forages	Purdue	5/29/84 - 6/15/84	.75
COLLINS, Michael	Forage Evaluation	Wisconsin	6/25/84 - 7/25/84	1.00
CUNFER, Barry	Plant Pathology	Georgia	7/1/84 - 7/30/84	1.00
BUNTING, Stephen	Fire Ecology	Idaho	7/6/84 - 8/3/84	1.00

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

UE -- Advisory Assignments Completed

Name	Area	University	Dates	PM
BROWN, Amanda	Family Resource Management	Georgia	9/25/80 - 11/18/80	3.00
THOMPSON, Robert	Agricultural Economics	Purdue	4/19/81 - 5/17/81	1.00
RHYKRD, Charles	Pastures and Forages	Purdue	7/25/81 - 8/5/81	0.50
JANICK, Jules	Horticulture	Purdue	9/10/81 - 10/10/81	1.00
JOHNSON, Dennis	Land Use Planning & Reg. Devel.	Priv. Consultant	1/2/82 - 3/4/82	2.00
CARTER, Edward	Pastures and Forages	Waite, Australia	5/9/82 - 6/4/82	1.00
HEADY, Earl	Economics/Management	Iowa State	6/13/82 - 7/22/82	1.25
RHYKRD, Charles	Pastures and Forages	Purdue	10/4/82 - 12/17/82	2.50
OUTHOUSE, James	Production & Mgmt. of Sheep	Purdue	11/29/82 - 12/8/82	.25
MARTIN, Truman	Artificial Breeding & Repro.	Purdue	11/29/82 - 12/8/82	.25
SANDERS, John	Purdue Project Coordinator/UE	Purdue	3/11/81 - 3/29/83	24.50
CARTER, Edward	Pastures and Forages	Waite/Australia	4/16/83 - 5/16/83	1.00
TAYLOR, Howard	Crop Production	Texas Tech	4/14/83 - 6/1/83	1.50
JANICK, Jules	Horticulture	Purdue	5/11/83 - 6/9/83	1.00
BACHE, David	Farm Management	Purdue	10/1/83 - 10/30/83	1.00
MONKE, Edwin	Irrigation and Drainage	Purdue	10/14/83 - 11/14/83	1.00
McGUIRE, William	Forages and Pastures	Oregon State	10/14/83 - 11/17/83	1.00
CARTER, Edward	Forages and Pastures	Waite, Australia	4/23/84 - 5/4/84	.50
OUTHOUSE, JAMES	Livestock Production	Purdue	4/30/84 - 6/1/84	1.00

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

UE -- Advisory Assignments Completed (Cont.)

Name	Area	University	Dates	PM
JAMES, Sydney	Farm Management/Farm Accounting	Brigham Young	5/13/84 - 6/18/84	1.25
JONES, Milton	Soil Fertility	California/Davis	6/27/84 - 8/1/84	1.25
RHYKERD, Charles	Pastures and Forages	Purdue	6/18/84 - 7/13/84	1.00

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUBI -- Advisory Assignments Completed

Name	Area	University	Dates	PM
LA ROCHE, Evan	Organization of Textile Products	Clemson	2/3/81 - 6/1/81	4.00
BEHERY, Hassan	Nonwoven Technology	Clemson	5/15/81 - 7/15/81	2.00
PRICER, Robert	Extension Communication Methods	Purdue	6/4/81 - 7/3/81	1.00
FRIST, Robert	Extension Communication Methods	Purdue	6/4/81 - 7/3/81	1.00
ATKINSON, Julian	Purdue Project Coordinator/IUBI	Purdue	9/30/80 - 12/21/81	15.00
EDIE, Dan	Rheology	Clemson	5/1/82 - 6/30/82	2.00
BEHERY, Hassan	Fiber & Textile Physics	Clemson	6/1/82 - 7/15/82	1.50
SPENCER, Garth	Chemical Degredation of Fibers	Clemson	10/22/82 - 12/22/82	2.00
GUNTER, Thomas	Purdue Project Coordinator/IUBI	Clemson	12/17/82 - 12/17/83	12.00
WHITEHURST, Clinton	Managerial Economics (Indus. Mgmt.)	Clemson	8/15/83 - 12/15/83	4.00
SIMON, Frederick	Color Science	Clemson	3/7/84 - 4/12/84 and 5/18/84 - 6/3/84	1.75
DAVIS, James	Accounting Info. Systems (Ind. Mgmt.)	Clemson	3/18/84 - 5/16/84	2.00
GRIGSBY, David	Management (Agrobusiness Mgmt.)	Clemson	5/9/84 - 6/30/84	1.50
BEHERY, Hassan	Instruments of Textile Control	Clemson	5/23/84 - 7/16/84	2.00

