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FARMING SYSTEMS SUPPORT PROJECT

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I. Preface

The Farming Systems Support Project 1984 Work Plan and the 1983 Annual Report are companion documents that illustrate the flow of FSSP program activity. The Work Plan is a general guide to the Project's technical assistance and training support to USAID Missions and national Farming Systems Research and Extension projects for the coming year. FSSP responses to a variety of farming systems needs are anticipated in this document.

The Work Plan serves as a guide in an evolving program, and represents an instrument for cooperation and communication. It is presented around the major tasks of networking, training, technical assistance and state-of-the-arts. The tasks are highly complementary and interrelated, addressing a common need to develop, adopt and place technology in an information system easily accessed by all potential users.

Inputs to the 1984 FSSP work plan are from various sources illustrated by the following process:

1. Demand assessment with USAID Missions in 1983 including cables, workshops, mission visits and project design Activities.
2. Review of Support Entity documentation in the signed (MOA) Memorandum of Agreement.
3. Discussions from the FSSP Annual Meeting involving Support Entity input.
4. Draft by the FSSP Core staff for review by the Advisory Council.
5. Redraft by the FSSP Core for review by the Technical Committee, Advisory Council, AID/S&T Agriculture and Rural Development, and the Africa, Near East, Asia and Latin American Bureaus.
6. Final draft by the FSSP Core.

Primary emphasis of the Work Plan is to delineate FSSP's continued support of the farming systems approach to research and extension. As general consensus and consistency is emerging relative to this approach, FSSP emphasis is on a strategy for implementation. This does not preclude creative thought and state-of-the-art work by institutions participating in Farming Systems programs. Continuous state-of-the-art discussion and careful documentation of on-going experiences are essential to healthy growth of technical assistance and training programs for agricultural research and extension work. FSSP emphasis, however, must be given to addressing day-to-day FSR/E problems in the implementation of technical assistance programs with USAID Missions and national institutions.

II. Introduction

While the FSSP primarily addresses short-term technical assistance and training needs, a longer term program perspective is necessary for effective implementation. The FSSP is dedicated to: 1) strengthening the farming systems approach to agricultural research and extension, 2) coordinating program development for research and extension, 3) providing a basis for improved adaptive research, and 4) improved adoption and use of FSR/E technology and methods. Long range emphasis is necessary so that FS programs emerge.

The long-term (five to ten years for this project) perspective includes the geographical focus expressed in the 1983 Work Plan. A pro-active approach to support Africa is emphasized. A reactive mode for Latin America and Asia will be continued. Information and experience from these regions provide essential assistance in thought and practice for programs in Africa. Each region, country and project requires different levels of assistance. These needs can generally be categorized or associated with three stages of implementation. The stages refer specifically to demand for various modes of support, and, when combined, should be viewed as an iterative process both for countries and specific projects. Thus the following stages, while neither all inclusive nor necessarily sequential, suggest a flow of support.

Stage 1. Needs assessment, evaluation and design;

Stage 2. Training (workshops, short courses, in-servicetraining, etc.) and general technical assistance; and

Stage 3. Monitoring, backstopping, targeted technical assistance and evaluation.

Much of Africa requires program support in stages one and two, while farming systems activity in Latin America and Asia are generally into stage two, with long-term linkages needed to assist with stage three.

Role and Philosophy of the FSSP in 1984

Refinements in emphasis of the FSSP for 1984 relate to the support concept. The FSSP will provide communication linkages among ongoing programs, and training and technical assistance in areas related to adaptive research and extension, to complement, but not substitute for, present assistance. The FSSP will serve as a networking mechanism to bring a program focus to bear on national research and extension institutions. As a backstop project for USAID development assistance the FSSP, provides support to USAID Missions through effective support of FSR/E activities.

Efficient program delivery by the FSSP in 1984 demands careful planning and consideration by all Support Entities (SEs) and USAID Missions. A plan is emerging for coordinated management and administration of supply and demand, which delineates capabilities among SEs and prior planning by USAID Missions for assistance. Planning USAID projects early in their development (prior to USAID Project Identification Papers and Project Papers) will facilitate delivery of comprehensive and qualitative support efforts.

External Evaluation

An external evaluation panel will be formed in 1984 for annual FSSP evaluations, to be initiated following the second full year of operations. Success of FSR/E and the FSSP will ultimately be evaluated by their impact on agricultural technology generation and use among small farmers.

The cumulative efforts of FSR/E projects and FSSP activities will grow significantly over time. It is expected that evaluations of FS projects and activities will contribute to their strength and direction in the formulation of project plans and to the bank of FS knowledge generally.

III. Administrative Support and Delivery Structure

The FSSP is administered and managed by a core team at the University of Florida consisting of: Project Director, Technical Assistance Demand Coordinator, Technical Assistance Supply Coordinator, Training Coordinator, Networking Coordinator, Editorial and Communication Assistant and support personnel for visitor, secretarial and fiscal matters. Organization of the SE structure appears as an appendix of this Work Plan. It includes an organogram and provides a general overview of the roles and responsibilities of the Advisory Council, Technical Committee, Task Force and Support Entities.

USAID Mission Relations

Strategies are necessary for anticipating and addressing USAID Mission needs for program planning at the Mission level and for coordinating those needs with the FSSP support base. High quality support efforts will be achieved with adequate time for planning and preparation. Administratively this activity must be successful to achieve effective coordination of supply and demand for technical assistance and training.

