



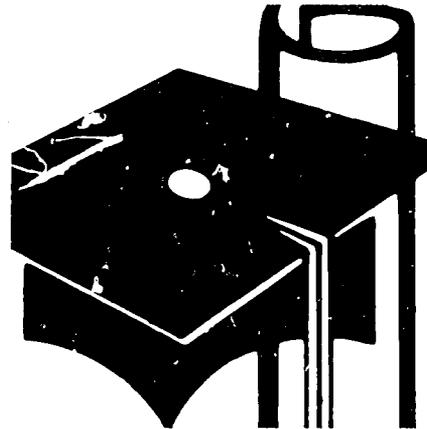
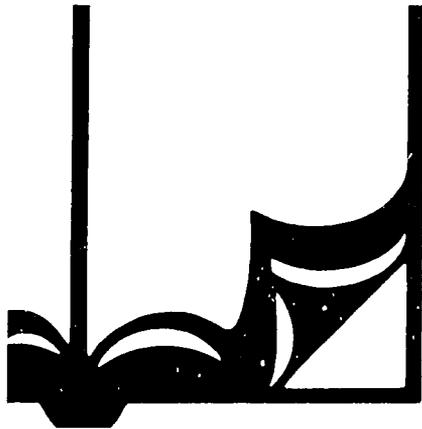
**United States
Department of
Agriculture**

Office of
International
Cooperation and
Development

Washington,
D.C.
20250

Catalog of Courses and Research Opportunities in Agriculture, 1983

Programs in the United States for Foreign Agriculturalists Offered
by the U.S. Department of Agriculture in cooperation with the
United States Agency for International Development and
U.S. Universities





Dear Colleague in Agriculture:

For over 40 years the United States Department of Agriculture has been involved in the training and education of personnel from developing nations in the areas of agriculture and rural development. During this period thousands of administrators, scientists, and technicians from the developing world have been trained in the United States and have returned to make significant contributions in their own countries. The evidence of recent years indicates that the need for trained personnel in agriculture has not diminished, therefore, the resources of the Department and U.S. agriculture are being increasingly called upon to help other nations meet their training needs.

This catalog describes one aspect of the Department's response to the world's agricultural needs. It outlines some 44 technical courses in agriculture that will be presented in the United States by the Department of Agriculture, U.S. universities, and the private sector in 1983. They range from 2 to 13 weeks in length and cover a wide range of subjects. Each is designed and conducted with an appropriate mix of practical training, field experience, and classroom activities. The focus is kept on the need for participants to return to their jobs with a higher level of practical skill as well as a stronger science-based understanding of their jobs. This short course program has expanded rapidly in recent years, especially as the world economic situation causes more countries and projects to avail themselves of the effectiveness and cost advantages of specific short course training.

Increasingly, the courses listed are also being taught in the developing nations. The past year has seen a dramatic increase in the number of international development agencies and agricultural ministries that are making arrangements with the Department to conduct courses related to specific projects in the developing countries themselves. These onsite courses are a cost-effective way of rapidly increasing the practical skills of a selected group of staff.

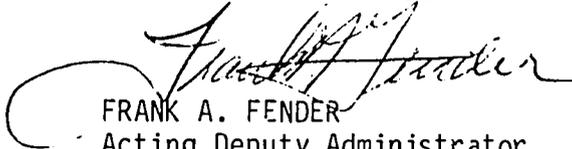
In addition to listing the technical courses available in the United States and overseas, this catalog lists over 200 opportunities for scientists to participate in research in the U.S. Department of Agriculture's laboratories. This feature reflects the Department's response to an increasing number of requests from scientists around the world to update or refine their research skills by working alongside U.S. scientists in research projects in their areas of interest. Under this program, scientists and other researchers may specify the project areas in which they wish to work and may even identify their own research topics to explore along with U.S. colleagues. We are very pleased to provide this component of our overall program and have the willing cooperation of the Department's Agricultural Research Service.



We trust that the training and research opportunities listed in this catalog will help developing and other nations meet their growing needs for trained staff. The courses will be conducted by Department personnel, university faculty, and agriculturalists from the private sector. The research will be conducted in association with Department scientists. In every instance we pledge our best efforts to strengthen the skills and capabilities of participants to help them contribute to solving their countries' food problems.

If you wish to enroll trainees in these courses, or have trainers visit your country, or if you wish to participate in any of the research opportunities listed, please contact me by letter or cable at the address on Page 56. I suggest you do so as early as possible because the courses fill rapidly and research opportunities are limited.

Yours very sincerely,



FRANK A. FENDER
Acting Deputy Administrator
for International Training

CONTENTS

INTRODUCTION i

LIST OF TECHNICAL SHORT COURSES 1

CAPABILITIES OF THE INTERNATIONAL TRAINING DIVISION 4

GENERAL COURSE INFORMATION 6

CRITICAL DATES LISTED BY COURSE NUMBER 9

COURSE DESCRIPTIONS 11

GENERAL INFORMATION ON RESEARCH OPPORTUNITIES 56

RESEARCH OPPORTUNITIES 57

CHRONOLOGICAL SCHEDULE OF COURSES 60

September 1982

LIST OF TECHNICAL SHORT COURSES

Animal Science and Natural Resources

TC 120-8	Resource Development of Watershed Lands	11
TC 120-10	Land Use Planning in Natural Resource Management	12
TC 130-4	Range Management and Forage Production	13
TC 130-9	Intensive Poultry Production Systems	14
TC 130-10	Small Ruminant Production Techniques	15
TC 170-7	Ecological Analysis for Management of Natural Resource Areas . .	16

Economics and Policy

TC 140-1	Agricultural Policy Seminar (for senior-level officials)	17
TC 140-2	Agricultural Project Planning and Analysis (two sections)	18
TC 140-3	Strategies for Developing the Agricultural Sector	19
TC 140-8	Small Farmer Credit Policy and Administration	20
TC 140-11	Establishment and Management of Agricultural Cooperative Organizations	21
TC 140-12	Organization and Operation of Rural Electric Distribution Systems	22
TC 140-16	Project Implementation for Agriculture and Rural Development . .	23
TC 140-19	Policy Formulation and Analysis for Agriculture and Rural Development	24
TC 140-22	Economic Forecasting for Agricultural Policy and Decisionmaking .	25
TC 140-26	Establishing Data Bases and Analytical Systems for Economic Decisionmaking in Agriculture	26
TC 140-28	Effective Livestock and Crop Management for Small Farms	27
TC 140-29	Regional Agricultural Resource Development	28
TC 150-5	Developing Markets for Agricultural Products	29

Management, Education, and Human Resource Development

TC 110-3	Agricultural Communications and Media Strategies (for communications specialists)	30
TC 110-5	Development and Operation of Agricultural Extension Programs (two sections)	31
TC 110-14	Application and Diffusion of Agricultural Research Results to the Community Level	32
TC 110-15	Training of Trainers for Agriculture and Rural Development . . .	33
TC 110-16	Vocational Agricultural Education Systems in Developing Countries	34
TC 110-18	Communications Planning and Strategy (for program managers of any technical specialty)	35
TC 110-19	Communication Skills for Development Professionals	36
TC 140-14	Management and Organizational Change - An Organizational Development Approach (for senior and executive officials)	37
TC 140-17	Management and the Role of Women in Development (for senior women officials)	38
TC 140-23	Management of Government Organizations in Developing Countries (for entry- to mid-level managers)	39
TC 140-24	Management of Agricultural Research Facilities and Organizations	40
TC 140-25	Initiating and Managing Integrated Rural Development Programs . .	41
TC 140-32	Keys to Agricultural Development at the Local Level (seven sections)	42

Production and Technology

TC 110-17	Agricultural Research Methodology	43
TC 120-1	Irrigation Problems and Practices	44
TC 120-5	Soil Testing, Soil Classification, and Fertility Management . . .	45
TC 120-6	Technical and Economic Aspects of Soybean Production	46
TC 120-7	Soybean Processing for Food Uses	47
TC 120-14	Assessment and Improvement of Onfarm Irrigation Systems	48
TC 120-25	Water Harvesting for Agricultural Production	49

TC 130-3	Seed Improvement	50
TC 130-5	Plant Quarantine	51
TC 130-8	Integrated Pest Management	52
TC 130-11	Vegetable Crop Production and Marketing	53
TC 150-2	Grain Storage and Marketing	54
TC 150-7	Determination and Prevention of Postharvest Food Losses	55

CAPABILITIES OF THE INTERNATIONAL TRAINING DIVISION

Programming or Arranging Training in the United States

Program specialists in the International Training Division (ITD) annually arrange and supervise training programs in the United States for approximately 2,500 foreign agriculturalists from developing nations. These programs cover a wide range of technical, scientific, and administrative areas. They include Ph.D. research programs, short-term specialized technical programs, and practical work in agencies or on farms. In arranging these programs, ITD calls upon the entire U.S. agricultural community and thus has the capacity to tailor programs to individuals or groups in almost all fields in agriculture and rural development. The support provided by ITD's program specialists includes program development, placement in universities or other organizations, program monitoring, payment of bills and allowances, and administrative arrangements.

Specialized Courses in the United States

In response to needs identified in the developing world, ITD conducts and coordinates over 50 specialized courses in the United States each year. Participants develop skills they can apply to pressing country problems through varied training topics ranging from such technical areas as irrigation, seed improvement, and grain storage to managerial and policy areas such as project implementation and small farmer credit. Courses are conducted by experienced professionals and employ training methods which facilitate interaction among participants and help them develop practical skills. (See course descriptions for additional information.)

Training Programs Conducted in Developing Countries

ITD also offers specialized training programs upon request to sponsoring organizations overseas. Such programs include either established courses or specifically developed new courses as appropriate. This is an expanding dimension of ITD's activities. Overseas courses are cost-effective and focus specialized training on selected groups with the least disruption to ongoing programs. Courses or programs 2 weeks to several months long have been prepared for staff levels ranging from operating technicians to deputy secretaries in ministries of agriculture. Recent overseas training includes programs in irrigation, swine production, project analysis, credit administration, marketing, communications, management of agricultural organizations and trainer development. They have been conducted in Thailand, Mauritania, Syria, Haiti, Egypt, Nepal, Ethiopia, Yemen, Bangladesh, Panama, Costa Rica, and other nations.

Managing Training Projects Overseas

Improving training resources and institutions in developing nations is critically important for agricultural development. As a key contribution to this area, U.S. staff can serve as managers, advisors, or trainers in the planning, development, and implementation of in-country training projects. ITD has been responsible for managing or advising on several large training projects overseas. Such projects are located currently in Tanzania and Indonesia.

Short-Term Experts

ITD provides professionals experienced in technical and management areas on a short-term basis for such needs as surveying training requirements or planning integrated training programs. Short-term assistance has been provided upon request to many developing countries and includes work on project design in the Sudan, training surveys in Tanzania, and human resource development assessment in Portugal.

Strengthening Agricultural Organizations

In recent years ITD has focused many of its resources on developing its capability to strengthen agricultural organizations. Recognizing that managerial or technical competence is only one factor contributing to organizational effectiveness, ITD has undertaken projects that also strengthen other qualities needed for organizational effectiveness. These include information, fiscal, and incentive systems; organizational structure; methods for setting goals and objectives; and staffing patterns, staff development, and retention. ITD can undertake such projects in a wide variety of agricultural organizations and has done so in countries such as Jamaica and Bangladesh.

Programs To Develop Trainers

Developing skilled trainers in a variety of technical and management areas is another important activity of the International Training Division. In specific instances, individuals or groups from key foreign ministries have been trained as trainers. They, in turn, have conducted successful low-cost programs in their own ministries. To increase the effectiveness of its programs, ITD includes the learning of training skills as a secondary objective in many of its technical and management courses.

Research Opportunities in the United States

ITD, in cooperation with the Agricultural Research Service laboratories, offers a program which allows foreign scientists to join their colleagues in research projects of mutual interest. This new program helps scientists in the developing world to maintain their research skills at a high level and at the same time contribute to their field of specialization. (For more complete information see page 56.)

GENERAL COURSE INFORMATION

PARTICIPANTS

Courses are open to the staffs of agricultural and rural development institutions and organizations in developing countries. In their own countries participants may fill such diverse roles as technicians, scientists, trainers, administrators, and policymakers. They may have varied subject matter backgrounds and wide ranges of experience in development positions.

PHILOSOPHY AND DESIGN

The design of each course represents a belief that training situations should provide participants with sound technical knowledge and the opportunity to test and practice new skills and knowledge in practical situations. Thus, all courses offer a mixture of technical instruction, exercises, practice, and field observations.

Experienced professional staff will find the courses stimulating and challenging because they focus on issues affecting developing countries. Participants are encouraged to identify specific personal objectives within the course objectives, share their home country situations, and apply course resources to the realities they face at home. The format of the courses will help them do so by providing small group work, introducing relevant case studies and examples, conducting illustrative field trips, and involving them in an ongoing evaluation of the training offered. All course instructors have international experience and are selected for their knowledge of specific subject areas and their skill in facilitating adult learning.

Each course is designed for a specific level of academic knowledge and professional experience. Target audiences are indicated in the individual course descriptions. Participants should have the ability to participate fully in classes, exercises, and projects conducted in English. Where simultaneous translation is available, it is indicated in the course description. Costs for translators will be furnished upon request.

LOCATION

Courses conducted by USDA staff are held in a training center in the Washington, D.C., metropolitan area. Courses which are coordinated by USDA but conducted by a U.S. university are typically presented at that university.

COURSE SEQUENCE

The schedule has been designed so that many of the courses can be taken in sequence. (See the chart on page 60.) Future schedules will approximate the 1983 calendar to help with long-term planning.

ENROLLMENT

Cable or write to reserve space for course candidates. For most courses, enrollment is on a space-available basis. Send funding documents or payment, English language proficiency scores, and biographical information at least 2 months before the course start date so that administrative processing can be completed

prior to participants' arrival. Refer to course descriptions for information on any home-country data or materials that participants should bring for use during the course.

FUNDING AND FINANCIAL ARRANGEMENTS

Funding is arranged according to the sponsoring organization as follows:

AID participants - Project Implementation Order for Participants (PIO/P) documentation is required.

FAO fellowships - FAO Fellowship documentation is required.

Other sponsors - The World Bank, country governments, and other sponsors should make checks payable to USDA/ITD for the training fees and pay maintenance allowance directly to participants. See individual course descriptions for complete information.

Training Fee. Cost totals for each course vary according to the items included as training expenses by each sponsoring organization. All training fees include course costs, such as staff, materials, and field trips; and administrative support, such as course enrollment procedures, health insurance, logistical arrangements, and assistance with relevant appointments and personal needs. In addition, orientation to the United States and to the Department of Agriculture is provided for all participants by the Washington International Center and USDA.

The items included in the training fee vary somewhat by sponsor:

AID participants: RSSA, course coordination fee, insurance, orientation at Washington International Center, books, book shipment, and professional society membership.

FAO participants: Administrative fee, course coordination fee, insurance, and orientation at Washington International Center.

Other participants: Administrative fee, course coordination fee, insurance, orientation at Washington International Center, and a professional society membership. Please note that the maintenance allowance given directly to participants has already been adjusted for each course to include money for books and book shipment, \$110.

Maintenance Allowance. The maintenance allowance for food, housing, and incidentals is calculated at \$50/day for the first month and for field trips away from the training site. Washington-based courses continue for the duration of the course at \$50/day due to the high costs of living in the area. The allowance at other sites is reduced to \$28.33/day after the first month. Information on any increases made necessary by

inflation will be forwarded to sponsors when participants are enrolled. Governments and organizations which have their own policies with regard to maintenance allowances are encouraged to follow those policies.

ARRIVAL DATE
AND ORIENTATION

Arrival date (call forward date) is scheduled 5 to 8 days prior to the actual course date to allow time for orientation and administrative processing. Both participants and instructors strongly agree that this lead time plays a critical role in the participants' readiness to begin an intensive course. During orientation, participants examine U.S. culture and customs, familiarize themselves with transportation, arrange permanent housing, and generally "settle-in." Financial arrangements, visa problems, and other administrative matters are handled at this time. In addition, instructors often conduct individual interviews with participants to ensure that courses meet participants' needs.

When USDA is notified of participants' scheduled arrival time, they will be met at the airport by volunteers from the Washington International Center (WIC). WIC staff will assist with transportation and hotel arrangements at that time.