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APPENDIX B

Training Programs Completed or in Progress from
August 25, 1980 - August 25, 1984

PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUTAD -- Training Programs Completed or in Progress

Name	Area of Training	Training Received at	Dates	PM
CAMPOS, Amadeu	Veterinary Medicine	Purdue	6/30/80 - 7/17/80	.75
ANDRADE, Virgilia	Livestock Extension	Purdue	6/30/80 - 7/17/80	.75
ALMEIDA, Orlando	Livestock Extension	Purdue	6/30/80 - 7/17/80	.75
OLIVEIRA, Teles	Soil Conser.& Tillage (MS)	Wisconsin	1/1/81 - 12/31/81	12.00
SEQUEIRA, Carlos	Animal Nutrition (MS)	Cornell	1/1/81 - 12/31/81	12.00
REGO, Francisco	Forestry	Idaho	8/22/81 - 12/19/81	4.00
CRISTOVAO, Artur	Rural Extension	Purdue, Wisconsin	9/7/81 - 10/24/81	1.75
LUIS, Jaime Sales	Forest Management* (MS)	Oregon State	9/20/82 - 6/19/83	9.00
MOREIRA, Nuno	Forage Production	Purdue, Wisconsin, UC/Davis	7/19/82 - 8/30/82	1.50
SANTOS, Alberto	Micropropagation of Nut Trees	Purdue, Florida, Georgia, Missouri, UC/Davis, Oregon	7/4/82 - 8/1/82	1.00
COLACO, Jorge	Livestock Reproduction	Purdue, No. Carolina State, Illinois, Canada meetings	8/2/82 - 9/30/82	2.00
CARDOSO, Alberto	Cooperative Organization	Purdue, Wisconsin	8/1/82 - 11/30/82	4.00
MARTINS, Afonso	Soil Mapping	Purdue	9/4/82 - 11/3/82	2.00
POTES, Jose	Animal Reproduction	Purdue, Canada meetings	8/1/82 - 9/26/82	2.00
FERREIRA, Arlete	Enology	UC/Davis	4/8/83 - 7/8/83	3.00
REAL, Fernando N.F.	Teaching/Learning Resource Ctr. & Coop. Extension	Purdue, Wisconsin	5/10/83 - 6/15/83	1.25
MACHADO, Antonio	Farm Buildings	Purdue, Agr. Engr. Meetings, Bozeman, MT	6/15/83 - 8/12/83	2.00

*From 6/20/83 to 6/19/83 Luis pursued MS under project funding; received outside funding to complete MS program in 6/1984.

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUTAD -- Training Programs Completed or in Progress (Cont.)

Name	Area of Training	Training Received at	Dates	PM
ABREU, Carlos	Plant Pathology	Purdue, Georgia, Int'l. Workshop at Bozeman, MT	6/8/83 - 8/6/83	2.00
MARTINS, Fernando	Potato Production	Purdue, No. Carolina Research Ctr., Wisconsin, Oregon, Washington, Potato Assoc. meetings at Lansing, MI	7/5/83 - 9/7/83	2.00
ROSA, Eduardo	Horticulture	Rutgers	7/5/83 - 10/2/83	3.00
AZEVEDO, Jorge	Small Ruminant Production	Calif. State, Utah State, Purdue, Ani. Sci. meetings at Pullman, WA	6/18/83 - 9/22/83	3.00
MAGALHAES, Nuno	Viticulture	UC/Davis	- 10/31/83	2.00
ALVES, Virgilio	Dairy & Beef Production	Cornell	9/6/83 - 12/10/83	3.00
MELO, Armando	Research Methods	Purdue, Washington Univ, St. Louis, MO	6/24/84 - 9/21/84	1.50