Project Funding. The funding of longer-term support efforts should be built into bilateral contracts and other USAID Mission mechanisms so that needs for FSSP support can be anticipated and programatically serviced. This will provide a basis for developing procedures for matching USAID Mission demand to S&T/FSSP support capabilities for specific program activities. Procedures for the funding match (FSSP and USAID Mission sources) will be further developed in 1984. Concise guidelines will be given to USAID Missions for the match, to reduce both management time in USAID (for necessary fund transfers), and amendments to the Cooperative Agreement.

Cost sharing arrangements between USAID Missions and the FSSP, through the Bureaus and S&T in Washington, will be more tightly specified. The purpose of the FSSP is not to relieve USAID Missions of their normal financial responsibilities but to complement program development activities and to build these efforts directly into major funding instruments of USAID Missions so that solid, short-term support can continue to evolve from the FSSP on a timely and effective basis.

Title XII and the FSSP. The FSSP is compatible with Title XII and activity guided by Title XII philosophy; it is also a complement to the BIFAD program. The FSSP is a support mechanism for technical assistance to USAID Missions, much of which is implemented by Title XII institutions. Support to bilateral modes of technical assistance is a goal of the FSSP. FSSP can

provide training materials, professional expertise, and general knowledge to strengthen bilateral technical assistance efforts.

SE and USAID Interface. The SE and USAID interface is managed by the FSSP Core staff at University of Florida with its coordinators for the four functional project areas. Division of labor within the Core staff further coordinates delivery, as the Core draws from the SE structure. Technical assistance organization involves one Core individual working most directly with USAID Missions and Bureaus to structure demand, while another works with SEs in identifying institutional capabilities and implementation teams. Development of training and support materials for teams is accomplished by assimilating experience and information including the Core staff, Technical Committee and task forces.

Support Entities

Procedural Guidelines. The SE structure is in place as anticipated in the 1983 Work Plan. The Technical Committee and Advisory Council have been formed and now provide administrative and program counsel to the FSSP Core. To further define their role and that of the SE structure will require additional guidelines. A procedural manual will be developed in 1984 to specify institutional linkages and implementation procedures. The manual will include guidelines for financial arrangements, personnel administration and mobilization, and for Advisory Council, Technical Committee and Task Force activities. These guidelines, will be flexible, to meet specific needs.

Building Capability. A moratorium will be placed on signing new MOAs as of July 1, 1984; only after careful deliberation will any new MOAs be considered after October 1, 1984. This policy will help the FSSP to become a known quantity for management purposes as well as for use by USAID. It is essential that strengthening of SE capability continue for FS work. To this end, the Memoranda of Agreement signed by SEs call for continued strengthening of FSR/E capability. Title XII Strengthening Grant and Support Grant funds will be devoted to this task. As appropriate, FSSP workshops will further strengthen SE and USAID Mission capability in FSR/E.

Institutional Arrangements. FSSP program delivery responsibilities, where possible, will be delegated to SEs. The FSSP Core will give general leadership to coordination and project allocation. SEs will assume responsibility for specific assignments to underscore continuity extending beyond initial programs.

To this end the bilateral contractual modes of Title XII through BIFAD will be adhered to as fully as possible. The FSSP

desires: 1) To enter the process of project identification and planning as early as possible, 2) To support the contractor selection process and not to substitute for arrangements that would otherwise be handled through bilateral contracts unless it is essential, and 3) to provide support to implementing entities through training, communication, evaluation and experience.

Professional Involvement. SE institutional/professional involvement will emphasize strengthening institutional ties to AID and professional capabilities for assignments with the FSSP and in bilateral contracts. Emphasis is with SE's. Direct professional involvement that is not through SE's will be limited because the goal for long-term continuity is best served through an institutional structure.

SE Linkages. Coordination of FSSP response capability is through four Core coordinators working with the Program Leaders of the respective SEs. Linkages, as appropriate, will be made to USAID Missions so that direct SE technical assistance and training services can evolve under the general coordination of the FSSP. Continued emphasis will be on the Program Associate and Program Leader structure of the SEs to achieve effective long-term backstop capability for USAID Missions.

Other Cooperators

Emphasis will continue in strengthening ties with the IARCs. Specifically, the FSSP will provide support to complement center research in farming systems through national and farm-level linkages. One goal is to support the activities of CIMMYT in East Africa. Since CIMMYT is on the FS cutting edge, CIMMYT - FSSP collaboration can be expected to result in significant state-of-the-art advances. Similarly, in Africa support will be provided as appropriate to ILCA, ICRISAT, IITA, and WARDA. The principle is to improve communication and linkages, thereby strengthening through FSR, the agricultural research and development structure.

This philosophy extends to working through and with regional entities, as appropriate, in support of USAID Mission programs. The linkage of the IARCs to regional entities, and finally to national entities, rests on an adaptive research/extension effort that can be strengthened by the FSSP.

Further, the FSSP will link with the Collaborative Research Support Projects (CRSPs) and other USAID support projects, formalizing agreements as appropriate. Again, the philosophy of the FSSP is to be a support entity and not to become a primary actor in and of itself.

The agricultural research and development process spans technology generation and use, from more basic and station-oriented research, to adaptive research programs that

must link with extension and farmers. The FS approach neither substitutes for research and extension structures nor replaces the necessary functions of each. The approach can help integrate the overall activity so that meaningful and cohesive results occur with and for farmers.