For more detailed information, cable or write to:

Dr. Frank A. Fender
Acting Deputy Administrator for International Training
Room 3529-S
Office of International Cooperation
and Development (OICD)
United States Department of Agriculture
Washington, D.C. 20250
USA

Cable address: AGRI/WASH 64334, Fender, OICD

CRITICAL DATES LISTED BY COURSE NUMBER

Course	Documentation Date	Arrival for Orientation (Call Forward)	Course Start	Course End
TC 110-3 Ag. Comm. & Media Strategies	May 11	Jul 5	Jul 11	Aug 19
TC 110-5 (Section I) Agricultural Extension	Apr 13	Jun 6	Jun 13	Aug 12
TC 110-5 (Section II) Agricultural Extension	Jul 5	Aug 29	Sep 5	Nov 11
TC 110-14 Application & Diffusion	Jun 22	Aug 15	Aug 22	Sep 30
TC 110-15 (Section I) Ag. Trainer Development	Feb 11	Apr 6	Apr 11	Jun 3
TC 110-15 (Section II) Ag. Trainer Development	Apr 13	Jun 8	Jun 13	Aug 5
TC 110-16 Vocational Ag. Education	Apr 13	Jun 6	Jun 13	Jul 22
TC 110-17 Ag. Research Methodology	Apr 6	May 31	Jun 6	Jul 22
TC 110-18 Comm. Planning & Strategy	May 18	Jul 11	Jul 18	Aug 5
TC 110-19 Comm. Skills for Dev. Prof.	Oct 26	Dec 19	Dec 26, '83	Jan 6, '84
TC 120-1 Irrigation Problems & Practices	Apr 13	Jun 6	Jun 13	Aug 5
TC 120-5 Soil Testing, Classification & Fertility Management	Apr 6	May 31	Jun 6	Jul 29
TC 120-6 Soybean Production	Mar 16	May 9	May 16	Aug 5
TC 120-7 Soybean Processing for Food Uses	Mar 16	May 9	May 16	Jul 1
TC 120-8 Dev. of Watershed Lands	Apr 13	Jun 6	Jun 13	Jul 22
TC 120-10 Land Use Planning	Mar 23	May 16	May 23	Jul 1
TC 120-25 Water Harvesting for Ag. Prod.	May 11	Jul 5	Jul 11	Aug 5
TC 130-3 Seed Improvement	Apr 6	May 31	Jun 6	Aug 4
TC 130-4 Range Mangement	Mar 30	May 23	May 30	Jul 29
TC 130-5 Plant Quarantine	Jul 12	Sep 7	Sep 12	Oct 14
TC 130-8 Integrated Pest Mgmt.	Apr 13	Jun 6	Jun 13	Jul 22
TC 130-9 Intensive Poultry Production	Mar 30	May 23	May 30	Jul 1
TC 130-10 Small Ruminant Production	Apr 20	Jun 13	Jun 20	Jul 29
TC 130-11 Vegetable Crop Production	May 11	Jul 5	Jul 11	Aug 19
TC 140-1 Ag. Policy Seminar	Apr 13	Jun 6	Jun 13	Jul 8
TC 140-2 (Section I) Ag. Project Planning & Analysis	Feb 18	Apr 13	Apr 18	Jun 24

Course	Documentation Date	Arrival for Orientation (Call Forward)	Course Start	Course End
TC 140-2 (Section II) Ag. Project Planning & Analysis	Jun 8	Aug 3	Aug 8	Oct 14
TC 140-3 Developing the Ag. Sector	Mar 9	May 2	May 9	Jun 17
TC 140-8 Small Farmer Credit Policy	Jul 19	Sep 12	Sep 19	Oct 28
TC 140-11 Ag. Cooperative Organ.	Jul 19	Sep 12	Sep 19	Oct 28
TC 140-12 Rural Electric Distribution	Mar 9	May 4	May 9	Jun 10
TC 140-14 Mgmt. & Organizational Change	Mar 2	Apr 27	May 2	Jun 10
TC 140-16 Ag. Project Implementation	Apr 27	Jun 22	Jun 27	Aug 5
TC 140-17 Mgmt. & Women in Development	Feb 4	Mar 28	Apr 4	May 13
TC 140-19 Ag. Policy Formulation & Analysis	Feb 11	Apr 6	Apr 11	May 13
TC 140-22 Economic Forecasting	May 18	Jul 11	Jul 18	Aug 26
TC 140-23 (Section I) Mgmt. of Gov't. Organizations	Feb 18	Apr 13	Apr 18	Jun 10
TC 140-23 (Section II) Mgmt. of Gov't. Organizations	Apr 20	Jun 15	Jun 20	Aug 12
TC 140-24 Mgmt. of Ag. Research	Apr 20	Jun 13	Jun 20	Jul 29
TC 140-25 Integrated Rural Develop.	Jul 12	Sep 7	Sep 12	Nov 4
TC 140-26 Establishing Data Bases	Mar 30	May 23	May 30	Aug 26
TC 140-28 Livestock & Crop Mgmt.	Apr 6	May 31	Jun 6	Jul 15
TC 140-29 Regional Ag. Resource Dev.	Mar 23	May 16	May 23	Jun 24
TC 140-32 (Section I) Keys to Agric. Development	Mar 9	May 2	May 9	May 20
TC 140-32 (Section II) Keys to Agric. Development	Mar 23	May 16	May 23	Jun 3
TC 140-32 (Section III) Keys to Agric. Development	May 18	Jul 11	Jul 18	Jul 29
TC 140-32 (Sections IV & V) Keys to Agric. Development	Jun 8	Aug 1	Aug 8	Aug 19
TC 140-32 (Sections VI & VII) Keys to Agric. Development	Jun 15	Aug 8	Aug 15	Aug 26
TC 150-2 Grain Storage & Marketing	Apr 13	Jun 6	Jun 13	Jul 29
TC 150-5 Developing Markets for Agric. Products	Apr 6	May 31	Jun 6	Jul 29
TC 150-7 Postharvest Food Losses	Jul 12	Sep 6	Sep 12	Oct 14
TC 170-7 Mgmt. of Natural Resource Areas	May 11	Jul 5	Jul 11	Aug 5

COURSE DESCRIPTIONS

RESOURCE DEVELOPMENT OF WATERSHED LANDS TC 120-8

DATES AND DURATION

6 weeks: June 13-July 22, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

For midlevel technicians and professionals engaged in the management and development of watershed lands in developing nations. Individuals with a B.S. or M.S. in forestry or agriculture, or who work with water resources.

OBJECTIVES

Participants will acquire the knowledge and skills necessary for the effective development, use, and management of water resources to increase food and fiber production.

CONTENT

Watershed lands are habitable areas which do not include agricultural, urban, or reserve areas. Because production from these lands is linked with water, the course deals with the fundamentals of hydrology, including hydrologic measurement and predictive methods. The course presentation is supplemented with practical problems and demonstrations. Since most of the difficulties in developing the multiple products of watershed lands are social and economic, the course emphasizes those aspects of development. Other major areas include range assessment and management, soil and water conservation techniques, and natural resource economics and management.

OTHER INFORMATION

Conducted in English by the University of Arizona. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,553 includes \$3,420 for training fee and associated costs and \$2,133 maintenance allowance.

UN/FAO participants: Total \$5,293 includes \$3,160 for training fee and associated costs and \$2,133 for maintenance allowance.

All other participants: Total \$5,553 includes \$3,310 for training fee and associated costs payable to USDA and \$2,243 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Tucson, Arizona, with a stopover in Washington, D.C., from June 6 to June 10.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, Arabic, French, and Spanish.

LAND USE PLANNING IN NATURAL RESOURCE MANAGEMENT
TC 120-10

DATES AND DURATION

6 weeks: May 23-July 1, 1983. Participants should arrive in Washington, D.C., on May 16 for course orientation and administrative procedures.

TARGET AUDIENCE

Land use and regional planners, officials who establish or administer planning programs at the State or national level, and resource specialists whose duties include working on land use planning teams.

OBJECTIVES

Participants will be able to: (1) define, analyze, and evaluate land use planning in the context of natural resource policy and management; (2) explain and give examples of principles, assumptions, and methods useful in developing objectives, gathering and analyzing data, and developing and evaluating land use alternatives; and (3) better understand the techniques used to analyze the social and economic impacts of alternative land uses.

CONTENT

Participants will study the land use planning process including the challenge of effectively working on an interdisciplinary planning team. The course will emphasize the importance of and techniques used in understanding the social, cultural, physical, and biological environments in the land area for which a plan is developed. Participants should bring a case study from their home country on a potential or existing land use situation which they wish to work on during the course. Field trips will examine local and regional areas facing a variety of land use planning problems.

OTHER INFORMATION

Conducted in English by the University of Idaho. Simultaneous interpretation is not available.

COST

AID participants: Total \$6,146 includes \$4,078 for training fee and associated costs and \$2,068 for maintenance allowance.

UN/FAO participants: Total \$5,886 includes \$3,818 for training fee and associated costs and \$2,068 for maintenance allowance.

All other participants: Total \$6,146 includes \$3,968 for training fee and associated costs payable to USDA, and \$2,178 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to the Pullman/Moscow Regional Airport in Pullman, Washington, with a stopover in Washington, D.C., from May 16 to May 20.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

RANGE MANAGEMENT AND FORAGE PRODUCTION
TC 130-4

DATES AND DURATION

9 weeks: May 30-July 29, 1983. Participants should arrive in Washington, D.C., on May 23 for course orientation and administrative procedures.

TARGET AUDIENCE

Range and livestock officers, extension specialists, teachers and professors, technicians, and farmers.

OBJECTIVES

Upon completion of the course, participants will be able to: (1) develop systems for range inventories and delineating range sites; (2) select appropriate range inventory and sampling procedures for specific range areas; (3) evaluate and relate the different components of range ecosystems; (4) plan efficient improvements for various range settings; (5) plan and evaluate grazing management schemes for various purposes; and (6) consider and implement range management plans in situations where there are competing and complementary land uses.

CONTENT

The course provides participants with a framework for range development and planning, emphasizing extensive range production. Topics include identification of vegetation types; range site classification, remote sensing, mapping, and range surveys; determination of range carrying capacity, use patterns, and forage utilization; reseeding for improved and increased production; control of undesirable vegetation; water development; range research and education; and the reproductive physiology of domestic livestock. Field trips illustrate the variety of range production systems--both intensive and extensive--needed in differing climates.

OTHER INFORMATION

Conducted in English by New Mexico State University. Simultaneous interpretation is not available.

COST

AID participants: Total \$6,944 includes \$4,021 for training fee and associated costs and \$2,923 for maintenance allowance.

UN/FAO participants: Total \$6,684 includes \$3,761 for training fee and associated costs and \$2,923 for maintenance allowance.

All other participants: Total \$6,944 includes \$3,911 for training fee and associated costs payable to USDA, and \$3,033 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to El Paso, Texas, with a stopover in Washington, D.C., from May 23 to May 27.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, Arabic, and French.

INTENSIVE POULTRY PRODUCTION SYSTEMS
TC 130-9

DATES AND DURATION

5 weeks: May 30-July 1, 1983. Participants should arrive in Washington, D.C., on May 23 for course orientation and administrative procedures.

TARGET AUDIENCE

Technical officers, extension specialists, and others directly involved in poultry production programs.

OBJECTIVES

Participants will: (1) increase their knowledge and skills in poultry breeding, nutrition, and disease prevention and control; and (2) develop an understanding of new and alternative techniques of poultry production management that can improve dietary and economic conditions.

CONTENT

This course focuses on how poultry production can be used to improve diets and increase the income of farm families. Course content includes basic principles of poultry production: breeding, feeding and nutrition, disease prevention and control, types of incubators, egg handling and storage, rearing and managing broiler and layer birds, and turkey production. Field trips will offer opportunities to analyze both large and small commercial operations.

OTHER INFORMATION

Course is conducted in English by Stephen F. Austin State University. Simultaneous interpretation is not available.

COST

AID participants: Total \$4,362 includes \$2,635 for training fee and associated costs and \$1,727 for maintenance allowance.

UN/FAO participants: Total \$4,102 includes \$2,375 for training fee and associated costs and \$1,727 for maintenance allowance.

All other participants: Total \$4,362 includes \$2,525 for training fee and associated costs payable to USDA, and \$1,837 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Lufkin, Texas (connecting from Dallas/Ft. Worth, Texas, on Eagle Airlines), following a stopover in Washington, D.C., from May 23 to May 27.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, Spanish, and French.

SMALL RUMINANT PRODUCTION TECHNIQUES
TC 130-10

DATES AND DURATION

6 weeks: June 20-July 29, 1983. Participants should arrive in Washington, D.C., on June 13 for course orientation and administrative procedures.

TARGET AUDIENCE

Technical specialists and extension and production personnel who are concerned with the production and management of goat and sheep herds.

OBJECTIVES

Participants will develop knowledge and skills to: (1) operate and manage sheep and goat production programs; (2) operate and manage grazing and confinement systems; (3) manage and improve rangeland; (4) select and breed sheep and goat herds for improved production; (5) formulate nutritionally sound rations utilizing available home country feeds; (6) diagnose diseases and develop disease prevention and control strategies; and (7) develop and expand markets for animal products.

CONTENT

This course teaches the fundamentals of producing and managing goat and sheep herds for meat, milk, and wool production. It will cover practical knowledge and techniques in the following areas: selection and breeding including visual appraisal and records; calculating rations including range forages and supplementation; disease management techniques, drenching, and parasite control; management techniques such as recordkeeping, data analysis, and water and range development; production and marketing of meat, milk, wool, hides, etc.; and reproductive physiology and management. Open grazing and confinement systems and different environmental conditions will be examined in field trips.

OTHER INFORMATION

Conducted in English by California State Polytechnic University, Pomona. Simultaneous interpretation available in French and Spanish at additional cost.

COST

AID participants: Total \$5,350 includes \$3,195 for training fee and associated costs and \$2,155 for maintenance allowance.

UN/FAO participants: Total \$5,090 includes \$2,935 for training fee and associated costs and \$2,155 for maintenance allowance.

All other participants: Total \$5,350 includes \$3,085 for training fee and associated costs payable to USDA, and \$2,265 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Ontario, California, with a stopover in Washington, D.C., from June 13 to June 17.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, Spanish, and French.

ECOLOGICAL ANALYSIS FOR MANAGEMENT OF
NATURAL RESOURCE AREAS
TC 170-7

DATES AND DURATION

4 weeks: July 11-August 5, 1983. Participants should arrive in Washington, D.C., on July 5 for course orientation and administrative procedures.

TARGET AUDIENCE

Supervisory, administrative, or professional personnel concerned with inventories or management planning of forest resources.

OBJECTIVES

Participants will: (1) develop a conceptual framework for the application of ecological science to resource management; (2) inventory resources; (3) analyze data used in forest and natural resources management; (4) identify and perform ecological analyses of resource problems; and (5) develop alternative solutions to deforestation and natural resource degradation.

CONTENT

Initial sessions will present concepts of ecological science, resource management, and land use planning. Field trips will demonstrate the best technology currently available to manage water, soil, forest, fish, and wildlife resources. Participants will gain experience in conducting resource inventories, remote sensing, and assessments of air and water quality. Additional field work will provide an opportunity to expand the application of ecological science to rangeland management and to conduct resource inventories, to map resources, and to evaluate habitat quality.

OTHER INFORMATION

Conducted in English by the University of Tennessee. Simultaneous interpretation is not available. Participants are expected to present a case study of resource management problems or achievements in their home country.

COST

AID participants: Total \$4,055 includes \$2,498 for training fee and associated costs and \$1,557 for maintenance allowance.

UN/FAO participants: Total \$3,795 includes \$2,238 for training fee and associated costs and \$1,557 for maintenance allowance.

All other participants: Total \$4,055 includes \$2,388 for training fee and associated costs payable to USDA, and \$1,667 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Knoxville, Tennessee, with a stopover in Washington, D.C., from July 5 to July 8.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

AGRICULTURAL POLICY SEMINAR
TC 140-1

DATES AND DURATION

4 weeks: June 13-July 8, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Senior level agricultural policymakers such as Secretaries or Ministers of Agriculture, Assistant Secretaries or Ministers, senior Agricultural Officers, Deputy Chief Agricultural Officers, and senior legislators who deal with agricultural policy .

OBJECTIVES

Participants will develop the knowledge and skills to: (1) evaluate the policymaking process; (2) identify major national goals with respect to the agricultural sector; (3) resolve goal conflicts; (4) evaluate alternative courses of action to resolve major policy problems; and (5) select appropriate analytical techniques to provide information for better solutions to policy problems.

CONTENT

The seminar focuses on substantive policy matters and policy determination and implementation. The seminar topics include the role of agricultural policy decisions in social and economic development; how agricultural policies are formulated and implemented; discussions of major policy issues such as food and population issues, marketing issues, land reform, resource conservation policies, price policy for agricultural commodities, tax policy, import-export policies, development and diffusion of new technology, and other issues raised by participants; the interdependence among selected policy issues; and a field trip to allow participants to observe how national decisions on agricultural policy are implemented at the local level.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$4,306 includes \$2,656 for training fee and associated costs and \$1,650 for maintenance allowance.

UN/FAO participants: Total \$4,046 includes \$2,396 for training fee and associated costs and \$1,650 for maintenance allowance.

All other participants: Total \$4,306 includes \$2,546 for training fee and associated costs payable to USDA, and \$1,760 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted on a country or regional basis in English and Spanish.

PROJECT PLANNING AND ANALYSIS FOR AGRICULTURE AND RURAL DEVELOPMENT
TC 140-2

DATES AND DURATION

10 weeks: Section I. April 18-June 24, 1983. Participants should arrive in Washington, D.C., on April 13 for course orientation and administrative procedures.
Section II. August 8-October 14, 1983. Participants should arrive in Washington, D.C., on August 3 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff and technical personnel in Ministries of Agriculture, central and agricultural banks, and on planning boards who will be involved in project planning and evaluation as team members, supervisors, or teachers.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) specify the objectives and critical factors in agricultural projects; (2) develop a project system that considers all agency and resource constraints; (3) examine alternative project components and implementation approaches; (4) estimate project benefits and costs; (5) evaluate financial and economic impacts of projects; (6) identify risks, complications, and methods for their inclusion in the analysis of projects; and (7) present data on alternative projects for comparison purposes.