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

UE -- Training Programs Completed or in Progress

Name	Area of Training	Training Received at	Dates	PM
BARRISCO, Maria	Equine Reproduction	Texas Stock Breeders, Purdue, Colorado State, N. Mexico, UC/Davis	1/9/81 - 3/9/81	2.00
COVAS, Maria	Home Economics	Georgia	6/15/81 - 8/15/81	2.00
DORDIO, Victor	Farm Mgmt. & Finances	Iowa State, Purdue	6/1/81 - 9/1/81	3.00
MARINHO, Artur	Microbiology of Ani. Nutr.	Purdue, Virginia Polytech, Natl. Ani. Ctr. at Ames, IA	8/31/81 - 12/4/81	4.00
CARVALHO, Leonor	Regional Implications of ECC	Purdue	8/24/81 - 12/19/81	4.00
VASCONCELOS, Ana Maria	Wine Quality & Grape Prod.	UC/Davis	1/4/82 - 3/25/83	3.00
CECILIO, Maria	Economics of Ag Technology	Minnesota	1/4/82 - 6/13/82	6.00
SERRALHEIRO, Ricardo	Irrigation	Arizona, Utah State, Colorado State, UC/Davis, Irrig. Conf. at Jackson, MS	7/31/82 - 10/30/82	3.00
ABREU, Manuel	Animal Nutrition	Texas A&M	8/15/82 - 12/12/82	4.00
PINHEIRO, Ermelinda	Forage Production (MS)	Iowa State	8/16/82 - 11/16/83	15.00
RAMOS, Francisco	Exten. Methods & Farm Mgmt.	Wisconsin	8/17/82 - 12/18/82	4.00
BATISTA, Manuela	Soil Chem./Soil Lab. Mgmt.	No. Carolina State, Arizona, UC/Riverside, Soil Sci. meet- ings, Los Angeles, CA	9/18/82 - 12/5/82	3.00
FIGUEIRA, Eduardo	Rural Extension (MS)	Wisconsin	1/4/83 - 1/4/85	24.00
BENTO, Ofelio	Livestock Nutrition	Purdue, Dairy Sci. meetings at Madison, WI	5/15/83 - 7/17/83	2.00
NUNES, Jose T.	Livestock Production	Purdue, Utah State, Texas A&M Virginia Polytech, USDA Sheep Expr. Sta. in Idaho, Ani. Sci. meetings at Pullman, WA	7/16/83 - 12/10/83	5.00

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

UE -- Training Programs Completed or in Progress (Cont.)

Name	Area of Training	Training Received at	Dates	PM
AVO, Jose	Livestock Management (Sheep)	Utah State, Purdue, Texas A&M, Ani. Sci. meetings, Pullman, WA	7/22/83 - 12/17/83	5.00
ROQUETE, Carlos	Livestock Management (Beef)	Utah State, Texas A&M, Purdue, Ani.Sci. Meetings at Pullman, WA	7/22/83 - 12/17/83	5.00
MARQUES, Carlos	Production Economics (MS)	Purdue	1/5/84 - 12/5/85	24.00
SERRAO, Amilcar	Farm Management (MS)	Purdue	1/5/84 - 12/5/85	24.00
ARAUJO, Joao	General Viticulture	UC/Davis	4/29/84 - 6/30/84	2.00
AZEVEDO, Ario Lobo	Ag Extension/Farm Accounting	Purdue, Wisconsin, Illinois	5/2/84 - 5/23/84	.75
RIBEIRO, Jose	Farm Management	Purdue, Cornell	8/3/84 - 12/2/84	4.00