USAID/Washington Relations

Every effort will be made by the FSSP in 1984 to strengthen ties with the regional bureaus and BIFAD. S&T has identified counterpart/sub-project leaders to work directly with Core staff of the FSSP which will further augment SE and USAID ties. A USAID Advisory Committee consisting of representatives from each of the bureaus and from BIFAD to interact with the FSSP Advisory Council and Director is recommended by the FSSP to strengthen the FS program in USAID. In summary, the full intent of a cooperative agreement will be pursued by the FSSP in the context of USAID and BIFAD goals, policies and programs.

IV. Programming for Training, Technical Assistance, Networking and State-of-the-Art Research

The goal of FSSP is to synthesize and package the state-of-the-art in methodologies and management of technology innovation in agriculture and to develop the human resource in the utilization of that state of the art. FSSP will engage in many activities, but all will be oriented to the above goal. By terms of its Cooperative Agreement, FSSP will work in the areas of technical assistance, training, and networking, including publication of a newsletter, and state-of-the-art synthesis/research. By certain criteria these project activities can be distinguished, but by other criteria they cannot.

FSSP recognizes the close interrelations between training, technical assistance networking, and state-of-the-art synthesis/research. A regional training workshop, for example, is also a networking activity since researchers from different countries gather to exchange experience and ideas; and perhaps some of the training content is provided by recent state-of-the-art research. A training course, in some situations, will be a highly effective medium of technical assistance. In like manner, technical assistance teams are given orientation briefings before their departure and are involved in counterpart exchanges, both being forms of training. Teams are then debriefed upon their return, a way to collect information for state-of-the-art synthesis/research. The newsletter, also, is one medium for packaging the state-of-the-art and represents a form of training. Networking is another form of training. In these and similar ways the four functional areas of the FSSP grade imperceptibly one into another. Still, we do categorize activities in this Work Plan by the criteria of image, i.e., what it most appears to be.

A simple matrix may be helpful in explaining the business of FSSP. The cells in this matrix can be filled in a variety of ways - by activities, substantive categories, actors, even by audiences, and perhaps by other information.

The FSSP-Technology Innovation Matrix

Activities	Areas of Activities	
	TI Methodology	TI Management
Synthesis and Package State-of-the-Art		
Develop Human Resource in use of State-of-the-Art		

The Clientele for FSSP

One year's experience in the FSSP has led to a change in how FSSP audiences are viewed. FSSP's ultimate clients are the national research and extension institutions. Being a support project, FSSP does not have easy and continuous access to its ultimate client. There is an array of entities between FSSP and the ultimate client. These can be thought of as intermediate clients, and they vary widely in their characteristics. Yet, it is with these variable intermediate clients that FSSP must deal. At least four categories of intermediate clients can be identified, and none of them are homogenous.

1. One category is the USAID Mission which supports projects with the ultimate client. Missions vary considerably in their degree of involvement in such projects.

2. Another category is other support activities, such as the CIMMYT/FSR project in East Africa, the two REDSOs, technical support to Mission projects and others.

3. A third category consists of international centers, regional centers, and other autonomous entities dealing in FSR, each by its own criteria and in its own interest.

4. Finally, there is the expatriate technical assistance team, which is involved in almost all AID-financed FSR projects. This predominantly, but not entirely, consists of other universities.

Some of these are more important to FSSP than others. They are in positions critical to FSSP activities. Others could facilitate FSSP work but are not critical to FSSP.

The strategy for 1984 attempts to accommodate this array of intermediate clients. Several devices are important. One is to keep a clear picture in mind of what is the business of FSSP, and attempt to form a picture of the end of a project situation. The second is to develop a range of materials and programs oriented to the business of FSSP. A third is to be opportunistic and even imaginative in the manner in which FSSP involves itself in support of FSR/E activities.

The first activity of support, with a USAID Mission as a client, is through needs assessment, followed by an FSSP support/response strategy. Preparation for these activities is similar for the four FSSP functional areas of training, technical assistance, networking and state-of-the-art research. The goal is to help facilitate the development of programs designed to resolve farm-level problems by assisting a national research and extension structure to incorporate an FSR/E approach. The success of the FSR/E approach depends heavily on accurate understanding of needs and effective program implementation.

Needs Assessment

In the context of agricultural project programming at the country level, FSSP functional areas are mutually dependent. For this reason FSSP will assist USAID Missions and national governments in determining farming systems support needs at the country level. This assessment will determine what activities are called for and establish a time frame for their implementation. It will provide FSSP with sufficient advance time to prepare for those activities adapting its response to the particular settings. The assessment will help in the coordination of activities within a country or project so that FS training and technical assistance are mutually reinforcing, or so that one does not take place when needs call for the other. A prior training workshop dealing with diagnostic surveys, for example, might eliminate the need for technical assistance in conducting such a survey.

As part of an initial needs assessment for a country, FSSP may submit a questionnaire as appropriate to USAID Missions. A fuller team assessment will be subsequently conducted once FSSP has a Mission request to provide FSR/E support. In some cases the Mission request may be sufficiently specified to begin an initial response through technical assistance or training. Current indications suggest a greater urgency for delineating needs in Africa than in Asia or Latin America. In Africa, agricultural problems are especially pressing and trained personnel are few.

The general approach to FSSP implementation recognizes that considerable mobilization of human resources is necessary in the four functional areas in order to meet the USAID demand for services. In compliance with project mandates, this mobilization will continue to take several forms.

Support/Response Framework

While implementation of FSSP rests with coordination by the Director and Core staff, the capacity of the support/response framework is incumbent upon the support entities. In addition to field implementation tasks, such as project design and the delivery of training courses, support entities, or individuals from them, will be charged with state-of-the-art synthesis/research and the development of courses and training materials described on the following pages. Assignment of these tasks has early priority since several important FSSP activities depend on their completion.