CONTENT

The course includes the following topics: the role of project planning and analysis in agricultural development; the identification of project objectives and constraints; design of project proposals; logical framework analysis; network analysis using PERT and CPM; design of project organizational structure and lines of authority; collection of data on project resources, farm enterprises, and cooperative enterprises; financial analysis, including internal rate of return, benefit-costs analysis, discounting, and methods to estimate anticipated project benefits to specific groups and entities; economic analysis, including shadow pricing vs. market pricing, indirect benefits and costs, and differences between financial and economic analyses; refinements for dealing with uncertainty, inflation, mutually exclusive projects, and intangible costs and benefits. Two field trips allow intensive study of project planning and analysis practices, including onsite planning operations, data collection techniques, partial budget analysis, and the economic analysis of an agricultural development project.

OTHER INFORMATION

Conducted in English by USDA, university personnel and consultants. Simultaneous interpretation is available in French and Spanish at additional cost.

COST

AID participants: Total \$9,109 includes \$5,459 for training fee and associated costs and \$3,650 for maintenance allowance.

UN/FAO participants: Total \$8,849 includes \$5,199 for training fee and associated costs and \$3,650 for maintenance allowance.

All other participants: Total \$9,109 includes \$5,349 for training fee and associated costs payable to USDA, and \$3,760 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

For overseas presentation, two separate courses are available--Project Planning and Project Analysis.

STRATEGIES FOR DEVELOPING THE AGRICULTURAL SECTOR
TC 140-3

DATES AND DURATION

6 weeks: May 9-June 17, 1983. Participants should arrive in Washington, D.C., on May 2 for course orientation and administrative procedures.

TARGET AUDIENCE

Upperclass students studying for a B.S. degree and graduate students who have potential for guiding agricultural development in their home countries. Participants should have completed undergraduate course work in micro- and macroeconomics.

OBJECTIVES

Participants will develop an understanding of the theories, status of empirical knowledge, problems, and possibilities in the areas of economic development, growth, and development planning in the less developed countries. Emphasis is placed on gaining knowledge of analytical concepts that will enable participants to perform more effectively as professionals in public agencies involved with economic and agricultural development.

CONTENT

The course includes: meaning and measurement of economic development, growth, and improvements in welfare; international differences in levels and rates of growth and development; survey of basic theories of development and growth; structural change and role of agriculture; theories of growth and development as related to distinctive features of low-income countries development and planning; problems of, and programs for, institution building and resource development; seminars on participant papers prepared on agricultural planning and development in their respective countries; country monographs on economic development and country development plans; and field trips to observe agricultural development. Continually updated to include strategies for reaching the poorest of the poor, the course provides an opportunity for technical agriculturists to study development strategies.

OTHER INFORMATION

Conducted in English. Simultaneous translation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$5,572 includes \$3,547 for training fee and associated costs and \$2,025 for maintenance allowance.

UN/FAO participants: Total \$5,312 includes \$3,287 for training fee and associated costs and \$2,025 for maintenance allowance.

All other participants: Total \$5,572 includes \$3,437 for training fee and associated costs payable to USDA, and \$2,135 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

SMALL FARMER CREDIT POLICY AND ADMINISTRATION
TC 140-8

DATES AND DURATION

6 weeks: September 19-October 28, 1983. Participants should arrive in Washington, D.C., on September 12 for course orientation and administrative procedures.

TARGET AUDIENCE

National or regional agricultural credit officials who supervise loans to small farmers and who are expected to play influential roles in the agricultural credit agencies of their government.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) understand the role of credit programs for small farmers in economic development; (2) implement lending and borrowing principles; (3) evaluate mechanisms which can be used to reduce risks and the heavy administrative costs associated with small farmer credit programs; and (4) weigh alternative policies and the trade-offs that exist among them.

CONTENT

Topics include the role of small farmer credit programs in the development of the agricultural sector; the formulation of agricultural policy; discussion of major credit policy issues including supervision, interest rates, distribution channels, savings and the attraction of funds; review of borrowing and lending principles; review of production economics; examination of small farmer production, financial structure, and credit behavior; financial institutions and markets; and administrative techniques for serving small farmers. Field trips include visits to major U.S. agricultural credit institutions to observe and practice administrative techniques used in making loans. Participants exchange ideas on the overall agricultural credit systems in their home countries and learn how small farmer credit fits into their systems.

OTHER INFORMATION

Conducted in English by USDA, university faculty, and consultants. Simultaneous interpretation is available in French and Spanish at additional cost.

COST

AID participants: Total \$5,379 includes \$3,129 for training fee and associated costs and \$2,250 for maintenance allowance.

UN/FAO participants: Total \$5,119 includes \$2,869 for training fee and associated costs and \$2,250 for maintenance allowance.

All other participants: Total \$5,379 includes \$3,019 for training fee and associated costs payable to USDA, and \$2,360 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. The Small Farmer Credit Policy course and the Small Farmer Credit Distribution and Administration course will continue to be available separately in English, French, and Spanish.

ESTABLISHMENT AND MANAGEMENT OF AGRICULTURAL COOPERATIVE ORGANIZATIONS
TC 140-11

DATES AND DURATION

6 weeks: September 19-October 28, 1983. Participants should arrive in Washington, D.C., on September 12 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff responsible for initiating, developing, and managing agricultural cooperatives.

OBJECTIVES

Participants will: (1) learn how to organize and manage cooperatives to give small farmers more leverage in the marketplace; (2) learn how to organize, and instruct others to organize, small-scale producers into more viable production and marketing entities; and (3) practice skills necessary for developing and managing agricultural cooperatives.

CONTENT

The course will include: the structure and organization of cooperatives for marketing products, purchasing farm inputs, or group farming; the leadership and management functions essential for a viable cooperative organization; the financing of cooperatives; the role of government in the cooperatives movement, including the transitional process from a government program to a self-sustaining cooperative movement; and the consideration of a variety of member-relations activities ranging from the recruitment of members to the vocational and other educational needs of the membership.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$4,326 includes \$2,236 for training fee and associated costs and \$2,090 for maintenance allowance.

UN/FAO participants: Total \$4,066 includes \$1,976 for training fee and associated costs and \$2,090 for maintenance allowance.

All other participants: Total \$4,326 includes \$2,126 for training fee and associated costs payable to USDA, and \$2,200 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

ORGANIZATION AND OPERATION OF RURAL
ELECTRIC DISTRIBUTION SYSTEMS
TC 140-12

DATES AND DURATION

5 weeks: May 9-June 10, 1983. Participants should arrive in Washington, D.C., on May 4 for course orientation and administrative procedures.

TARGET AUDIENCE

Mid- and senior-level administrators responsible for establishing and operating electricity distribution systems in rural areas.

OBJECTIVES

Participants will develop knowledge and skills to: (1) understand the U.S. rural electrification system; (2) discuss the growth of such systems in their home countries; (3) analyze the development of the Rural Electrification Administration (REA) cooperative system (and the farmer's role in that system); (4) apply management and cooperative principles; and (5) develop an effective and efficient rural electrification system appropriate for their home country.

CONTENT

This course is designed to provide a general overview of rural electric systems with the Rural Electrification Administration, USDA, and the National Rural Electric Cooperative Association. Additionally, participants will make field visits to selected cooperatives to study their operations and management. They will visit both small- and large-scale cooperatives. Special training is provided in administration, engineering, and finance.

OTHER INFORMATION

Conducted in English by USDA and the Rural Electrification Administration, the National Rural Electric Cooperatives Association, and local cooperatives. Simultaneous interpretation is not available.

COST

AID participants: Total \$4,952 includes \$3,052 for training fee and associated costs and \$1,900 for maintenance allowance.

UN/FAO participants: Total \$4,692 includes \$2,792 for training fee and associated costs and \$1,900 for maintenance allowance.

All other participants: Total \$4,952 includes \$2,942 for training fee and associated costs payable to USDA, and \$2,010 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

AGRICULTURAL PROJECT IMPLEMENTATION
TC 140-16

DATES AND DURATION

6 weeks: June 27-August 5, 1983. Participants should arrive in Washington, D.C., on June 22 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff responsible for initiating and managing agricultural development projects.

OBJECTIVES

Participants will develop knowledge and skills to: (1) activate a project plan; (2) specify and schedule work; (3) clarify authority and responsibility; (4) obtain needed references; (5) utilize information feedback and control systems; (6) motivate staff and implement control procedures; and (7) terminate projects and hand over responsibilities to existing organizations.

CONTENT

This course treats project implementation from the point at which a project has been planned, analyzed, and funded. It is designed to assist participants in identifying and solving the organizational and technical problems encountered in implementing a project plan. Various management skills and tools are introduced which will assist in building an organization which facilitates information feedback, corrects errors, or eliminates bottlenecks as they occur. The course also covers monitoring, project costs, and evaluating the progress of the project. In addition, emphasis is given to working with farmers and local decisionmakers to help ensure acceptance, participation, and support for the project. Throughout the course, the philosophy prevails that project teams are only temporary and that at some point in the life of a project the operation will be transferred to an existing organization. The field trip emphasizes local involvement in the implementation of projects.

OTHER INFORMATION

Course is conducted in English by USDA. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,455 includes \$3,205 for training fee and associated costs and \$2,250 for maintenance allowance.

UN/FAO participants: Total \$5,195 includes \$2,945 for training fee and associated costs and \$2,250 for maintenance allowance.

All other participants: Total \$5,455 includes \$3,095 for training fee and associated costs payable to USDA, and \$2,360 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

POLICY FORMULATION AND ANALYSIS FOR
AGRICULTURE AND RURAL DEVELOPMENT
TC 140-19

DATES AND DURATION

5 weeks: April 11-May 13, 1983. Participants should arrive in Washington, D.C., on April 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Midlevel policy analysts in departments or ministries of agriculture, planning, or related fields who are concerned with agricultural policy analysis and implementation.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) understand policy formulation, which includes determining the unique problems in a particular system; (2) identify alternative policies for the agricultural sector to help solve these problems; (3) apply analytical techniques to evaluate the probable outcomes of alternative policies; and (4) understand the interdependence of policy issues and the external forces that affect policy decisions.

CONTENT

Topics include: discussions of national economic goals and the role of agriculture in the attainment of these goals; policy formulation and the role of the policy analyst in that process; the role of data in policy analysis, including types of data needed and procedures for obtaining necessary data; and techniques for analyzing the impact of alternative policies, including function fitting, calculation of elasticity coefficients, resource productivities, and comparative advantages. Analytical techniques are applied to policy issues most relevant to the participants' own countries, such as credit, taxation, price, marketing, trade, mechanization, population, and land tenure. Additional topics addressed are conflicts among goals; the relative importance of alternative goals and trade-offs among goals; and the impact of the political environment and resource limitations on priority policy issues.

OTHER INFORMATION

Conducted in English by USDA with university faculty and other consultants as needed. Simultaneous interpretation is available in French and Spanish at additional cost.

COST

AID participants: Total \$4,996 includes \$3,154 for training fee and associated costs and \$1,842 for maintenance allowance.

UN/FAO participants: Total \$4,736 includes \$2,894 for training fee and associated costs and \$1,842 for maintenance allowance.

All other participants: Total \$4,996 includes \$3,044 for training fee and associated costs payable to USDA, and \$1,952 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

ECONOMIC FORECASTING FOR AGRICULTURAL
POLICY AND DECISIONMAKING
TC 140-22

DATES AND DURATION

6 weeks: July 18-August 26, 1983. Participants should arrive in Washington, D.C., on July 11 for course orientation and administrative procedures.

TARGET AUDIENCE

Technicians and senior officials in Ministries of Agriculture and Economic Planning in developing countries. Participants should be involved in economic situation and outlook analysis. B.S. in economics and at least three semester hours of credit in statistics are required to enroll in this course.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) make economic forecasts based on sound logic; (2) use different forecasting techniques; (3) evaluate forecasting accuracy and procedures; and (4) prepare outlook and situation reports.

CONTENT

This course presents forecasting methods for economic phenomena, particularly economic situation and outlook for agricultural prices and products. The effects of international trade on domestic supply and demand are discussed. The role of economic theory and the scientific method are emphasized in developing forecasts for any economic variable. Various forecasting techniques are described and their operational procedures developed in detail. This course stresses the importance of usable presentation of forecasts for either internal or published reports.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$6,043 includes \$3,801 for training fee and associated costs and \$2,242 for maintenance allowance.

UN/FAO participants: Total \$5,783 includes \$3,541 for training fee and associated costs and \$2,242 for maintenance allowance.

All other participants: Total \$6,043 includes \$3,691 for training fee and associated costs payable to USDA, and \$2,352 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

ESTABLISHING DATA BASES AND ANALYTICAL SYSTEMS
FOR ECONOMIC DECISIONMAKING IN AGRICULTURE
TC 140-26

DATES AND DURATION

13 weeks: May 30-August 26, 1983. Participants should arrive in Washington, D.C., on May 23 for course orientation and administrative procedures.

TARGET AUDIENCE

Technicians and planners in Ministries of Agriculture and Ministries of Planning. Applicants must have the equivalent of a B.S. degree which includes 6 credit hours or 1 academic year of statistics and documents which will allow provisional admission to graduate school.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) use appropriate sampling techniques; (2) select and evaluate variables for sampling; (3) manage a survey; (4) evaluate data collected for economic decisionmaking; and (5) relate the data collected to project evaluation.

CONTENT

This course presents statistical concepts for designing surveys of finite populations including schemes directed toward households, fields, and area frames. The design of data gathering will be viewed as a system and the interaction among component parts will be analyzed. Included will be specification of the processes, planning, and content procedures for a statistical survey, translating objectives into quantifiable variables, field survey work, data processing, and reporting to policymakers. A field trip is planned to observe U.S. agricultural statistics gathering. Participants will use hand-held, programmable calculators (such as the HP 41-CV) to reduce reliance on computer centers. The course fee includes the provision of this equipment.

OTHER INFORMATION

Conducted in English by New Mexico State University. Simultaneous interpretation is not available. Due to the potential for visits to Mexico, participants should have visas which will allow entry into Mexico and return to the United States.

COST

AID participants: Total \$8,484 includes \$4,963 for training fee and associated costs and \$3,521 for maintenance allowance.

UN/FAO participants: Total \$8,224 includes \$4,703 for training fee and associated costs and \$3,521 for maintenance allowance.

All other participants: Total \$8,484 includes \$4,853 for training fee and associated costs payable to USDA, and \$3,631 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to El Paso, Texas, with a stopover in Washington, D.C., from May 23 to May 27. Course is conducted in Las Cruces, New Mexico, and ground transportation is provided from El Paso to Las Cruces.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

EFFECTIVE LIVESTOCK AND CROP
MANAGEMENT FOR SMALL FARMS
TC 140-28

DATES AND DURATION

6 weeks: June 6-July 15, 1983. Participants should arrive in Washington, D.C., on May 31 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff responsible for planning, implementing, and carrying out development programs to increase the production and income levels of small farms in developing nations.

OBJECTIVES

Participants will develop knowledge and skills to: (1) understand farming systems; (2) improve their ability to assess available resources; and (3) conduct appropriate analyses to determine optimal production systems for small farm agriculture.

CONTENT

Development of small-scale agriculture depends on effectively identifying and managing the optimal use of available resources. Course content focuses on identifying alternative crop and livestock production systems compatible with the resource base and on methods useful in selecting the best system. The course also emphasizes analytical techniques used in farm planning, farm budgeting, cash flow analysis, and evaluation of investment alternatives, and the effects of risk, uncertainty, and farm-household relationships. Consideration is given to the supply of production inputs and product marketing.

OTHER INFORMATION

Conducted in English by Colorado State University. Simultaneous interpretation is available in French and Spanish at additional cost.

COST

AID participants: Total \$5,522 includes \$3,525 for training fee and associated costs and \$1,997 for maintenance allowance.

UN/FAO participants: Total \$5,262 includes \$3,265 for training fee and associated costs and \$1,997 for maintenance allowance.

All other participants: Total \$5,522 includes \$3,415 for training fee and associated costs payable to USDA, and \$2,107 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Denver, Colorado, with a stopover in Washington, D.C., from May 31 to June 3. Ground transportation will be provided by USDA from Denver to Ft. Collins.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations and private organizations. Can be conducted in English, French, and Spanish.

REGIONAL AGRICULTURAL RESOURCE DEVELOPMENT
TC 140-29

DATES AND DURATION

5 weeks: May 23-June 24, 1983. Participants should arrive in Washington, D.C., on May 16 for course orientation and administrative procedures.

TARGET AUDIENCE

Mid- and senior-level planners, technical resource persons, decisionmakers, and managers in Ministries of Agriculture and Ministries of Planning.

OBJECTIVES

Participants will: (1) learn a systematic framework for planning and managing agricultural development programs; (2) identify key elements which have contributed to the success of Tennessee Valley Authority (TVA) programs; (3) examine specific scientific, economic, social, and administrative techniques of program development; and (4) relate TVA experiences to home-country settings.

CONTENT

The training plan for this course is built around visits to various types of agricultural development projects within the Tennessee Valley and discussions with farmers, community leaders, agribusiness managers, local extension agents, extension specialists, and Tennessee Valley Authority staff. The early weeks will be spent in the eastern sections of the region where the problems of steep topography, small landholdings, and resulting low farm incomes are most severe. As the course moves to the western sections, the problems of a more open agriculture involving livestock, soybeans, and soil erosion will be discussed. Both the field trips and discussions will focus on key tasks and important principles for successful implementation of a program. These include working with and through other government agencies, developing and reinforcing support services, involving local people, setting manageable scope and objectives, identifying problems and potentials, organizing the undertaking, monitoring and evaluating, project planning, and technology transfer and adaptation.