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PORTUGAL UNIVERSITY INSTITUTES DEVELOPMENT PROJECT
(Contract AID/NE-C-1701)

IUBI -- Training Programs Completed or in Progress

Name	Area of Training	Training Received at	Dates	PM
MORGADO, C.M. Passos	Textile Engr./ Regional Planning	Purdue, Clemson	7/15/80 - 7/28/80	.50
JESUS, Fernando de	Textile Engr./Regional Planning	Purdue, Clemson	7/15/80 - 7/28/80	.50
LUCAS, Jose Mendes	Color Science	Clemson	8/15/81 - 12/31/81	4.50
LISBOA, Joao	Business Mgmt. (MS-incomplete)	Wisconsin	8/29/81 - 12/31/81	4.00
LUCAS, Jose Mendes	Color Science (MS)	Clemson	1/1/82 - 6/30/83	18.00
AMORIM, Maria	Textile Production/Polymers	Clemson	8/15/82 - 10/22/82	2.00
FIADREIRO, Jose	Textile Chem./Effluent Treatment	Clemson	8/15/82 - 10/22/82	2.00
NUNES, Mario	Textile Science/Rheology (MS)	Clemson	1/1/83 - 5/30/84	17.00
BARROS, Mario	Management (Industrial) (MS)	Clemson	1/1/83 - 7/30/84	19.00
PEREIRA, Alberto	Admin. & Decision Making (MS)	Clemson	8/1/83 - 5/30/85	22.00
LISBOA, Joao	Quantitative Methods (MS)	Clemson	8/1/83 - 12/30/84	17.00
BAIA, Amandio	Operations Research (MS)	Clemson	1/1/84 - 6/30/85	18.00
RAPOSO, Nicolau	Teaching/Learning Resource Center	Purdue, Clemson, Wisconsin	10/24/83 - 11/19/83	.75

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APPENDIX C

Suggestions Made by Short-term Advisors

SUGGESTIONS OFFERED BY SHORT-TERM ADVISORS

1. There is a need for greater interaction and cooperation between the university institutes and personnel of the Regional Directorate of the Agricultural Production Services of the Ministry of Agriculture and the Ministry of Education.
2. Research staff at the three institutes should be permitted to submit research proposals directly to PROCALFER and PROCALFER should be permitted to directly allocate funds to the research projects.
3. Logistical support for advisors should be improved. For example, the following should be provided or made readily available: Research equipment, telephones, calculators, typewriters, computer equipment and projectors. A typewriter with an English keyboard should be available at each institute.
4. Reitors and their staff should improve communications with their faculty concerning upcoming visits of short-term advisors. Departments, other than the one the advisor will be working with, should be informed of asvisors' visits and the dates of the visits.
5. It would be beneficial if the advisors and their Portuguese counterpart(s) would correspond well in advance of the advisors' arrival. This would provide advisors with a better understanding of the activities they are to carry out and to better plan for them.
6. Seminars presented by advisors should be more widely publicized and further in advance so that faculty and other interested people would have the opportunity to attend. Attendance is sometimes low at the seminars because faculty and staff of the institutes were unaware that the seminar was being offered.
7. Greater effort should be made to prioritize activities in the scope-of-work before it is sent to advisors. In one instance, the scope of work indicated that teaching a class would be the first priority and that working with faculty on research would be fourth. The advisor prepared for the assignment accordingly. However, when he arrived at the university institute, he found that the priorities had been reversed. As a result, the advisor was not as adequately prepared as he could have been had he known this in advance.
8. Procedures for payment of per diem should be simplified at several of the universities. Weekly payments consume a considerable amount of the advisors' time since they must calculate their own per diem and complete the forms to receive payment.

It is suggested that per diem be paid bi-weekly at each of the university institutes.

9. If meal tickets were available at Mitra and could be purchased a day in advance, it would be more convenient for advisors. A schedule indicating when meals are available should be provided each advisor upon arrival.