Domestic workshops are conducted to promote a working consensus among those individuals who will be implementing FSR/E projects. There is a need to continue workshops of this kind during 1984 to provide an opportunity for SE and USAID personnel to improve their understanding of the Farming Systems approach

and concepts.

The FSSP support entity structure, formalized through Memoranda of Agreement, is the basis for FSR/E program development at the participating entities. The FSSP encourages the strengthening of SE programs to broaden the domestic expertise base for FSR/E activity conducted by FSSP and in bilateral contracts. The development of these support entity programs and their associated personnel is an important investment in the future.

A Training Mandate

In the area of training, FSSP will synthesize the state of the art and package it in publications, articles, working papers, slide/tape modules, videos, and other forms. Once captured in these media the state-of-the-art can, with relative ease, be fed into all other activities. Until reduced to a teachable form and placed in context with other pieces, knowledge or experience can hardly be considered to be a part of the state of the art.

Thus, the training mandate of the FSSP is a formidable one. Training requires not only competence in FSR/E, but some special communication skills as well. The need to identify and develop cadres for training, especially in West Africa, is urgent, a task in which FSSP is currently engaged. A domestic workshop to prepare trainers for West Africa is planned for June 1984.

The technical assistance component of FSSP is coordinating information and personnel data handling, which will serve both training and technical assistance staffing efforts. A biodata file has been established, which includes SE program associates and others with an expressed interest and capability in FSR/E training and technical assistance. The FSSP biodata file will be computerized, and, as project activities expand into 1984, data handling and information processing will continue to grow in importance for Project needs.

In addition to strengthening the FSSP human resource base, the major effort will be developing a comprehensive stock of training materials printed, visual, and audio that cover methodologies and management (including institution building and linkages) of FSR/E and eventually the total technology innovation process. This stock will be organized by modules. It will be slanted or adapted to LDC low-resource situations.

The blue print for this stock will be drawn from the best analysis FSSP can make of needs on the one hand and information availability on the other. Given expected changes in the state of the art and knowledge of the real world, training materials will be revised periodically and systematically.

Courses will be tailored by selecting various components from FSSP materials and by developing materials from local and other

sources.

Human Resource development related to training will take at least two forms or a combination of them. One will be in taking a course. The other will be in preparing modules, either original modules, or adaptations of modules for specific situations.

V. Training

Introduction

The experiences of 1983 have been instructive about training in FSR/E and have been incorporated in this Work Plan. FSSP activities to date have been confined almost entirely to Latin America and West and Central Africa; there has been virtually no activity in Asia. While planning in 1984 for involvement by FSSP in Asia in 1985 is an important priority, Latin America and Africa are regions to receive most direct training emphasis in 1984.

Africa and Latin America differ importantly along cultural, historical, and agro-ecological lines. Institutions tend to be better developed in Latin America than in the emergent African states. There is also a larger reservoir of trained personnel, better communication infrastructure, and less socio-cultural heterogeneity in Latin America than in Africa. Such differences bear significantly on training in the two regions. In Latin America, the FSSP will continue to operate with a native cadre of trainers having substantial experience in both FS and training. A priority in the plan of work for 1984 is to identify such a cadre for training in West and Central Africa.

A goal of the FSSP over time is to assist with the institutionalization of training to strengthen adaptive research and extension programs. Groundwork will be laid in 1984 with research, extension and educational entities so that the FSR/E training process can become an additive component. The institutionalization of FSR/E training is thought to be the single most important step toward ultimately achieving the multiplier effects necessary to establish a critical mass of applied agricultural technicians in a given country.

The overall training approach of FSSP in 1984 and beyond can be articulated by several stages and activities. The following outlines the FSSP training program:

- A. Orientation to FSR/E
- B. General FSR/E Courses tailored to
 - 1. Field practitioners
 - 2. Administrators/managers
- C. General Methodology oriented FSR/E Courses
 - 1. Use of surveys
 - 2. On-Farm trial design and data analysis
 - 3. Economic analysis
 - 4. Data processing and data base management
- D. Topical FSR/E Workshops (such as)
 - 1. Institutionalization of the FSR/E approach
 - 2. Animal traction
 - 3. Small farm mechanization

4. Storage and preservation systems
5. Family/farm management
- E. In-service FSR/E training

The process of moving from A to E suggests increasing regional, national and local focus with tailoring possible to meet more specific needs. Items A-C represent planned activity for 1984. Topical workshops, particularly in West Africa, will be held in 1984 but specific topics have not been identified.

Strategy

FSSP recognizes the importance of training several audiences, each with its particular needs. Training must consider the functional occupations of relatively homogeneous audience groups. It must regionalize activities and materials to reflect distinctive cultural, institutional, and agroecological characteristics.

It follows that meaningful training must be based on a prior evaluation of the needs of a country. This needs assessment must be broad in scope to include training, technical assistance, and networking since these activities are highly complementary. Out of such an assessment would emerge a country plan, with training an integral part. In this way not only will training be more relevant as part of a broader plan, but the FSSP can better schedule and prepare in advance for training and other activities.

An FSSP team, in collaboration with USAID Mission officials and nationals, can conduct country level needs assessments. The priority is for specifying needs in West and Central Africa during 1984 for countries requesting support. In Latin America and the Caribbean, where the FSSP has engaged in several activities and has a better appreciation of needs, there is less urgency, though some assessing is desirable there to more effectively coordinate activities. A general training assessment is needed for Asia and will be accomplished in cooperation with the Asia Bureau.