OTHER INFORMATION

Conducted in English by the Tennessee Valley Authority. Simultaneous interpretation is not available. Academic credit may be arranged with the university in which the participant is enrolled.

COST

AID participants: Total \$5,415 includes \$3,415 for training fee and associated costs and \$2,000 for maintenance allowance.

UN/FAO participants: Total \$5,155 includes \$3,155 for training fee and associated costs and \$2,000 for maintenance allowance.

All other participants: Total \$5,415 includes \$3,305 for training fee and associated costs payable to USDA, and \$2,110 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the training site will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

DEVELOPING MARKETS FOR AGRICULTURAL PRODUCTS
TC 150-5

DATES AND DURATION

8 weeks: June 6-July 29, 1983. Participants should arrive in Washington, D.C., on May 31 for orientation and administrative procedures.

TARGET AUDIENCE

The staff of institutions responsible for domestic or international marketing and academic participants interested in marketing.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) understand the role of the agricultural sector in economic development; (2) comprehend the role of multinational firms in development and develop a basis for negotiating with multinational firms; (3) calculate and explain financial measures used for industry feasibility analysis; (4) understand export marketing to be able to take a product from one's own country and prepare and export that product; (5) understand the role of international trade in economic development.

CONTENT

This course includes: role of marketing in development and in human nutrition; discussion of participants' home-country marketing systems; establishment and improvement of a marketing infrastructure; and the mechanics of international trade such as the conduct of feasibility studies, methods of direct and indirect exporting, shipping documentation, alternative financial arrangements, packaging, and insurance. Techniques of conducting market analyses and evaluations are examined including the economics of establishing grading systems. Field trips are made to small, well-managed marketing projects and enterprises.

OTHER INFORMATION

Course is conducted in English by Colorado State University. Simultaneous interpretation is not available. All participants take the course for academic credit.

COST

AID participants: Total \$6,977 includes \$4,410 for training fee and associated costs and \$2,567 for maintenance allowance.

UN/FAO participants: Total \$6,717 includes \$4,150 for training fee and associated costs and \$2,567 for maintenance allowance.

All other participants: Total \$6,977 includes \$4,300 for training fee and associated costs payable to USDA, and \$2,677 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Ft. Collins, Colorado, with a stopover in Washington, D.C., from May 31 to June 3.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

COMMUNICATIONS AND MEDIA STRATEGIES FOR
AGRICULTURE AND RURAL DEVELOPMENT
TC 110-3

DATES AND DURATION

6 weeks: July 11-August 19, 1983. Participants should arrive in Washington, D.C., on July 5 for course orientation and administrative procedures.

TARGET AUDIENCE

Agricultural, nutrition, and livestock information specialists and others involved directly in the operation of nonformal education and outreach programs in agriculture and rural development. Designed for those needing a solid grounding in basic communications skills and knowledge. Not appropriate for those with Master's or Doctoral degrees in Communications.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) analyze rural audiences and their problems; (2) develop measurable communications objectives; (3) select appropriate media; and (4) plan and develop multimedia communications projects for selected audiences.

CONTENT

This course focuses on analysis and planning of more effective rural communications systems in developing countries. Participants work in groups to design, and to produce significant portions of, multimedia communications projects for rural audiences. Participants receive training in the practical aspects of communications theory, audience analysis, media selection, message design, production and evaluation. Each participant has the opportunity to increase production skills in one or two media during a two-week field trip. Throughout the course, the emphasis is upon the resources and needs of the developing countries.

OTHER INFORMATION

Conducted in English by Iowa State University. Simultaneous interpretation is not available. To help focus on the situation and needs of individual participants, we request that participants bring samples of information materials from their organization.

COST

AID participants: Total \$5,537 includes \$3,389 for training fee and associated costs and \$2,148 for maintenance allowance.
UN/FAO participants: Total \$5,277 includes \$3,129 for training fee and associated costs and \$2,148 for maintenance allowance.
All other participants: Total \$5,537 includes \$3,279 for training fee and associated costs payable to USDA, and \$2,258 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Des Moines, Iowa, with a stopover in Washington, D.C., from July 5 to July 8.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations and private organizations. Can be conducted in English and Spanish.

DEVELOPMENT AND OPERATION OF AGRICULTURAL EXTENSION PROGRAMS
TC 110-5

DATES AND DURATION

- 9 weeks: Section I. University of Missouri -- June 13-August 12, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.
- 10 weeks: Section II. University of Wisconsin -- September 5-November 11, 1983. Participants should arrive in Washington, D.C., on August 29 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff responsible for extension activities or other nonformal education programs.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) understand the role of extension in overall agricultural and rural development; (2) use extension techniques to transfer latest research findings to rural families; and (3) understand programs of other government and private groups, and the complementary roles played with extension.

CONTENT

Covers the roles of extension, research, and teaching in agricultural development and the roles of subject matter specialists, administrators, county agents, and various other extension staff and the methods they use to perform those roles. Other major topics include principles of administration and supervision; program planning and evaluation; and the interrelationships among extension, soil conservation, credit, and other agricultural programs. The course will emphasize how extension complements and is complemented by these programs. In addition, communication principles and methods and leadership theories will be examined. Two or three weeks of the program will be practical on-the-job experience with agents at the county level (two participants per county). Conducted in English by the University of Missouri and the University of Wisconsin.

COST

Section I.

AID participants: Total \$6,697 includes \$3,817 for training fee and associated costs and \$2,880 for maintenance allowance.

UN/FAO participants: Total \$6,437 includes \$3,557 for training fee and associated costs and \$2,880 for maintenance allowance.

All other participants: Total \$6,697 includes \$3,707 for training fee and associated costs payable to USDA, and \$2,990 for maintenance allowance, books, and book shipment payable directly to the participant.

Section II.

AID participants: Total \$7,356 includes \$4,278 for training fee and associated costs and \$3,078 for maintenance allowance.

UN/FAO participants: Total \$7,096 includes \$4,018 for training fee and associated costs and \$3,078 for maintenance allowance.

All other participants: Total \$7,356 includes \$4,168 for training fee and associated costs payable to USDA, and \$3,188 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants in the first section should be provided round trip air tickets from their home countries to Columbia, Missouri, with a stopover in Washington, D.C., from June 6 to June 10. Participants in the second section should be provided round trip air tickets from their home countries to Madison, Wisconsin, with a stopover in Washington, D.C., from August 29 to September 2.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations and private organizations. Can be conducted in English, French, and Spanish.

APPLICATION AND DIFFUSION OF AGRICULTURAL RESEARCH
RESULTS TO THE COMMUNITY LEVEL
TC 110-14

DATES AND DURATION

6 weeks: August 22-September 30, 1983. Participants should arrive in Washington, D.C., on August 15 for course orientation and administrative procedures.

TARGET AUDIENCE

Senior personnel responsible for research, policymaking, planning, and implementing outreach programs for small-scale farmers.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) diagnose their home-country situations using social science theory and research findings; (2) select methods for disseminating agricultural research results from the laboratory to the community; and (3) plan the adoption of research findings in relation to the roles of researchers in institutions, extension and field workers, and target population groups.

CONTENT

The course will focus on the planning, implementation, and evaluation of programs aimed at large-scale use of research knowledge to increase food production and improve marketing. The emphasis will be on social science theories about disseminating information and the use and diffusion of knowledge; how research is used in the farm sector; an examination of the roles of policy and administration, technicians and disseminators, farmers and local organizations; and a review of communications and citizen participation in outreach programs.

The course uses case studies from developing nations extensively. Participants' own skills will be reviewed.

OTHER INFORMATION

Conducted in English by Iowa State University. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,776 includes \$3,643 for training fee and associated costs and \$2,133 for maintenance allowance.

UN/FAO participants: Total \$5,516 includes \$3,383 for training fee and associated costs and \$2,133 for maintenance allowance.

All other participants: Total \$5,776 includes \$3,533 for training fee and associated costs payable to USDA, and \$2,243 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Des Moines, Iowa, with a stopover in Washington, D.C., from August 15 to August 19.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English only.

TRAINING OF TRAINERS FOR AGRICULTURE
AND RURAL DEVELOPMENT
TC 110-15

DATES AND DURATION

8 weeks: Section I. April 11-June 3, 1983. Participants should arrive in Washington, D.C., on April 6 for course orientation and administrative procedures. This section is designed primarily for participants in nondegree programs.

Section II. June 13-August 5, 1983. Participants should arrive in Washington, D.C., on June 8 for course orientation and administrative procedures. This section is designed primarily for participants in academic programs.

TARGET AUDIENCE

Planners, administrators, and instructors who work at in-service training programs, farmer training centers, training institutes, and outreach programs concerned with agriculture, livestock, home economics, nutrition, and integrated rural development.

OBJECTIVES

Participants will develop knowledge and skills to: (1) improve training effectiveness using training resources to give the most appropriate information and skills to trainees; and (2) strengthen and update the knowledge they have in their own areas of specialization.

CONTENT

The course includes introductory classroom theory--how to assess trainee needs and develop programs accordingly; how to assess and work with instructor strengths/weaknesses; the role of training in development; communication principles, including making and using visuals; teaching strategies and alternative methods; and related subjects. Participants observe training in the field for two weeks, individually selecting the location according to their subject interests. The group will then discuss both concepts and the methods they observed, analyze ways these concepts and methods might be used elsewhere, and continue the study of theory started earlier. Participants will also develop, present, and critique training materials which they can use in their home countries.

OTHER INFORMATION

Conducted in English by USDA with assistance from university personnel and other consultants. Simultaneous interpretation is not available.

COST

AID participants: Total \$6,910 includes \$3,960 for training fee and associated costs and \$2,950 for maintenance allowance.

UN/FAO participants: Total \$6,650 includes \$3,700 for training fee and associated costs and \$2,950 for maintenance allowance.

All other participants: Total \$6,910 includes \$3,850 for training fee and associated costs payable to USDA, and \$3,060 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

VOCATIONAL AGRICULTURAL EDUCATION SYSTEMS IN DEVELOPING COUNTRIES
TC 110-16

DATES AND DURATION

6 weeks: June 13-July 22, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Personnel responsible for planning and implementing vocational and extension programs in agriculture. This course is appropriate for country teams.

OBJECTIVES

Participants will: (1) increase their understanding of various means of financing, administering, and organizing a national system for vocational education in agriculture; (2) increase skills to develop, implement, and evaluate a comprehensive agricultural curriculum for a secondary or postsecondary school system; (3) acquire skills to develop and implement administrative policies and procedures for a secondary agricultural school; (4) be able to select and use appropriate teaching methodologies for youth and adults; and (5) learn to identify and collect appropriate data upon which to make curricular decisions.

CONTENT

Participants examine the roles of Federal, State, and local governments in organization, administration, and financing of vocational agricultural education, and the types of curriculum being offered in this field at the secondary, postsecondary, and university level. Participants acquire knowledge and skills in curriculum development, evaluation, school administration, teaching methodologies, developing occupational experience programs, and in collecting and examining data upon which to make curriculum and program decisions. Participants are provided an opportunity to apply the knowledge and skills acquired to a real-life problem or program in their own country. This might include developing a curriculum for a school, developing an evaluation plan for a program, or developing a plan for the use of a school farm.

OTHER INFORMATION

Conducted in English by New Mexico State University. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,378 includes \$3,396 for training fee and associated costs and \$1,982 for maintenance allowance.

UN/FAO participants: Total \$5,118 includes \$3,136 for training fee and associated costs and \$1,982 for maintenance allowance.

All other participants: Total \$5,378 includes \$3,286 for training fee and associated costs payable to USDA, and \$2,092 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to El Paso, Texas, with a stopover in Washington, D.C., from June 6 to June 10.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

COMMUNICATIONS PLANNING AND STRATEGY
TC 110-18

DATES AND DURATION

3 weeks: July 18-August 5, 1983. Participants should arrive Washington, D.C., on July 11 for course orientation and administrative procedures.

TARGET AUDIENCE

Program managers of any technical specialty who plan programs and projects related to agriculture and rural development. The course is especially designed for people who are not communications specialists (e.g., agronomists, livestock specialists, program administrators). Heads of communications programs could likewise benefit from the course, but operational level communications specialists would benefit more from TC 110-3 "Communications and Media Strategies for Agriculture and Rural Development."

OBJECTIVES

Participants will develop knowledge and skills for planning communication and nonformal educational components as part of their program activities.

CONTENT

The course will use case studies, the participants' own experiences, and material presented by faculty to deal with such problems as: how to develop appropriate communications strategies for different groups based on sectoral policies and available media; how to mobilize resources for communication programs; how to deal with the problems of backup and support for paraprofessionals, promoting community participation, and coordinating communication components in a decentralized service delivery system; and how to measure costs and results of communication activities. As a major project of the course, each participant will develop a communication plan and strategy appropriate to his/her own country situation.

OTHER INFORMATION

Conducted in English by Cornell University. Academic credit is available.

COST

AID participants: Total \$2,925 includes \$1,625 for training fee and associated costs and \$1,300 for maintenance allowance.
UN/FAO participants: Total \$2,665 includes \$1,365 for training fee and associated costs and \$1,300 for maintenance allowance.
All other participants: Total \$2,925 includes \$1,515 for training fee and associated costs payable to USDA, and \$1,410 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Ithaca, New York, with a stopover in Washington, D.C., from July 11-July 15.

OVERSEAS AVAILABILITY

Available in English for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations.

COMMUNICATION SKILLS FOR DEVELOPMENT PROFESSIONALS
110-19

DATES AND DURATION

2 weeks: December 26, 1983-January 6, 1984.

TARGET AUDIENCE

Mid-level technical or professional personnel who are undertaking academic or technical training in agriculture and related fields. Designed primarily for participants enrolled in ongoing programs in the United States.

OBJECTIVES

Participants will: 1) improve their understanding of basic communication processes relevant to their work and responsibilities; 2) plan for adaptation and use of their academic training; 3) develop communication strategies for use in training; and 4) learn skills for communicating effectively with family members and co-workers in their home communities and organizations.

CONTENT

The program focuses upon: 1) the communication process--perception, meaning, inference, feedback, overload, noise, stereotyping, message fidelity, receiver orientation, empathy, and listening -- and how this process is used in interrelating people, information, projects, and organizations; 2) developing and maintaining effective working relationships with co-workers, supervisors, subordinates, and foreign counterparts; 3) the role of communication in social change, and 4) communication strategies for reentry with particular reference to perceptions and expectations of family and co-workers, problems of over-enthusiasm and haste, and sharing observations and suggestions by former participants.

OTHER INFORMATION

Conducted in English by university faculty and consultants.

COST

AID participants: Total \$2,061 includes \$1,461 for training fee and associated costs and \$600 for maintenance allowance.

UN/FAO participants: Total \$1,801 includes \$1,201 for training fee and associated costs and \$600 for maintenance allowance.

All other participants: Total \$2,061 includes \$1,351 for training fee and associated costs payable to USDA, and \$710 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, Portuguese, and Spanish.

MANAGEMENT AND ORGANIZATIONAL CHANGE -
AN ORGANIZATION DEVELOPMENT APPROACH
TC 140-14

DATES AND DURATION

6 weeks: May 2-June 10, 1983. Participants should arrive in Washington, D.C., on April 27 for course orientation and administrative procedures.

TARGET AUDIENCE

Senior level administrators and managers in agriculture or rural development. May include permanent ministers or secretaries, regional or state heads of agriculture, or heads of large projects in organizations. The course is designed for staff with substantial management responsibility.

OBJECTIVES

Participants will develop knowledge and skills to: (1) increase competency in exercising leadership skills; (2) determine group interactions including patterns of communication and authority; (3) diagnose problems of organizational structure and learn how to design well integrated organizations; (4) analyze and solve problems of interdepartmental or interagency conflict; (5) implement modern budgeting and planning systems; and (6) initiate, manage, and evaluate organizational change.

CONTENT

The course includes training in leadership and consultative skills; group decision-making; organization-development (OD) skills, including problem diagnosis, planning, implementation, and evaluation of change; administrative decision analysis, zero-based budgeting, and planning tools such as the Critical Path Method. Case studies of administrative change in agricultural organizations in developing countries are analyzed. Participants visit agricultural organizations and examine different management systems and practices. Projects are then developed for introducing organizational change in national agencies. Training methods include individual and small group exercises, case materials, and an OD simulation exercise. Throughout the seminar, participants apply what they have learned about OD to their own organizations.

OTHER INFORMATION

Conducted in English by George Washington University consultants, and USDA. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,790 includes \$3,540 for training fee and associated costs and \$2,250 for maintenance allowance.

UN/FAO participants: Total \$5,530 includes \$3,280 for training fee and associated costs and \$2,250 for maintenance allowance.

All other participants: Total \$5,790 includes \$3,430 for training fee and associated costs payable to USDA, and \$2,360 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, Portuguese, and Spanish.

MANAGEMENT AND THE ROLE OF WOMEN IN DEVELOPMENT
TC 140-17

DATES AND DURATION

6 weeks: April 4-May 13, 1983. Participants should arrive in Washington, D.C., on March 28 for orientation.

TARGET AUDIENCE

Senior women officials with management responsibilities in agriculture, private voluntary organizations, rural development, nutrition, and related areas. Also, women with promotion potential to senior management.