Workshops and short courses will be conducted by experienced training teams composed of persons who know the particular training settings and can therefore adapt presentations and materials to them. There is, however, a need to locate appropriate people and formalize the teams, an FSSP undertaking that has high priority in 1984. Again, this task will be more difficult for Africa than for Latin America, where the FSSP is already operating with such teams. In that regard, the FSSP is planning a mid-year workshop for FSR/E trainers who will operate in West and Central Africa.

Materials and Course Development

With due regard for regional diversity and the need to adapt instruction to the milieu, the FSSP will proceed with the further development of a series of basic courses that experience suggests are widely needed for overseas delivery, especially for Africa. From this stock of courses, trainers can then draw, modifying and adapting as they see fit.

The training program will overlap closely with publication and networking. To the extent possible, national workshops will be employed, not only as delivery mechanisms for training, but also as a means for developing training materials and publications. National participants can help synthesize results of FSR/E work and adapt materials to a local training need while individually gaining insights about the state-of-the-art in Farming Systems.

Two courses, a one-month general FSR/E course for field practitioners and a one-week course for managers and administrators, will be ready for overseas delivery in French before the end of the year. While both courses are currently part of the academic curricula of some FSSP support entities, considerable work remains to be done to adjust them to the shorter time frames and to adapt them to the instructional settings, especially in Africa.

FSSP will also have ready in 1984 a one-week orientation course/workshop for host-country nationals in Africa. This course will have as its aim the sensitization of participants to the FSR/E approach.

By the end of 1984, a rapid-survey simulation exercise, described in the following section, will be ready for Africa. This simulated diagnostic survey exercise can be used in several of the projected courses and will be an important contribution to the training effort since such surveys orient FSR/E efforts.

Work will be initiated or continued in 1984 on four other courses dealing respectively with diagnostic surveys, economic analysis, on-farm trial design and agronomic data analysis, and micro computer analysis of on-farm and on-station trials. These courses will be ready for delivery in 1985. A detailed description of all courses now follows.

Orientation Courses/Workshops

These courses, of one-week duration, are designed to orient participants to the philosophy and methods of the FSR/E approach to agricultural research and extension. They seek to sensitize rather than to train, for this brief instruction is not adequate for implementation of the approach. The audience for them is

well educated in issues of agricultural research and extension. The courses involve considerable interaction among participants with presentations by them. The FSSP has delivered two types of orientation courses to date - one largely for domestic participants and held in the United States, and the other for host-country nationals and delivered abroad.

Domestic Orientation Course/Workshop

Five of these courses were held in 1983, two at UF and one each at VPI, MSU, and CSU. The courses relied heavily on slide/tape "modules" augmented by discussions and other presentations of topics not covered by the modules. Participants included mainly Land-Grant university faculty, although several USAID-funded graduate students trainees and USAID employees also attended.

A critical objective of these workshops is to initiate an expansion of the domestic FSR/E expertise base, especially among FSSP participating entities, and thereby move toward the creation of a reservoir of trained people who can adequately meet the demands of USAID missions for support. The workshops seek to orient, sensitize, and familiarize participants with the FSR/E approach and concepts rather than to provide in-depth training in method. They further seek to provide a forum for discussion and to promote some consensus regarding this new approach to research and extension, where there is still much confusion and an unwieldy divergence of understanding. Participant evaluation of these courses has been positive on the whole. There has been much constructive criticism of the slide/tape modules and other pedagogical materials and procedures. In 1984, the FSSP will revise materials and procedures in accordance with those criticisms as well as develop new ones.

The approach to these orientation courses is basically sound and FSSP will continue with them during 1984. They are an effective and reasonable vehicle for continuing education, for establishing some much-needed minimal standardization to the farming systems approach and for moving toward the development of an expertise base adequate to comply with the FSSP mandate.

Overseas Orientation Course/Workshop

Like the domestic course, the overseas one seeks to orient and sensitize. The overseas course is also pitched to a relatively experienced audience which mainly includes host-country nationals, though local AID personnel and AID contract personnel are encouraged to participate.

Overseas courses of this kind must differ in important ways from domestic ones. The overseas courses must be appropriately tailored to the particular national or regional setting. This

focusing is to be achieved through guided discussions of projects/programs extant in that setting, or discussions of the prospects for instituting the farming systems approach and the likely problems attendant upon doing so in the setting. The development of materials germane to the particular setting is called for; CIMMYT provides a good example.

Such a tailoring will involve the use of informed and experienced nationals for some of the short-course presentations, and will require that course organizers and instructors have a good knowledge of the setting. The organization of an effective course requires considerable advance work locating and securing qualified nationals for presentations, and surveying local projects and programs appropriate for course visits and discussions.

The FSSP will be requested to deliver several such in-country orientation courses during 1984. A flexible training attitude will be assumed; in a foreign setting the training effort cannot be "packaged" to the degree that it can be for domestic presentation.

Practitioner Course

The FSSP will further adapt, the general course for field practitioners which touches on all aspects of the FSR/E process, embracing the stages of diagnosis, design, testing, and extension. The course will be for in-country delivery and will be of four to six weeks duration. Several practitioner courses are currently taught at American universities, including the University of Florida, so a variety of experience and materials are available for use. Materials are also available through some of the international centers. The challenge is to develop a concentrated course for the time frame. Such a course will focus sharply on key parts of the FSR/E process. This might be achieved, for example, through the use of mock rapid surveys as well as of economic and agronomic data sets that make important pedagogical points.

The practitioner course also will be tailored to the delivery setting to the extent possible. Circumstances permitting, a rapid survey of local farmers will be conducted by participants, and some economic and agronomic analyses will be done using local data sets when those are available. Attention will be given to FSR/E in the context of local and national institutions charged with research, extension, and other pertinent functions. As with the overseas orientation course, the practitioner course will be most effective if delivered by persons knowledgeable of the local setting.

Many of the materials and exercises developed for use in the practitioner course will be used in some of the short courses dealing with parts of the FSR/E process, such as on-farm trial

design and data analysis. There is useful overlap in the development of the practitioner course and some of the short courses described below.

Manager/Administrator Course

A one week course will be developed for agricultural research and extension managers and administrators. The course will be for overseas delivery. Managers are those individuals who supervise and direct day-to-day operations at the project level, while administrators are responsible for decisions regarding the commitment and linkage of institutions and the allocation of funds for research and extension. The course will focus, therefore, on both management and administration. A resource base for this course is evolving from courses offered by a limited number of SE universities.

Importantly, the course will deal with institutions, the more so since FSR/E is being introduced to many settings for the first time. The concern will be how to "fit" the farming systems approach to those institutional settings. Yet, the institutional context of the approach is a problem area that to date has received only scant research attention. There is a need for state-of-the-art synthesis/research in order to provide training content. Several case studies of institutional accommodation to the approach will be developed from around the world. Out of such an effort should emerge a set of issues, if not guiding principles, that can be used to instructional advantage. Useful problem-oriented exercises will then be devised to involve course participants with issues and applications of principles, ultimately important in their own respective settings.

A Course on Surveys

There is considerable interest in the diagnostic stage of the FSR/E process. Concerns center on what are the survey options, what options are best for what settings, or how much effort should be put into surveys, and how does one conduct them. The two week course will include: 1) The need for surveys in FSR/E, 2) The judicious use of reliable secondary data when available, 3) The different kinds of surveys in general, 4) Conducting surveys in a team mode, 5) Interview technique, 6) FSR/E survey approaches that have been found to be appropriate to date, 7) The establishment of "recommendation domains," or groups of homogeneous farms, 8) The conducting of a mock survey, 9) The conducting of an actual rapid survey in a nearby agricultural area if such an area is readily accessible.

A mock rapid survey, or sondeo, formed part of the five domestic orientation workshops held during 1983. It has generated considerable interest and seems to be a most effective way of imparting the techniques of such surveys short of actually

doing them. The simulation exercise was developed by Peter Hildebrand using materials from an actual sondeo conducted by ICTA in Guatemala. But those materials were not generated with a view to simulation. A more effective simulation exercise should be developed by generating materials explicitly for the purpose. FSSP will develop such an exercise, first for an African setting. Another such exercise, using materials from Las Cuevas, Dominican Republic, which were gathered for the purpose, is already under development.

These exercises will have wide utility, for they can be used in the practitioner course as well as in the two orientation courses. The use of a matrilineal society setting for the African simulation survey is under consideration. This exercise would enhance the FSSP pedagogical base and would have instructional value for American domestic audiences on the role of social scientists in FSR/E.

Course in On-Farm Trial Design and Data Analysis

Since on-farm research differs in important ways from on-station research, the FSSP must provide some guidance here. Several national programs have already expressed keen interest in this new area, where the development of methods has just begun and there is yet a dearth of instructional materials. FSSP will develop a one-week course for in-country delivery.

For the trial design part of the course, diagnostic survey data and conclusions (e.g., a sondeo report) will be taken as point of departure so that participants are then required to respond with reasonable research designs. For agronomic data analysis, local data sets should be used. The challenge is to develop exercises that both encourage participants to solve problems and are designed to make important pedagogical points using local data and experience whenever possible.

Course on Economic Analysis

This course, to complement the one above, will treat micro-economic evaluation of alternative technologies. For in-country delivery, it too will be of about one-week duration. The course will also include the development and use of farm records.

As with the course on agronomic analysis, this course will employ data sets that stress crucial pedagogical points using local data and experience and that encourage participants to solve problems.

Since the courses on economic and agronomic analysis are complementary, they may be combined into a single course. Both courses suppose some knowledge of quantitative methods on the

part of participants as well as the availability of computational equipment.

Course on FSR/E Data Processing and Data-Base Management

FSSP will develop a one-week short course in the use of microcomputers and software in the FSR/E process. The course will be for overseas delivery. Such a course depends on the availability of appropriate software.

During 1984 FSSP will provide support, financial and substantive, to MSTAT, a micro-computer program developed by Michigan State University to facilitate agronomic research design and the statistical analysis of farm-level agronomic and economic data. This support will enable the program to be better adapted to the needs of FSR/E and will provide training for trainers and field-level practitioners. A workshop to train trainers, mostly overseas nationals from at least three pilot countries, will be held in March 1984 in East Lansing, Michigan. In addition, overseas courses on MSTAT usage for field-level practitioners from those same countries will be delivered during the year. Such courses are currently planned for Malawi, Senegal and Ecuador.

TA Team Orientation/Training

FSSP will conduct briefings of technical assistance teams prior to their departure. Although a kind of training, this activity is discussed more fully under Technical Assistance.