OBJECTIVES

Participants will develop knowledge and skills to: (1) use executive skills in planning, decisionmaking, and interpersonal communication; (2) anticipate, analyze, and manage special problems that may occur when women are leaders in predominantly male organizations; (3) articulate and provide leadership to help women assume a greater role in development; (4) demonstrate more effective influence/leadership skills; (5) be creative and objective in their leadership positions and better coordinate the inclusion of other women in organization programs and projects; and (6) implement changes within their organizations, both structurally and procedurally, which use resources more effectively.

CONTENT

Course includes -- self-diagnosis of management and interpersonal skills; women in development issues; goal setting; power structures and roles in organizations; problem-solving methodologies; building support networks; negotiation skills, strategy, and tactics; and open-systems planning. Instruction methods are highly individualized and interactive. Participants analyze women-in-development case studies using organization and management principles. Videotape is used extensively for self-assessment purposes. The fourth week of the program will be devoted to on-the-job experience in an area related to the participant's position in the home country.

OTHER INFORMATION

Conducted in English by Virginia Polytechnic Institute in collaboration with consultants, AID, and international organization staffs. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,335 includes \$3,202 for training fee and associated costs and \$2,133 for maintenance allowance.

UN/FAO participants: Total \$5,075 includes \$2,942 for training fee and associated costs and \$2,133 for maintenance allowance.

All other participants: Total \$5,335 includes \$3,092 for training fee and associated costs payable to USDA, and \$2,243 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Roanoke, Virginia, with a stopover in Washington, D.C., from March 28-April 1.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and French.

MANAGEMENT OF GOVERNMENT ORGANIZATIONS IN
DEVELOPING COUNTRIES
TC 140-23

DATES AND DURATION

8 weeks: Section I. April 18-June 10, 1983. Participants should arrive in Washington, D.C., on April 13 for course orientation and administrative procedures. This section is designed primarily for participants in nondegree programs.
Section II. June 20-August 12, 1983. Participants should arrive in Washington, D.C., on June 15 for course orientation and administrative procedures. This section is designed primarily for participants in academic programs.

TARGET AUDIENCE

Entry- to mid-level managers of agricultural or rural development organizations.

OBJECTIVES

Participants will develop: 1) an understanding of basic management concepts; (2) essential management skills; and (3) strategies for using these concepts and skills in their own situations.

CONTENT

This course introduces the participants to basic management concepts and practices and helps them develop skills to manage agricultural and rural development organizations. Emphasis is placed on program management, supervision, work organization, personnel management, office management, administrative management, communication, and control systems. Through major use of case studies, simulations, and role playing, course content is related to participants' training needs and situations they experience at home.

OTHER INFORMATION

Conducted in English by USDA, university faculty, and consultants. Simultaneous interpretation is not available.

COST

AID participants: Total \$6,645 includes \$3,695 for training fee and associated costs and \$2,950 for maintenance allowance.
UN/FAO participants: Total \$6,407 includes \$3,435 for training fee and associated costs and \$2,950 for maintenance allowance.
All other participants: Total \$6,645 includes \$3,585 for training fee and associated costs payable to USDA, and \$3,060 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

MANAGEMENT OF AGRICULTURAL RESEARCH
FACILITIES AND ORGANIZATIONS
TC 140-24

DATES AND DURATION

6 weeks: June 20-July 29, 1983. Participants should arrive in Washington, D.C., on June 13 for course orientation and administrative procedures.

TARGET AUDIENCE

Mid- and senior-level managers of agricultural research institutes at the regional or national level.

OBJECTIVES

Participants will develop knowledge and skills to: (1) understand the special attributes required to manage an agricultural research program; (2) identify and prioritize the needs for new knowledge and technology; (3) transform a given resource base of personnel, funds, and facilities into a systematic, coordinated effort to solve problems; and (4) plan for collaboration with outreach organizations to disseminate research results.

CONTENT

This course emphasizes the uniqueness of agricultural research. Participants will examine the ways agricultural research is organized, funded, and managed in various countries and focus on the problems of research management being experienced in their own countries. Specific topics include: the research environment, the role of agricultural research in the national society and economy, defining research needs and priorities, development of a comprehensive and integrated research plan, effective use of resources, management of scientific and research staff, and use of research results.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$5,873 includes \$3,740 for training fee and associated costs and \$2,133 for maintenance allowance.

UN/FAO participants: Total \$5,613 includes \$3,480 for training fee and associated costs and \$2,133 for maintenance allowance.

All other participants: Total \$5,873 includes \$3,630 for training fee and associated costs payable to USDA, and \$2,243 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

INITIATING AND MANAGING
INTEGRATED RURAL DEVELOPMENT PROGRAMS
TC 140-25

DATES AND DURATION

8 weeks: September 12-November 4, 1983. Participants should arrive in Washington, D.C., on September 7 for course orientation and administrative procedures.

TARGET AUDIENCE

Managers or potential managers responsible for designing, initiating, and carrying out integrated rural development programs. Often these programs will consist of several interrelated development projects.

OBJECTIVES

Participants will learn to: (1) understand the relationships between policy, programs, and projects in integrated rural development; (2) improve their knowledge and skill in program design, initiation, and management; (3) develop the skills to manage complex organizational links; and (4) increase their awareness of their own perspectives and strategies for initiating and managing programs.

CONTENT

This multi-disciplinary course on rural development emphasizes: problem solving, decisionmaking, coordination, communication, planning, control, management systems, leadership, action research and data feedback systems, and program/project implementation and management. It looks at the multisectoral focus required for successful management of broad programs, and the coordination of various horizontal links within and among the involved sectors to effectively initiate, monitor, and evaluate programs. Simulations, role playing, individual exercises, group exercises, and field excursions are integral parts of the course.

OTHER INFORMATION

Conducted in English by USDA with university faculty and consultants. Simultaneous interpretation is not available.

COST

AID participants: Total \$7,338 includes \$4,388 for training fee and associated costs and \$2,950 for maintenance allowance.

UN/FAO participants: Total \$7,078 includes \$4,128 for training fee and associated costs and \$2,950 for maintenance allowance.

All other participants: Total \$7,338 includes \$4,278 for training fee and associated costs payable to USDA, and \$3,060 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations and private organizations. Can be conducted in English, French and Spanish.

KEYS TO RURAL DEVELOPMENT AT THE LOCAL LEVEL
TC 140-32

DATES AND DURATION

2 weeks: Section I. May 9-May 20, 1983. Conducted by New Mexico State University, Las Cruces, New Mexico.
Section II. May 23-June 3, 1983. Conducted by University of Wisconsin, Madison, Wisconsin.
Section III. July 18-July 29, 1983. Conducted by Cornell University, Ithaca, New York.
Sections IV & V. August 8-August 19, 1983. Conducted by Western Illinois University, Macomb, Illinois (IV), and by Washington State University, Pullman, Washington (V).
Sections VI & VII. August 15-August 26, 1983. Conducted by Tuskegee Institute, Tuskegee, Alabama (VI), and by Utah State University, Logan, Utah (VII).

TARGET AUDIENCE

Academic participants from all agricultural or rural development disciplines. Designed primarily for participants enrolled in ongoing programs in the United States.

OBJECTIVES

Participants will develop the knowledge and skills to: (1) understand the interaction between technical agriculture and socioeconomic development; (2) identify key factors in the development of agriculture; (3) analyze the process of agricultural development in a community, and apply the knowledge to home country development.

CONTENT

This 2-week program enables participants to examine the agricultural development process by identifying and analyzing key social, economic, and political factors and how they interrelate. It is highly experiential with illustrative field trips, individual and group work, and home country planning. By capitalizing on the diversity of its participants, the course offers a rare opportunity for cross-discipline consultation to adapt course work to home country realities.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available.

COST

AID participants: Total \$2,211 includes \$1,611 for training fee and associated costs and \$600 for maintenance allowance.
UN/FAO participants: Total \$1,951 includes \$1,351 for training fee and associated costs and \$600 for maintenance allowance.
All other participants: Total \$2,211 includes \$1,501 for training fee and associated costs payable to USDA, and \$710 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to the university conducting their section of the course.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

AGRICULTURAL RESEARCH METHODOLOGY
TC 110-17

DATES AND DURATION

7 weeks: June 6-July 22, 1983. Participants should arrive in Washington, D.C., on May 31 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff with an intermediate level statistical background who are or will be designing and carrying out agricultural research programs. This includes research related to agronomy, rural sociology, economics, forestry, plant pathology, horticulture, and animal science.

OBJECTIVES

Participants will: (1) increase their ability to plan and conduct research giving consideration to potential users of research results and their needs; (2) learn research methodology, including data collection and analysis, with emphasis on applied research; (3) develop an understanding of the links between research and extension so they can use research results as a basis for action; and (4) observe field and laboratory procedures practiced by experiment station scientists.

CONTENT

General analytical methods and statistical techniques. Includes an introduction to statistics; probability; binomial, multinomial, hypergeometric, and poisson probability functions; continuous random variables and the normal distribution; sampling and experimental design; estimating population parameters; hypothesis testing; one-way, two-way, and factorial analyses of variance; covariance analysis, correlation regression procedure, and lattice experiment. Specific applications are made to various subject areas, with a significant proportion of time devoted to practical "hands-on" field experience. Computer applications will be included as appropriate. Includes one-on-one consultation with experiment station statisticians to develop specific expertise applicable to home countries.

OTHER INFORMATION

Conducted in English by the University of Missouri. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,014 includes \$2,776 for training fee and associated costs and \$2,238 for maintenance allowance.

UN/FAO participants: Total \$4,754 includes \$2,516 for training fee and associated costs and \$2,238 for maintenance allowance.

All other participants: Total \$5,014 includes \$2,666 for training fee and associated costs payable to USDA, and \$2,348 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Columbia, Missouri, with a stopover in Washington, D.C., from May 31 to June 3.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

IRRIGATION PROBLEMS AND PRACTICES
TC 120-1

DATES AND DURATION

8 weeks: June 13-August 5, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Irrigation practitioners with an educational background at the B.S. or M.S. level in agronomy or agricultural engineering.

OBJECTIVES

Participants will: (1) gain knowledge and practical experience in onfarm water management and crop production; (2) develop skills to plan, design, establish, and maintain new irrigation systems; and (3) develop skills to increase the efficiency of existing irrigation systems in their home countries.

CONTENT

For the first five weeks, the course is conducted primarily on the Colorado State University campus and includes lectures, field and laboratory practice, field training at the agronomy experiment station farm, and seminars centered on participant presentations of irrigation problems in their home countries. Topics covered include basic soils; soil-water-plant relationships; land leveling; irrigation methods and practices; administration and distribution of water; water law; water quality; salinity; drainage problems and remedies; economics and sociology of irrigation; and extension methods. The last three weeks of the course consist of field visits to irrigation programs and projects in New Mexico, Arizona, and Southern California, including the rice production area around Sacramento.

OTHER INFORMATION

Conducted in English by Colorado State University. Simultaneous interpretation is not available. Academic credit is available for qualified participants.

COST

AID participants: Total \$7,290 includes \$4,435 for training fee and associated costs and \$2,855 for maintenance allowance.

UN/FAO participants: Total \$7,030 includes \$4,175 for training fee and associated costs and \$2,855 for maintenance allowance.

All other participants: Total \$7,290 includes \$4,325 for training fee and associated costs payable to USDA, and \$2,965 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Denver, Colorado, with a stopover in Washington, D.C., from June 6 to June 10, and returning home from Fresno, California, on August 6. Surface transportation is provided by USDA from Denver to the course site at Ft. Collins, and also for the field trip from Ft. Collins to Fresno.

OVERSEAS AVAILABILITY

TC 120-14 "Assessment and Improvement of Onfarm Irrigation Systems" is a similar course specifically designed for overseas presentation.

SOIL TESTING, SOIL CLASSIFICATION, AND FERTILITY MANAGEMENT
TC 120-5

DATES AND DURATION

8 weeks: June 6-July 29, 1983. Participants should arrive in Washington, D.C., May 31 for course orientation and administrative procedures.

TARGET AUDIENCE

Agronomists or soil scientists with the equivalent of a B.S. degree who are involved in soil testing, classification, or management, or soil fertility programs.

OBJECTIVES

Participants will develop knowledge and skills to: (1) conduct soil sampling, testing, and analysis; (2) perform laboratory procedures for soil classification; (3) prepare soil maps; (4) use soil testing and classification in integrated programs for soil management and soil fertility; and (5) develop educational, research, and extension programs related to soil management and fertility.

CONTENT

This course focuses on field and laboratory training which comprise the practical training in soil management and soil fertility. Topics covered include soil sampling and testing; identification of major physical and chemical characteristics of different soils; the relationship of soil genesis, morphology, physical, and chemical properties in soil classification; and the preparation of soil maps based on field surveys and laboratory analysis. In addition, a two-week regional field trip will be conducted for further practical experience with different soil types.

OTHER INFORMATION

Conducted in English. Simultaneous interpretation is not available. At the time of publication, university has not been selected.

COST

AID participants: Total \$6,747 includes \$4,245 for training fee and associated costs and \$2,502 for maintenance allowance.

UN/FAO participants: Total \$6,487 includes \$3,985 for training fee and associated costs and \$2,502 for maintenance allowance.

All other participants: Total \$6,747 includes \$4,135 for training fee and associated costs payable to USDA, and \$2,612 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Information on travel arrangements to the appropriate university will be forwarded upon enrollment. Round trip air tickets are to be provided by sponsor.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English or Spanish.

TECHNICAL AND ECONOMIC ASPECTS OF SOYBEAN PRODUCTION
TC 120-6

DATES AND DURATION

12 weeks: May 16-August 5, 1983. Participants should arrive in Washington, D.C., on May 9 for course orientation and administrative procedures.

TARGET AUDIENCE

Agronomists with the equivalent of a B.S. degree who are involved in soybean research, production, or extension programs.

OBJECTIVES

Participants will: (1) learn the technical and economic principles and practices of soybean production; (2) study the research, educational, and regulatory functions that support soybean production; and (3) consider expanding the production and use of soybeans in their own countries to alleviate the protein and calorie deficiencies in human diets.

CONTENT

Course topics include the characteristics of the soybean plant and its adaptability to different environments; soybean breeding and selection of varieties for varying conditions; cultural practices to improve soybean yields; seedbed preparation; time and rate of planting; inoculants and their use in nitrogen fixation; insect, disease, and weed control; and harvesting and storage for food and seed uses. All participants will conduct an individual field research project.

OTHER INFORMATION

Conducted in English by the University of Illinois in cooperation with the International Soybean Program (INTSOY). Simultaneous interpretation is not available.

COST

AID participants: Total \$9,061 includes \$5,413 for training fee and associated costs and \$3,648 for maintenance allowance.

UN/FAO participants: Total \$8,801 includes \$5,153 for training fee and associated costs and \$3,648 for maintenance allowance.

All other participants: Total \$9,061 includes \$5,303 for training fee and associated costs payable to USDA, and \$3,758 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Champaign/ Urbana, Illinois, with a stopover in Washington, D.C., from May 9 to May 13.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

SOYBEAN PROCESSING FOR FOOD USES
TC 120-7

DATES AND DURATION

7 weeks: May 16-July 1, 1983. Participants should arrive in Washington, D.C., on May 9 for course orientation and administrative procedures.

TARGET AUDIENCE

Food scientists or nutritionists with the equivalent of a B.S. degree who are involved in research or processing of soybeans for human food.

OBJECTIVES

Participants will: (1) identify processes involved in the use of soybeans and soybean products for human food; (2) study processing of whole soybeans; and (3) develop skills to use soybeans as an improved source of protein and calories in home countries.

CONTENT

Course teaches the principles of preparing human foods from soybeans. Emphasis is placed on the wide assortment of food products that can be made from the whole bean using its high protein and calorie content. Topics include an overview of the International Soybean Program, soybean production in developing countries, human nutritional requirements, functional properties of protein in food; quality control; management practices; problems in harvesting and handling raw soybeans; drying of soy products; and production and processing economics. In addition, there is extensive laboratory work, several local visits and a one-week field trip to midwest soybean companies to provide participants with practical "hands-on" experience.

The course examines industrial processes for converting soybeans into human food, as well as preparation methods based on small-scale home and village technology.

Participants will also attend the annual conference of the Institute of Food Technologists.

OTHER INFORMATION

Conducted in English by the University of Illinois in cooperation with the International Soybean Program (INTSOY). Simultaneous interpretation is not available.

COST

AID participants: Total \$5,852 includes \$3,412 for training fee and associated costs and \$2,440 for maintenance allowance.

UN/FAO participants: Total \$5,592 includes \$3,152 for training fee and associated costs and \$2,440 for maintenance allowance.

All other participants: Total \$5,852 includes \$3,302 for training fee and associated costs payable to USDA, and \$2,550 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Champaign/Urbana, Illinois, with a stopover in Washington, D.C., from May 9 to May 13.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

ASSESSMENT AND IMPROVEMENT OF ONFARM IRRIGATION SYSTEMS
TC 120-14

DATES AND DURATION

4 weeks: Presented overseas only. Dates arranged with sponsor.

TARGET AUDIENCE

Agriculturalists such as engineers, agronomists, or extension specialists working directly with onfarm irrigation systems.