VI. Technical Assistance

Objectives

The major objectives regarding technical assistance through FSSP support entity network for 1984 are:

- 1) Structuring country demand;
- 2) Organizing supply of technical expertise through SE's, other institutions such as the IARC's and CRSP's, and independent sources;
- 3) Matching demand with supply;
- 4) Improving the quality of technical expertise available for training and technical assistance;
- 5) Developing state-of-the-arts in
 - a) management and organization,
 - b) extension linkages to research and
 - c) institutional case studies; and
- 6) Development of briefing and debriefing formats.

In Addition, technical assistance (TA) orientations, briefings and debriefings must be divided into two major groupings of long-term (generally two or more years) and short-term (up to six-month assignments involving needs assessments, project design and project evaluation activities). Different formats need to be developed to address TA team and host country needs based on this major division. While FSSP will place major emphasis on short-term TA, long-term TA issues will need to be considered as well. The Pre-Departure Orientation Workshop, to be held this spring at the University of Hawaii, will be a valuable forum for helping to develop TA briefing-debriefing formats of FSSP.

An ultimate goal of FSSP is to be able to identify and charge one or two MOA SEs with short- and long-term TA team orientations. Initially, however, the FSSP management staff will be closely involved with all aspects of TA team orientations, especially in the development and verification of briefing-debriefing formats.

Regional Applications

The technical assistance strategy will react to needs in Latin America and Asia. In Africa, FSSP will assume a proactive stance and help to structure the demand for its TA services. The approach to TA in Africa includes early meetings to determine needs on a regional and country basis. Workshops will be held in The Gambia and elsewhere, and these activities will further help the FSSP to identify needs as expressed by USAID Missions and host countries. The FSSP can then plan a timely response by its support entities.

Information Management

To implement TA, FSSP has developed a manual information management system consisting of CV summary files on program associates. The next step is to computerize these files in order that the data can be readily accessible by several sorting categories, including language, discipline and experience. The support entity network is in agreement that such biodata files are privileged information: FSSP Core staff will only provide details of a CV with the explicit approval of the individual involved. Short lists of individuals sorted for a specific short- or long-term TA assignment will at least contain names, telephone numbers, languages (FSI or other "fluency" ratings as available), and disciplines. Currently, the FSSP has received approximately 700 CV's of persons with either experience or an interest in FSR/E projects or activities. Nearly 500 of these biodata files have been provided by MOA SE's for their program associates.

Team Organization and Management

To the extent appropriate, FSSP policy is to place responsibility for short-term TA team organization and management with the SEs. Support entities and TA tasks will be matched by several criteria: 1) Interest expressed by support entities; 2) Emphasis on continued FSR/E training and strengthening of program associates; 3) Performance in team recruitment and in task accomplishments; 4) Degree of cooperation with other SE's and the FSSP; and 5) Interests expressed by USAID missions.

It is not expected that a SE will organize a team completely from its own program-associate base. Neither is it expected that an entity will refuse to make program associates available to other entities organizing a team. Collaboration between university and non-university SEs is expected. USAID/FSSP planning efforts must provide information to SEs with enough lead time so that program associates can plan for involvement. But it is recognized that such planning will not be possible in every instance, and every effort will be made to accommodate short-term and unanticipated needs where immediate support is critical.

Several issues need to be addressed to develop procedures for managing requests for TA. These issues include: 1) Procedures for official receipt of requests; 2) Selection of management SEs; 3) Delegation of technical and financial responsibility on an institutional basis; 4) Coordination of technical assistance, training, and specific activities; and 5) Team preparation and orientation. The general principle to be followed will be to develop a dependable, well-qualified set of program associates targeted toward opportunities and problems arising from early analyses of USAID Missions' TA demands.

1984 Action Plan for Technical Assistance

Emphasis in TA for 1984 is on the following: 1) Structuring country demand; 2) Organizing supply of technical expertise through SEs and other institutional structures such as the IARCs and the CRSPs; 3) Matching demand with supply; 4) Improving the quality of technical expertise available for training and TA; 5) Developing state-of-the-arts institutional case studies; and 6) Developing a briefing-debriefing format.

1) Structuring Country Demand. Four orders of priority have been identified to assist in managing demand.

a) The first order refers to demand that already exists and that has taken form. Mid-term or final evaluations of on-going FSR/E projects fall into this category. Lead time for such routine TA team recruitment should generally be sufficient. FSSP Core will either facilitate a SE with biodata short lists, or, in some cases, recruit an evaluation team itself.

b) The second order includes demand that exists but that has not taken form, such as needs assessment or project design. Objectives emphasized here are to increase request lead time and to bring some requests to the FSSP that normally would go elsewhere.

c) The third order of priority for managing demand has two components. One is the proactive attempt to transform needs in Africa into demand for TA in FSR/E. The second is the structuring of demand for the rest of the world. FSSP aspires to provide support beyond simply responding to requests.

d) The fourth order of priority is to deal with TA demand for the rest of the world in a manner similar to the approach for Africa expressed in c) above. It is unlikely that the FSSP will act on this priority in 1984.

As information on specific demand becomes firm, FSSP will notify support entities and request an expression of interest along with other information necessary to help select the management SE. This will be a continuous process and will need to be carefully monitored and tightly managed. FSSP will carefully account for countries and demand, support entity expressions of interest, teams in preparation for assignments, teams in the field, teams returning (through debriefings), and general team reports. These reports will be made available to SEs involved in the TA process to help improve overall operations, and to state-of-the-art literature collections. The possibility of developing a manual of operations to assist in managing TA issues will be explored in 1984.