OBJECTIVES

Participants will develop knowledge and practical skills to: (1) examine farm irrigation practices and identify physical constraints and socioeconomic problems faced by farmers growing irrigated crops; (2) use field measurement techniques to evaluate the efficiency of water control and water use; (3) plan efficient irrigation practices for specific crops grown on particular soils to maximize yields and quality; and (4) evaluate irrigation methods and develop practical and economical improvements.

CONTENT

Specific topics covered during the course include: the relationship of efficient water use to farm water management; field surveys; general principles of flow measurement; movement, retention, and use of water; methods to determine soil moisture content; consumptive use of water and peak period use rates; surface irrigation methods, including field evaluation of such methods and factors important to the efficient operation of each method; and technological changes and institutional modifications to improve water quantity and quality as well as water management. Frequent field visits provide practical experience in collecting data, evaluating water management problems on farms, and planning improvements.

OTHER INFORMATION

Conducted by USDA in collaboration with university personnel and consultants.

COST

The cost of the course is approximately \$40,000. The budget covers instruction for about 25 participants and includes all course materials, salaries, and round trip air fare for course instructors and miscellaneous expenses. Costs are negotiated directly with the sponsor.

OVERSEAS AVAILABILITY

Course is designed exclusively for overseas presentation. Available in English, French, Spanish, and Arabic. A similar course designed for U.S. presentation is TC 120-1, Irrigation Problems and Practices.

WATER HARVESTING FOR AGRICULTURAL PRODUCTION
TC 120-25

DATES AND DURATION

4 weeks: July 11-August 5, 1983. Participants should arrive in Washington, D.C., on July 5 for course orientation and administrative procedures.

TARGET AUDIENCE

Agricultural personnel with a B.S., M.S., or Ph.D. in plant sciences, soils, agricultural engineering, or range management and other personnel interested in water harvesting (runoff farming).

OBJECTIVES

To provide participants with the knowledge and skills necessary for the effective design, development, operation, and maintenance of water harvesting facilities that can increase agricultural production in arid and semiarid areas.

CONTENT

Major topics to be included are the hydrology of water harvesting (including soil and topographic considerations), water harvesting technology, agronomic and horticultural aspects (crop selection, fruit and tree crops, annual crops, forage crops), design criteria, and the operation and maintenance of water harvesting facilities. Courses will include lectures, laboratory exercises, group discussions, practical experience, problem solving, and field trips.

OTHER INFORMATION

Conducted in English by the University of Arizona in Tucson and at nearby facilities.

COST

AID participants: Total \$4,120 includes \$2,520 for training fee and associated costs and \$1,600 for maintenance allowance.
UN/FAO participants: Total \$3,860 includes \$2,260 for training fee and associated costs and \$1,600 for maintenance allowance.
All other participants: Total \$4,120 includes \$2,410 for training fee and associated costs payable to USDA, and \$1,710 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Tucson, Arizona, with a stopover in Washington, D.C., from July 5 to July 8.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English and Spanish.

SEED IMPROVEMENT
TC 130-3

DATES AND DURATION

9 weeks: June 6-August 4, 1983. Participants should arrive in Washington, D.C., on May 31 for course orientation and administrative procedures.

TARGET AUDIENCE

Agricultural ministry and other staff involved in the establishment, development, or promotion of improved seeds.

OBJECTIVES

Participants will: (1) develop knowledge and skills needed to establish or develop a seed improvement program in their home country or state; (2) learn to assume greater responsibility and leadership in promoting the use of good seeds by farmers; and (3) practice methods, procedures, and skills to teach and train others in seed improvement.

CONTENT

Course focuses on the role of seed technology in agricultural development. Participants will study the organization and implementation of a seed technology program including improved seed, its production and use. In addition, attention will be given to the various educational, research, and other organizations that produce seed and promote adaptation of improved varieties. Emphasis will be on the role of the land-grant university system, and classroom, laboratory, and field tours will be used in that phase of the course. Participants will learn methods and problems of storing, handling and distributing improved seed through visits to commercial seed companies. They will also learn to develop education and extension programs in their home countries. The first five weeks are intensive instruction at the university and the last four weeks are devoted to field tours. Participants are encouraged to concentrate on the problems of their home countries.

OTHER INFORMATION

Conducted in English by Mississippi State University. Simultaneous interpretation is not available.

COST

AID participants: Total \$7,642 includes \$4,819 for training fee and associated costs and \$2,823 for maintenance allowance.

UN/FAO participants: Total \$7,382 includes \$4,559 for training fee and associated costs and \$2,823 for maintenance allowance.

All other participants: Total \$7,642 includes \$4,709 for training fee and associated costs payable to USDA, and \$2,933 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided air tickets from their home countries to Columbus, Mississippi, with a stopover in Washington, D.C., from May 31 to June 3. Participants will depart for their home countries from Chicago, Illinois.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

PLANT QUARANTINE
TC 130-5

DATES AND DURATION

5 weeks: September 12-October 14, 1983. Participants should arrive in Washington, D.C., on September 7 for course orientation and administrative procedures.

TARGET AUDIENCE

Technicians who work with government, advisory, and regulatory activities in plant and animal protection by regulating and monitoring imports and conducting quarantines. Candidates should have knowledge of entomology, plant pathology, and administrative and practical functions relating to plant quarantine.

OBJECTIVES

Participants will: (1) study the need for plant and animal inspection work on a national basis, and the fundamental concepts of plant pest control and enforcement; (2) learn port inspection techniques, regulations and procedures involving animal byproducts, fumigation and other treatment procedures; and (3) develop skills in identifying insects, plant diseases, nematodes, snails, and mites.

CONTENT

Course topics include identifying different pests and understanding the vehicles or hosts which transport them; studying and performing treatments at ports of entry including fumigation and other treatment; learning basic quarantine procedures, such as restrictive orders, regulations, and administration; and reviewing and discussing with U.S. inspectors and officials various ways to improve quarantine procedures in their home countries. The course is similar to the training required of U.S. entomologists before they become inspection officers. Visits will be made to a university and private company laboratories to become familiar with the latest detection and treatment methods.

OTHER INFORMATION

Conducted in English by USDA personnel from the Animal and Plant Health Inspection Service. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,604 includes \$4,054 for training fee and associated costs and \$1,550 for maintenance allowance.
UN/FAO participants: Total \$5,344 includes \$3,794 for training fee and associated costs and \$1,550 for maintenance allowance.
All other participants: Total \$5,604 includes \$3,944 for training fee and associated costs payable to USDA, and \$1,660 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Washington, D.C.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

INTEGRATED PEST MANAGEMENT (IPM)
TC 130-8

DATES AND DURATION

6 weeks: June 13-July 22, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Technical staff involved with plant and animal protection programs or insect eradication efforts. This includes scientists researching new techniques or extension entomologists working on single or integrated pest control systems.

OBJECTIVES

Participants will: (1) review basic principles of agricultural production and various pest programs; (2) learn the concepts involved in an integrated pest management system and its component parts; and (3) learn how to conduct a pest management school.

CONTENT

Participants will learn concepts used in an IPM model for the United States and work individually with specialists in either basic research, extension, and/or IPM systems research. They will visit projects in several states that demonstrate parts of the model, and develop a model for their own country. Some of the components include identification of pests, tactics for control, and determination of economic threshold for each pest, and whether it is plant pathogen, nematode, insect, or weed. Interaction of all pests is measured within the context of different water, fertilization, weather, and environmental factors to determine what systems and strategies should be used. The course emphasizes how IPM can better unite basic research with an extension delivery system. The application of IPM principles to small farms will be stressed.

OTHER INFORMATION

Conducted in English by Purdue University. Simultaneous interpretation is not available.

COST

AID participants: Total \$5,385 includes \$3,403 for training fee and associated costs and \$1,982 for maintenance allowance.
UN/FAO participants: Total \$5,125 includes \$3,143 for training fee and associated costs and \$1,982 for maintenance allowance.
All other participants: Total \$5,385 includes \$3,293 for training fee and associated costs payable to USDA, and \$2,092 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Lafayette, Indiana, with a stopover in Washington, D.C., from June 6 to June 10.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

VEGETABLE CROP PRODUCTION AND MARKETING
TC 130-11

DATES AND DURATION

6 weeks: July 11-August 19, 1983. Participants should arrive in Washington, D.C., on July 5 for course orientation and administrative procedures.

TARGET AUDIENCE

Technical officers, extension specialists, community and rural development specialists, and others directly involved in the production and marketing of vegetable crops.

OBJECTIVES

This course will increase the participants' knowledge of different vegetable crops, seed improvement, production, handling practices, and other factors that influence produce quality. It will also review methods for distributing vegetable products from the producer to the consumer.

CONTENT

This course provides training in the principles of production, harvesting, and marketing of vegetable crops. Course topics include characteristics of the various types of vegetables and their adaptability to different climates; soil management; varietal screening and selection; cultural practices and conditions affecting vegetable quality; harvesting techniques; product standards and grading; and proper methods for the handling, storage, and shipping of different vegetable crops and decisionmaking regarding vegetable improvement. Course will cover farm family management practices relating to the production, home use, or marketing of vegetable crops.

OTHER INFORMATION

Course is conducted in English by Rutgers University. Simultaneous interpretation is available in French and Spanish at additional cost.

COST

AID participants: Total \$5,139 includes \$3,186 for training fee and associated costs and \$1,953 for maintenance allowance.
UN/FAO participants: Total \$4,879 includes \$2,926 for training fee and associated costs and \$1,953 for maintenance allowance.
All other participants: Total \$5,139 includes \$3,076 for training fee and associated costs payable to USDA, and \$2,063 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Newark, New Jersey, with a stopover in Washington, D.C., from July 5 to July 9.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations. Can be conducted in English, French, and Spanish.

GRAIN STORAGE AND MARKETING
TC 150-2

DATES AND DURATION

7 weeks: June 13-July 29, 1983. Participants should arrive in Washington, D.C., on June 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Mid-level grain inspectors, grading specialists, marketing specialists, and managers of grain handling facilities and economists responsible for designing marketing systems.

OBJECTIVES

Participants will: (1) learn food and feed grain drying, storage, handling, transportation, and marketing; and (2) study fundamentals and techniques of grain storage and marketing.

CONTENT

This course includes fundamentals of grain storage, including grain kernel structure; moisture and its measurement; mold; chemical, physical and nutritive changes; handling--movement; methods and facilities for conditioning, aerating or cooling, drying; and equipment maintenance. It also covers storage methods and procedures; structures and structural maintenance; sanitation programs--inspection, methods, and equipment; insect identification and control; rodent and bird control; microbial control--molds/mycotoxins, and the economics of marketing management and operations. Laboratory sessions will be held along with field trips to grain companies and cooperatives, a board of trade, State grain inspection labs, the Federal Grain Inspection Service, a rice experiment station, USDA's Agricultural Marketing Service offices, and various port authorities. These field trips will offer practical observation of grain service facilities and marketing offices.

OTHER INFORMATION

Conducted in English by Kansas State University's Food & Feed Grain Institute, consultants, private companies, and the Federal Grain Inspection Service. Simultaneous interpretation is available in Spanish and French at additional cost.

COST

AID participants: Total \$5,023 includes \$2,670 for training fee and associated costs and \$2,353 for maintenance allowance.

UN/FAO participants: Total \$4,763 includes \$2,410 for training fee and associated costs and \$2,353 for maintenance allowance.

All other participants: Total \$5,023 includes \$2,560 for training fee and associated costs payable to USDA, and \$2,463 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Manhattan, Kansas, with a stopover in Washington, D.C., from June 6 to June 10.

OVERSEAS AVAILABILITY

Not available for overseas presentation.

DETERMINATION AND PREVENTION OF POSTHARVEST FOOD LOSSES
TC 150-7

DATES AND DURATION

5 weeks: September 12-October 14, 1983. Participants should arrive in Washington, D.C., on September 6 for course orientation and administrative procedures.

TARGET AUDIENCE

Staff responsible for the establishment, operation, and maintenance of food marketing systems or for the development of government policy in that area.

OBJECTIVES

Participants will improve their ability to: a) identify the causes and measure the extent of losses; b) improve the delivery system to reduce losses; c) educate others in postharvest technology; and d) assist in their own country.

CONTENT

Topics covered include: definition of loss; assessment of loss; chemistry and biochemistry of food deterioration; biology and control of molds, insects, rodents, and birds in stored foods; simple grain drying and storage practices; storage and handling of roots, tubers, fruits, and vegetables; control of plant diseases; simple cooling systems; and the effect of climate. Emphasis is given to unprocessed or minimally processed foods and the storage and handling practices of developing countries. There will be a number of visits to facilities to see how foods are handled and stored in the United States. The course also includes a discussion of relevant economic, social, and political factors. Case studies will be used for discussion and analysis. Participants will be encouraged to present the situations in their own countries for discussion.

OTHER INFORMATION

Conducted in English by Cornell University. Simultaneous interpretation is available in Spanish and French at additional cost.

COST

AID participants: Total \$4,769 includes \$2,927 for training fee and associated costs and \$1,842 for maintenance allowance.

UN/FAO participants: Total \$4,509 includes \$2,667 for training fee and associated costs and \$1,842 for maintenance allowance.

All other participants: Total \$4,769 includes \$2,817 for training fee and associated costs payable to USDA, and \$1,952 for maintenance allowance, books, and book shipment payable directly to the participant.

TRAVEL

Participants should be provided round trip air tickets from their home countries to Ithaca, New York, with a stopover in Washington, D.C., from September 6 to September 9.

OVERSEAS AVAILABILITY

Available for overseas presentation upon request by AID, the World Bank, FAO, developing country governments, foundations, and private organizations.

GENERAL INFORMATION ON RESEARCH OPPORTUNITIES

RESEARCH OPPORTUNITIES

Opportunities exist for participation in research in over 200 subject areas. These opportunities are available both in USDA's Agricultural Research Service laboratories as well as in other research facilities. This program allows scientists from around the world to update, increase, or refine their research skills while contributing to ongoing research. Participants will work alongside U.S. scientists on research projects in areas of mutual interest. Examples of research opportunities are listed in the following pages.

LOCATION

Research projects will be conducted in geographical areas of the United States appropriate for the nature of the research.

PROGRAM LENGTH

Acceptance into the program and the length of the research will be determined by an agreement between the applying scientist and the director of the research laboratory. Placements normally are for 6 to 12 months, depending on the research involved.

COORDINATION WITH TECHNICAL COURSES

Applicants may wish to coordinate their participation in laboratory research with attendance in a USDA technical course. This would allow them to make optimal use of the time they spend in the United States.

SPONSORSHIP

Organizations sponsoring participants include the following development organizations: the Agency for International Development, the Food and Agriculture Organization of the United Nations (UN/FAO), international development banks, home country governments, foundations, and private organizations.

COST

Costs vary according to the type of placement and the research involved. Cost information will be forwarded on request.

APPLICATION PROCEDURES

For additional information, or to nominate candidates, cable or write to:

Dr. Frank A. Fender
Acting Deputy Administrator for International Training
Room 3529 South Building
Office of International Cooperation
and Development (OICD)
United States Department of Agriculture
Washington, D.C. 20250

Cable Address: AGRI/WASH 64334, Fender, OICD

RESEARCH OPPORTUNITIES FOR FOREIGN AGRICULTURALISTS

BIOLOGICAL CONTROL

Biological control of insect pests
Biological control of insects by parasites
Biological control of citrus insects
Biological control of grain and forage pests
Biocontrol of insects that attack livestock
Biological control of mosquitoes
Biological control of pests, insects, weeds, or plant pathogens
Biological control of soil-borne plant pathogens
Biocontrol of Trichogramma
Biological control of weeds using plant pathogens
Biocontrol of wheat diseases
Controlling insects in stored products using natural enemies

DISEASES

Biology, pathology, and chemistry of viroid pathogens
Cereal crop pathology
Citrus pathology
Classification of fungi on cotton, corn, and rice
Development of beans with resistance to root rot
Downy mildew of corn
Electron microscopy of healthy and diseased plants
Insect pathology (*Bacillus thuringiensis*)
Isolation and classification of fungi found on cotton, corn, and rice
Physiological mechanism of symptom expression in mycoplasma and spiroplasma diseases
Sorghum diseases
Soil-borne diseases
Soybean rust (containment)
Sugarcane genetics, pathology
Wheat diseases

ENGINEERING

Citrus postharvest technology
Citrus processing
Channel stabilization
Conservation tillage, soil erosion
Control of soil and water salinity
Cotton ginning research
Engineering for biomass harvesting
Grain drying
Grain handling and engineering
Irrigation and hydraulics; water management and harvesting; soil-plant-atmosphere systems
Mechanics of soil erosion
Nitrogen cycling in organic farming
Postharvest physiology and storage and transportation technology
Sediment transport
Soil erosion, water quality
Sugarcane harvesting
Surface water hydrology
Water quality of agricultural runoff
Water management or moisture conservation
Watershed sediment yield
Wind erosion and soil physics
Wind energy use on farms

FORAGE

Forage breeding or cytogenetics of grasses
Forage grass breeding
Forage grazing management
Forage plant physiology
Forage utilization

GENETICS

Cotton genetics
Genetics and improvement of woody landscape plants

RESEARCH OPPORTUNITIES (continued)

INSECTS

Biology and behavior of sterile weevils
Biology of insects that affect stored products
Characterization and genetics of bacteria and viruses pathogenic to insects
Control of citrus and vegetable insects
The effect of growth regulators on insects in stored products
Host plant resistance to insects
Insect attractant research
Insect behavior
Insect biochemistry, physiology, and toxicology
Insect control by natural product chemicals
Insect genetics and radiation biology
Insect pathology
Insect pheromone chemistry
Insect population modeling
Insect rearing, Trichogramma
Insect resistance in sweet potatoes
Integrated pest management of citrus insects
Isolating insect control agents from plant materials
Management and biology of cotton insects and cotton insect pathology
Medical entomology
Pesticide metabolism
Pesticide residue analysis
Pheromone chemistry
Pheromone research, sterile boll weevils
Quarantine of insects
Rangeland insect control
Reproductive physiology in insects
Soybean and cotton insect control, (Lygus heliothis)
Subtropical fruit insects
Synthetic and semidefined diets for testing biologically active compounds for use as insect control agents
Taxonomy of insects or mites

LIVESTOCK AND POULTRY

Animal diseases
Avian coccidiosis research
Avian reproduction physiology
Animal physiology
Calf scours
Embryo transfer in beef cattle
Immunology -- animal disease center
Laboratory animal medicine
Livestock nutrition
Livestock veterinary entomology
Metabolism of agricultural chemicals by animals
Mycotoxins in chicken feed
Pathobiology -- animal disease center
Poultry diseases
Poultry production
Reproductive endocrinology of swine
Respiratory diseases of poultry
Respiratory diseases of sheep
Ruminant nutrition (forage or protein metabolism)
Sanitizing swine and beef meat
Swine or beef cattle nutrition
Swine dysentery
Sarcocystis (coccidiosis) in swine
Swine or cattle reproduction
Swine nutrition
Taxonomy and systematics of helminthic parasites of domestic animals
Mastitis
Utilization of animal wastes
Viral diseases of livestock

PLANTS AND PLANT RELATED

Air pollution's effects on plants
Alfalfa breeding
Agricultural chemicals research: plants
Cereal products research
Chemical, biological, and physiochemical properties of peanut proteins
Citrus physiology, pathology, and entomology

RESEARCH OPPORTUNITIES (continued)

PLANTS AND PLANT RELATED (continued)

Cotton genetics
Crop simulation
Economic and medicinal plants
 including herbs
Effects of air quality on plants
Forage and range grass production
Free fatty acid formation in stored
 brown rice and whole rice
Hormone synthesis and action in
 plant tissue
Millet breeding
Mineral nutrition of plants
Movement of water in the root zone
Pathology, genetics, and breeding of
 improved wheat and barley germ
 plasm
Peanut pathology or genetics
Physiochemical characterization of
 oilseeds
Physiological and biochemical bases
 of seed vigor
Plant biochemistry
Plant breeding
Plant documentation
Plant genetics (host plant resistance
 to cotton insects)
Plant hormones
Plant-soil-water relationships
Plant pathology
Plant physiology
Plant stress in sorghum
Postharvest physiology and pathology
Propagation of fruit-producing
 plants by tissue culture
Rice breeding and culture
Rice production
Seed germination and dormancy as
 affected by light and temperature
Soil chemistry and physics
Soil fertility and management
Soil classification and mapping
Soil/plant analysis
Sowing, collecting data, evaluating,
 and harvesting experimental crops
Soybean, nitrogen fixation, photo-
 synthesis
Soybean pathology or entomology
Soybean reaction gene(s)
Sugarcane genetics and sugarcane
 disease epidemiology
Sugarcane production
Sunflower production

Tissue culture in rice breeding
Vegetable production
Wheat breeding and production
Wheat production research

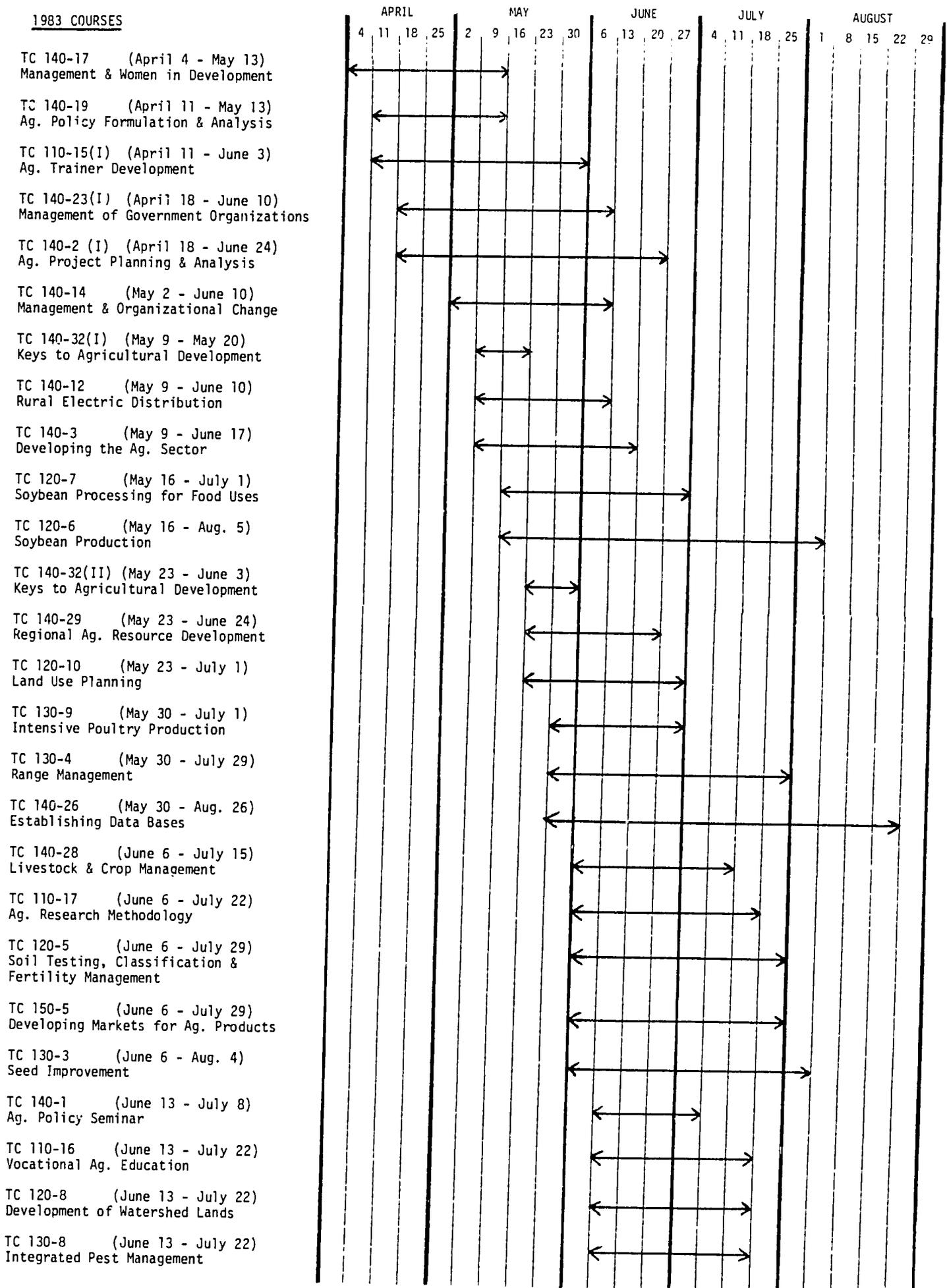
WEED CONTROL

Biochemistry and physiology of
 herbicides
Herbicides' mode of action
Physiology of herbicides
Weed control in fruit crops
Weed control in rice
Weed control in vegetable crops
Weed control practices in soybeans
 and cotton
Weed science
Weed seed dormancy

MISCELLANEOUS

Anaplasmosis/babesiasis research
Characterization of storage con-
 stituents of oilseeds
Chromatographic analysis of plant
 tissue
Establishment, propagation, inspec-
 tion, maintenance, documentation,
 and distribution of germ plasm
Field releases of Trichogramma
Food microbiology research
Food proteins
Food technology
Grading of agricultural products
Grain quality needed for different
 final products
Grain structures and composition
Growth regulation of woody species
Heliothis ecology and control
Identification and biological control
 of plant parasitic nematodes
Immunology and cell culture methodo-
 logy
Interactions of metal ions and amino
 acids with phytic acid
International communications and
 computerization of germ plasm data
Natural product chemistry
Quality control for laboratory
 services

1983 COURSES



1983 COURSES

	JUNE				JULY				AUGUST					SEPTEMBER				OCTOBER				NOVEMBER		
	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14
TC 150-2 (June 13 - July 29) Grain Storage & Marketing	←-----→				←-----→																			
TC 120-1 (June 13 - Aug. 5) Irrigation Problems & Practices	←-----→				←-----→																			
TC 110-15(II) (June 13 - Aug. 5) Ag. Trainer Development	←-----→				←-----→																			
TC 110-5 (I) (June 13 - Aug. 12) Agricultural Extension	←-----→				←-----→																			
TC 130-10 (June 20 - July 29) Small Ruminant Production	←-----→				←-----→																			
TC 140-24 (June 20 - July 29) Management of Ag. Research	←-----→				←-----→																			
TC 140-23(II) (June 20 - Aug. 12) Management of Government Organizations	←-----→				←-----→																			
TC 140-16 (June 27 - Aug. 5) Ag. Project Implementation					←-----→																			
TC 170-7 (July 11 - Aug. 5) Management of Natural Resource Areas					←-----→																			
TC 120-25 (July 11 - Aug. 5) Water Harvesting for Ag. Production					←-----→																			
TC 130-11 (July 11 - Aug. 19) Vegetable Crop Production					←-----→																			
TC 110-3 (July 11 - Aug. 19) Ag. Communication & Media Strategies					←-----→																			
TC 140-32(III)(July 18 - July 29) Keys to Agricultural Development					←-----→																			
TC 110-18 (July 18 - Aug. 5) Communication Planning & Strategy					←-----→																			
TC 140-22 (July 18 - Aug. 26) Economic Forecasting					←-----→																			
TC 140-2 (II) (Aug. 8 - Oct. 14) Ag. Project Planning & Analysis									←-----→															
TC 140-32(IV & V) (Aug. 8 - 19) (VI & VII) (Aug. 15 - 26) Keys to Agricultural Development									←-----→															
TC 110-14 (Aug. 22 - Sept. 30) Application & Diffusion									←-----→															
TC 110-5 (II) (Sept. 5 - Nov. 11) Agricultural Extension									←-----→															
TC 130-5 (Sept. 12 - Oct. 14) Plant Quarantine									←-----→															
TC 150-7 (Sept. 12 - Oct. 14) Postharvest Food Losses									←-----→															
TC 140-25 (Sept. 12 - Nov. 4) Integrated Rural Development									←-----→															
TC 140-8 (Sept. 19 - Oct. 28) Small Farmer Credit Policy									←-----→															
TC 140-11 (Sept. 19 - Oct. 28) Ag. Cooperative Organizations									←-----→															
TC 110-19 (Dec. 26 - Jan. 6) Communication Skills for Development Professionals														←-----→										

PROGRAMS OF THE INTERNATIONAL TRAINING DIVISION

The International Training Division, in conjunction with its cooperators:

- provides both academic and nonacademic training in agriculture and rural development* in the United States, tailored to the needs of individual participants;
- provides short-term assistance* in designing, planning, and evaluating the training components of development projects;
- offers research opportunities* in the United States for foreign research scientists;
- conducts training in agriculture in developing nations* including short courses in technical areas and management;
- provides experts to advise on long-term training projects* in developing nations;

—*provides administrative support and on-site management* for large training-related development programs; and

—*provides special resources for improving the management and organization* of development institutions in less developed countries.

Contact: For additional information or to nominate candidates for programs, cable or write to:

Dr. Frank A. Fender
Acting Deputy Administrator for International Training
Room 3529 South Building
Office of International Cooperation and Development (OICD)
United States Department of Agriculture
Washington, D.C. 20250

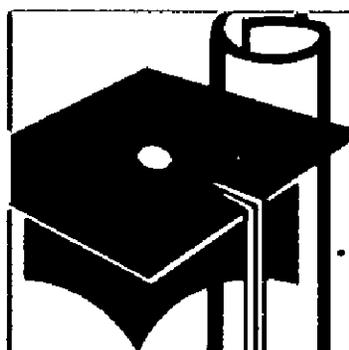
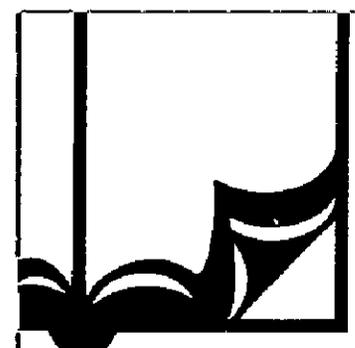
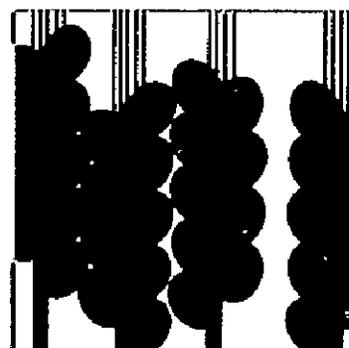
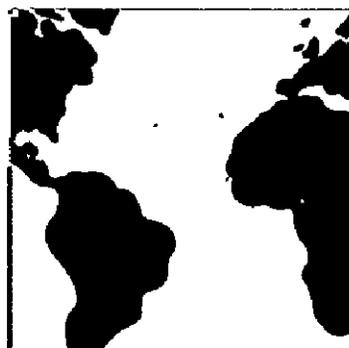
Cable Address: AGRIWASH 64334, Fender OICD

U.S. Department of Agriculture, Office of International Cooperation

Courses in Agriculture and Rural Development and Selected Research Opportunities, 1983

Programs in the United States for
Foreign Agriculturalists

Offered by the U. S. Department of Agriculture
in cooperation with the U. S. Agency for
International Development and U. S. Universities



GENERAL COURSE INFORMATION

Course Design: Courses are designed to provide participants with sound technical knowledge and the opportunity to test and practice new skills. All courses mix technical study, exercises, practice and field observation to enhance practical on-the-job skills.

Participants: Courses are open to agricultural and rural development technicians, scientists, trainers, administrators, and policymakers from developing nations. Participants should have good English language skills because most courses involve considerable personal interaction.

Location: Courses are conducted in the Washington, D.C. area or at universities in over 20 states, depending on the subject matter. All courses involve field trips to appropriate sites.

Course Sequence: Courses have been scheduled so that related courses can be taken in sequence to make the best use of time in the United States. In addition, special study programs in areas of particular interest can be arranged to supplement courses.

Enrollment: Submit applications for course enrollment as early as possible. The normal application deadline is 2 months before a course begins. Early receipt of funding documents and biographical

information simplifies administrative processing and course preparation. For most courses, enrollment is on a space-available basis.

Sponsorship: Organizations sponsoring participants include AID, the Food and Agriculture Organization of the United Nations (FAO), international development banks, developing country governments, foundations, and private organizations.

Course Schedules for 1984-85: To assist organizations with long-term planning, courses will be scheduled at approximately the same time in 1984-85.

Application: For additional information or to nominate candidates, cable or write to:

Dr. Frank A. Fender
Acting Deputy Administrator for International Training
Room 3529 South Building
Office of International Cooperation and Development (OICD)
United States Department of Agriculture
Washington, D.C. 20250

Cable Address: AGR1/WASH 64334, Fender OICD

Vegetable production
Wheat breeding and production
Wheat production research

WEED CONTROL

Biochemistry and physiology of herbicides
Herbicides' mode of action
Physiology of herbicides
Weed control in fruit crops
Weed control in rice
Weed control in vegetable crops
Weed control practices in soybeans and cotton
Weed science
Weed seed dormancy

MISCELLANEOUS

Anaplasmosis/babesiosis research
Characterization of storage constituents of oilseeds
Chromatographic analysis of plant tissue
Establishment, propagation, inspection, maintenance, documentation, and distribution of germ plasm
Field releases of *Trichogramma*
Food microbiology research
Food proteins
Food technology
Grading of agricultural products
Grain quality needed for different final products

Grain structures and composition
Growth regulation of woody species
Heliothis ecology and control
Identification and biological control of plant parasitic nematodes
Immunology and cell culture methodology
Interactions of metal ions and amino acids with phytic acid
International communications and computerization of germ plasm data
Natural product chemistry
Quality control for laboratory services

COURSES FOR FOREIGN AGRICULTURALISTS

Course number	Course title	Course description	Duration	Dates
ANIMAL SCIENCE AND NATURAL RESOURCES				
120-8	Resource Development of Watershed Lands	<i>Management alternatives and strategies for effectively developing and using water resources to increase food and fiber production.</i>	6 weeks	June 13-July 22
120-10	Land Use Planning in Natural Resource Management	<i>Reviews the principles, assumptions, and methods useful in setting objectives, analyzing data, and evaluating land use alternatives. Emphasis on analyzing the social and economic impact of alternative land uses.</i>	6 weeks	May 23-July 1
130-4	Range Management and Forage Production	<i>Gives overview of rangeland development. Explains the roles of range inventories, range improvement techniques, grazing systems, and range management plans.</i>	9 weeks	May 30-July 29
130-9	Intensive Poultry Production Systems	<i>Principles of poultry nutrition, disease control, selection and breeding, and egg and meat production. Emphasizes use of poultry flocks to increase income and the level of protein in diets.</i>	5 weeks	May 30-July 1

130-10	Small Ruminant Production Techniques	<i>Management of sheep and goat herds for meat, milk, and wool production. Covers both confinement and grazing systems, animal/land ratios, breeding, feeding, nutrition, health, and marketing.</i>	6 weeks	June 20-July 29
170-7	Ecological Analysis for Management of Natural Resource Areas	<i>How to conduct an inventory of resources and analyze data used in managing natural resource areas. Ecological analysis of deforestation and other types of natural resource degradation and of solutions to those problems.</i>	4 weeks	July 11-Aug.5
ECONOMICS AND POLICY				
140-1	Agricultural Policy Seminar (for senior-level officials)	<i>Leading authorities discuss with participants the policymaking process and specific issues such as price policies, land reform, import-export issues, marketing, population growth, and agricultural education.</i>	4 weeks	June 13-July 8
140-2	Project Planning and Analysis for Agriculture and Rural Development (two sections)	<i>An indepth treatment of project design analysis. Includes network analysis, data collection, budget analysis, techniques for financial and economic analyses, design of project proposals, and project refinements. (See related course 140-16.)</i>	10 weeks Section I Section II	April 18-June 24 August 8-Oct. 14
140-3	Strategies for Developing the Agricultural Sector	<i>Techniques for applying economic development theories within the existing framework of a country's capabilities, resources, and traditions.</i>	6 weeks	May 9-June 17

Reproductive endocrinology of swine
Respiratory diseases of poultry
Respiratory diseases of sheep
Ruminant nutrition (forage or protein metabolism)
Sanitizing swine and beef meat
Swine or beef cattle nutrition
Swine-dysentery
Sarcocystis (coccidiosis) in swine
Swine or cattle reproduction
Swine nutrition
Taxonomy and systematics of helminthic parasites of domestic animals
Mastitis
Utilization of animal wastes
Viral diseases of livestock

PLANTS AND PLANT RELATED

Air pollution's effects on plants
Alfalfa breeding
Agricultural chemicals research: plants
Cereal products research
Chemical, biological, and physiochemical properties of peanut proteins
Citrus physiology, pathology, and entomology

Cotton genetics
Crop production simulation
Economic and medicinal plants including herbs
Effects of air quality on plants
Forage and range grass production
Free fatty acid formation in stored brown rice and whole rice
Hormone synthesis and action in plant tissue
Millet breeding
Mineral nutrition of plants
Movement of water in the root zone
Pathology, genetics, and breeding of improved wheat and barley germ plasm
Peanut pathology or genetics
Physiochemical characterization of oilseeds
Physiological and biochemical bases of seed vigor
Plant biochemistry
Plant breeding
Plant documentation
Plant genetics (host plant resistance to cotton insects)
Plant hormones

Plant-soil-water relationships
Plant pathology
Plant physiology
Plant stress in sorghum
Postharvest physiology and pathology
Propagation of fruit-producing plants by tissue culture
Rice breeding and culture
Rice production
Seed germination and dormancy as affected by light and temperature
Soil chemistry and physics
Soil fertility and management
Soil classification and mapping
Soil/plant analysis
Sowing, collecting data, evaluating, and harvesting experimental crops
Soybean, nitrogen fixation, photosynthesis
Soybean pathology or entomology
Soybean reaction gene(s)
Sugarcane genetics and sugarcane disease epidemiology
Sugarcane production
Sunflower production
Tissue culture in rice breeding

FORAGE

Forage breeding or cytogenetics of
grasses
Forage grass breeding
Forage grazing management
Forage plant physiology
Forage utilization

GENETICS

Cotton genetics
Genetics and improvement of woody
landscape plants

INSECTS

Biology and behavior of sterile weevils
Biology of insects that affect stored
products
Characterization and genetics of bacteria
and viruses pathogenic to insects
Control of citrus and vegetable insects
The effect of growth regulators on insects
in stored products
Host plant resistance to insects

Insect attractant research
Insect behavior
Insect biochemistry, physiology, and
toxicology
Insect control by natural product
chemicals
Insect genetics and radiation biology
Insect pathology
Insect pheromone chemistry
Insect population modeling
Insect rearing, *Trichogramma*
Insect resistance in sweet potatoes
Integrated pest management of citrus
insects
Isolating insect control agents from plant
materials
Management and biology of cotton insects
and cotton insect pathology
Medical entomology
Pesticide metabolism
Pesticide residue analysis
Pheromone chemistry
Pheromone research, sterile boll weevils
Quarantine of insects
Rangeland insect control
Reproductive physiology in insects

Soybean and cotton insect control, (*Lygus
heliophilus*)
Subtropical fruit insects
Synthetic and semidefined diets for
testing biologically active compounds
for use as insect control agents
Taxonomy of insects or mites

LIVESTOCK AND POULTRY

Animal diseases
Avian coccidiosis research
Avian reproduction physiology
Animal physiology
Calf scours
Embryo transfer in beef cattle
Immunology—animal disease center
Laboratory animal medicine
Livestock nutrition
Livestock veterinary entomology
Metabolism of agricultural chemicals by
animals
Mycotoxins in chicken feed
Pathobiology—animal disease center
Poultry diseases
Poultry production

140-8	Small Farmer Credit Policy and Administration	<i>Evaluation of alternative credit policies and programs for small farms. Study of techniques for distributing and administering credit.</i>	6 weeks	Sept. 19–Oct. 28
140-11	Establishment and Management of Agricultural Cooperative Organizations	<i>Alternative ways to bring small-scale farmers together in production and marketing cooperatives. Management procedures designed to keep cooperatives viable.</i>	6 weeks	Sept. 19–Oct. 28
140-12	Organization and Operation of Rural Electric Distribution Systems	<i>Development of rural electrification systems, including analysis of U.S. electric cooperatives. How management and cooperative principles can be applied to systems in participants' home countries.</i>	5 weeks	May 9–June 10
140-16	Project Implementation for Agriculture and Rural Development	<i>Application of management concepts and skills to solve organizational and technical problems in implementing projects. Includes network analysis, information feedback, cost monitoring and case studies. (See related course 140-2.)</i>	6 weeks	June 27–Aug. 5
140-19	Policy Formulation and Analysis for Agricultural and Rural Development	<i>Presents analytical techniques for formulating and evaluating alternative agricultural policies. Reviews how policies are formulated and the role of the policy analyst.</i>	5 weeks	April 11–May 13

140-22	Economic Forecasting for Agricultural Policy and Decisionmaking	<i>Alternative techniques for forecasting economic and agricultural information useful for policymaking. Includes forecasting procedures and evaluation of their accuracy.</i>	6 weeks	July 18-Aug. 26
140-26	Establishing Data Bases and Analytical Systems for Economic Decisionmaking in Agriculture	<i>Statistical concepts for design of surveys and sampling of agricultural resources. Reviews ways to translate objectives into quantifiable variables. Discusses the roles of data processing, analysis and reporting, and field observations.</i>	13 weeks	May 30-Aug. 26
140-28	Effective Livestock and Crop Management for Small Farms	<i>Identifies production systems that are compatible with small-scale agriculture. Reviews techniques useful in farm planning, budgeting, cash flow analysis, and evaluation of investment alternatives. Considers farm inputs and marketing.</i>	6 weeks	June 6-July 15
140-29	Regional Agricultural Resource Development	<i>Provides a systematic framework for planning and managing programs for regional agricultural development. Identifies key scientific, economic, social, and administrative elements that contribute to successful regional development using the Tennessee Valley Authority as an example.</i>	5 weeks	May 23-June 24

RESEARCH OPPORTUNITIES FOR FOREIGN AGRICULTURALISTS

BIOLOGICAL CONTROL

Biological control of insect pests
 Biological control of insects by parasites
 Biological control of citrus insects
 Biological control of grain and forage pests
 Biological of insects that attack livestock
 Biological control of mosquitoes
 Biological control of pests, insects, weeds, or plant pathogens
 Biological control of soil-borne plant pathogens
 Biological of *Trichogramma*
 Biological control of weeds using plant pathogens
 Biological of wheat diseases
 Controlling insects in stored products using natural enemies

DISEASES

Biology, pathology, and chemistry of viroid pathogens

Cereal crop pathology
 Citrus pathology
 Classification of fungi on cotton, corn, and rice
 Development of beans with resistance to root rot
 Downy mildew of corn
 Electron microscopy of healthy and diseased plants
 Insect pathology (*Bacillus thuringiensis*)
 Isolation and classification of fungi found on cotton, corn, and rice
 Physiological mechanism of symptom expression in mycoplasma and spiroplasma diseases
 Sorghum diseases
 Soil-borne diseases
 Soybean rust (containment)
 Sugarcane genetics, pathology
 Wheat diseases

ENGINEERING

Citrus postharvest technology
 Citrus processing

Channel stabilization
 Conservation tillage, soil erosion
 Control of soil and water salinity
 Cotton ginning research
 Engineering for biomass harvesting
 Grain drying
 Grain handling and engineering
 Irrigation and hydraulics; water management and harvesting; soil-plant-atmosphere systems
 Mechanics of soil erosion
 Nitrogen cycling in organic farming
 Postharvest physiology and storage and transportation technology
 Sediment transport
 Soil erosion, water quality
 Sugarcane harvesting
 Surface water hydrology
 Water quality of agricultural runoff
 Water management or moisture conservation
 Watershed sediment yield
 Wind erosion and soil physics
 Wind energy use on farms

GENERAL INFORMATION ON RESEARCH OPPORTUNITIES

Research Opportunities: Opportunities exist for participation in research in over 200 subject areas. These opportunities exist both in laboratories operated by USDA's Science and Education Administration (SEA) and in other research laboratories. This program allows scientists from around the world to update, increase, or refine their research skills while contributing to ongoing research programs. Participants will work alongside U.S. scientists on research projects in areas of mutual interest. Examples of research opportunities are listed in the following pages.

Location: Research projects will be conducted in geographical areas of the United States appropriate for the nature of the research.

Program Length: Acceptance into the program and program length will be determined by an agreement between the applying scientist and the director of the research laboratory. Placements normally are for 6 to 12 months, depending on the research involved.

Coordination with Technical Courses: Applicants may wish to coordinate their participation in laboratory research with

attendance in a USDA technical course. This would allow them to make optimal use of the time they spend in the United States.

Sponsorship: Organizations sponsoring participants include the following development organizations: the Agency for International Development; the Food and Agriculture Organization of the United Nations (FAO) international development banks; home country governments, foundations, and private organizations

Cost: Costs vary according to the type of placement and the research involved. Cost information will be forwarded on request.

Application Procedures: For additional information, or to nominate candidates, cable or write to:

Dr. Frank A. Fender
Acting Deputy Administrator for International Training
Room 3529 South Building
Office of International Cooperation and Development (OICD)
United States Department of Agriculture
Washington, D. C. 20250

Cable Address: AGRI/WASH 64334, Fender OICD

150-5	Developing Markets for Agricultural Products	<i>Discusses ways to improve agricultural marketing systems of developing countries. Includes marketing infrastructure, international trade, and the techniques used in market analysis.</i>	8 weeks	June 6-July 29
MANAGEMENT, EDUCATION, AND HUMAN RESOURCE DEVELOPMENT				
110-3	Communications and Media Strategies for Agriculture and Rural Development (for communications specialists)	<i>How to design and use public information programs. Considers how to identify audiences, analyze existing public information systems, design messages, and use the media to get information on agriculture out to the public effectively. (See related courses 110-18, 110-19)</i>	6 weeks	July 11-Aug. 19
110-5	Development and Operation of Agricultural Extension Programs (two sections)	<i>Fundamental principles, theories, and practices of agricultural extension systems. Reviews the structure and function of extension services and how they help to improve rural life.</i>	9 weeks Section I 10 weeks Section II	June 13-Aug. 12 Sept. 5-Nov. 11
110-14	Application and Diffusion of Agricultural Research Results to the Community Level	<i>Methods of disseminating and using agricultural research results at the community level. Examines how research results are adopted and explores alternative strategies for utilization.</i>	6 weeks	Aug. 22-Sept. 30
110-15	Training of Trainers for Agriculture and Rural Development (two sections)	<i>How to design, plan, administer, and present effective training programs in the areas of agricultural and rural development.</i>	8 weeks Section I Section II	April 11-June 3 June 13-Aug 5

110-16	Vocational Agricultural Education Systems in Developing Countries	<i>Improvement of vocational agricultural systems including curriculum design and implementation for home country educational programs.</i>	6 weeks	June 13-July 22
110-18	Communications Planning and Strategy (for program managers of any technical specialty)	<i>Strategies to help project managers build communications components into development programs. Covers developing policy support, gaining participation, and measuring costs and results. (See related courses 110-3, 110-19.)</i>	3 weeks	July 18-Aug. 5
110-19	Communication Skills for Development Professionals	<i>The role of communications in developing and maintaining effective working relationships. Provides skills for integrating U.S. experience into home situation. Primarily for academic participants. (See related courses 110-3, 110-18.)</i>	2 weeks	Dec. 26, 1983-Jan. 6, 1984
140-14	Management and Organizational Change—An Organization Development Approach (for senior and executive officials)	<i>Management skills for senior administrators in public agriculture and rural development organizations. Includes planning and implementing strategies to increase organizational effectiveness.</i>	6 weeks	May 2-June 10
140-17	Management and the Role of Women in Development (for senior women officials)	<i>Management skills for senior women administrators in rural development organizations. Includes issues related to women in management and to involving women in development programs.</i>	6 weeks	April 4-May 13

150-2	Grain Storage and Marketing	<i>Basic fundamentals of grain storage and marketing. Includes grain drying, storage, handling, transportation, and marketing from farm to final consumption.</i>	7 weeks	June 13-July 29
150-7	Determination and Prevention of Postharvest Food Losses	<i>Examines the causes and extent of postharvest food losses and determines where they occur in the marketing channels. Identifies appropriate techniques to reduce food losses and increase the available food supply in developing countries.</i>	5 weeks	Sept. 12-Oct. 14
140-23	Management of Government Organizations in Developing Countries (for entry-to mid-level managers) (two sections)	<i>Identification and application of essential management principles. Includes program planning, budgeting, supervision, financial and personnel management, work organization, office management, and control systems.</i>	8 weeks Section I Section II	April 18-June 10 June 20-Aug. 12
140-24	Management of Agricultural Research Facilities and Organizations	<i>Considers the uniqueness of the agricultural research process. Helps administrators identify research needs, plan research, and establish priorities within staff and budget restrictions. Provides guidance for successful management of research organizations.</i>	6 weeks	June 20-July 29
140-25	Initiating and Managing Integrated Rural Development Programs	<i>Identifies alternative models and strategies for rural development. Emphasis on how integrated rural development programs can be planned, coordinated, implemented, and evaluated to improve their effectiveness.</i>	8 weeks	Sept. 12-Nov. 4
140-32	Keys to Rural Development at the Local Level (seven sections)	<i>Identifies and analyzes the key social, economic, and political factors in agricultural development at the local level. A field seminar primarily for academic or long-term nonacademic participants.</i>	2 weeks Sect. I Sect. II Sect. III Sect. IV and V Sect. VI & VII	May 9-May 20 May 23-June 3 July 18-July 29 Aug. 8-Aug. 19 Aug. 15-Aug. 26

PRODUCTION AND TECHNOLOGY

110-17	Agricultural Research Methodology	<i>Analytical research methods and procedures. Covers criteria used in project selection, experimental design, statistical techniques, and data preparation. Includes presentation of results in technical literature.</i>	7 weeks	June 6-July 22
120-1	Irrigation Problems and Practices	<i>Presents the agronomic and engineering aspects of onfarm water management and maintenance. Covers both new and existing irrigation systems.</i>	8 weeks	June 13-Aug. 5
120-5	Soil Testing, Soil Classification, and Fertility Management	<i>Principles of soil testing, analysis, classification, and soil fertility, and their application in soil management systems. Includes extensive laboratory and field work.</i>	8 weeks	June 6-July 29
120-6	Technical and Economic Aspects of Soybean Production	<i>Cultural and economic practices related to soybean production for human consumption. Includes a review of educational programs to promote improved production and use of soybeans.</i>	12 weeks	May 16-Aug. 5
120-7	Soybean Processing for Food Uses	<i>Principles, processes, and procedures for converting soybeans into human food. Study of both industrial processes and preparation methods that use village-level technology.</i>	7 weeks	May 16-July 1
<hr/>				
120-25	Water Harvesting for Agricultural Production	<i>Design, development, operation, and maintenance of water harvesting facilities. Focuses on increasing agricultural production in arid and semiarid areas. Considers hydrological, agronomic, and horticultural aspects of water harvesting.</i>	4 weeks	July 11-Aug. 5
130-3	Seed Improvement	<i>Techniques for producing superior seed and for handling seed to maintain quality. Includes extensive work in a seed-testing laboratory and visits to commercial seed companies.</i>	9 weeks	June 6-Aug. 4
130-5	Plant Quarantine	<i>Operation of national plant import inspection and quarantine programs. Includes port inspection techniques, regulations, and treatment procedures.</i>	5 weeks	Sept. 12-Oct. 14
130-8	Integrated Pest Management	<i>Concepts and principles of integrated pest management using newly developed models; relationships between research and pest control tactics and strategies.</i>	6 weeks	June 13-July 22
130-11	Vegetable Crop Production and Marketing	<i>Production, harvesting, conditions affecting quality, product standards, grading and handling, storage, and shipping methods for different vegetable crops.</i>	6 weeks	July 11-Aug. 19