2) Organizing Supply. Specification of supply involves SE program associates and persons not attached to SEs who may be available for FSSP TA assignments. Efforts are underway to

establish more knowledge and understanding of SEs regarding: a) Interest in organizing and managing teams; b) Interest in types of activities--whether design, evaluation, training, or other; c) Availability of potential team leaders; d) Geographic interests, e) Availability of personnel for teams led by other SE's; f) Procedures for making personnel available; and g) Procedures for identifying program associates for assignments within specific programs.

The overriding criterion for identifying institutions and program associates must be quality of the expected result since the FSSP must be concerned with the ultimate impact of the FSR/E effort on farmers and national institutions. Issues related to equity and other concerns within the SE structure will be addressed only when TA quality is perceived to be undiluted by such considerations.

3) Matching Supply and Demand. FSSP serves to strengthen, support and complement on-going BIFAD and USAID programs and to assist wherever possible in timely and qualitative delivery of TA. In general, FSSP will develop a systematic procedure to select SEs to meet AID Mission demands. At other times, FSSP Core staff will handle short-term TA team formations, briefings or debriefings. In all cases, FSSP biodata short lists will be available to SE's to assist them in team composition. An iterative evaluation process will evolve between various SE's handling TA assignments and the FSSP TA core staff for assessing the match of supply to demand.

4) Quality of Supply. There is a continuing need for general quality improvement through training for SE program associates involved in all aspects of TA. Specialized training is also necessary for specific assignments. The emphasis in 1984 will be on the development and implementation of a methodology to prepare program associates for short- and long-term TA assignments.

Guidance will be provided to help teams on design and evaluation assignments. Successes and failures will be evaluated. Guidelines and general principles for more successful work in these areas will be established. University personnel will be informed about AID criteria and procedures. It is hoped that each SE will end up having an expert in AID procedures on its staff.

Responsibility for upgrading the program-associate base will be shared by the FSSP and SEs using USAID and university mechanisms. It is not assumed that program associates are automatically qualified for TA assignments. Each TA assignment will require tailoring and provision of information to address the specific needs of a host-country and an AID project or program. Scheduling should include general workshops or training sessions in advance of actual assignments so that "last-minute" training can focus effectively on such specific needs. It is anticipated that each SE might be asked to identify a training

officer to take responsibility for preparing faculty for general assignments in FSR/E. In some cases, it may be quite appropriate to designate either the Administrative Coordinator or Program Leader to fulfill this role. FSSP will assist with these TA training programs by providing training materials and core staff backstop assistance.

5) Developing State-of-the-Arts: Institutional Case Studies. An important TA area to receive attention in 1984 is the development of case studies of on-going efforts to institutionalize the FSR/E approach. It is likely that case studies of the recently reorganized research systems such as those in Lesotho, Malawi and Zambia will be initiated. These will be joint efforts between the FSSP and the bilateral contractors in those countries (Washington State University in Lesotho, University of Florida in Malawi, and University of Illinois/Southern Illinois University in Zambia). While the entire procedure of FSR/E case studies may fall more logically under state-of-the-art research, it begins with TA evaluations and debriefings of long-term TA teams.

6) Briefing - Debriefing Format. Every project in any given country contains an experimental, or learning, component. FSSP is responsible for summarizing and analyzing that experience, and for making it available to other countries and interested TA teams. This responsibility will be discharged through briefings, debriefings and case studies.

The briefing format will be designed to help prepare a team for its assignment, and will provide information on a) the country, b) the AID strategy and program, and c) the assignment. It will give the team leader a chance to organize the team. It will give the team the benefits of earlier experiences and will help to achieve a certain degree of standardization for FSSP TA assignments.

A debriefing format will also be developed to provide the standard feedback essential to good management and continued learning. It will feed information into the pool of experience to be used for subsequent teams and to enhance state-of-the-art literature collections.

VII. Networking

Building on the networking activities of 1983, the FSSP will address seven major areas of networking activity in the coming year. The areas are enumerated below, followed by a brief description of the activities for each and a time frame for implementation.

1. FSR Inventory
2. Strengthening Network Contacts
3. West African Networkshop(s)
4. FSR/E Network Committees
5. West African Farming Systems Symposium
6. Meetings, Workshops and Symposia
7. Publications and Documentation

FSR Inventory

Initial assessment efforts were started in 1983 for an inventory of farming system research projects. The inventory results to date are given below. While this represents response to a request in the FSSP Newsletter, plus the incorporation of various lists, and is limited in scope by those factors, it is a substantial beginning.

Table 1

On-Going Research Projects with Farming Systems Components (Total 127)

Africa	66	Latin America	39
Asia	14	Near East	5
United States	2	Sweden	1

Table 2

Proposed Research Projects for 1984 Having Farming Systems Components (Total 57)

	USAID	World Bank	Asia Bank
Africa	7	18	
Asia	3	9	5
Latin America	4	5	
Near East		6	

To complete this initial assessment, the FSSP will follow-up on the known research with a survey instrument designed to summarize each project, or FSR component of a project, in a

standardized format. In the interim, a listing of the 184 known or proposed projects will be published in the FSSP Newsletter in an effort to stimulate interest on the part of those researchers who may not have responded to the earlier request for inventory information.

Summary results of this inventory effort will be prepared in published form for distribution at Kansas State University's Farming Systems Symposium in October. Results will be available to those participating in the inventory via their projects, and to practitioners, generally.

Strengthening Network Contacts

Interfacing with other networks will include specific target activities for 1984. These targets consist of farming systems newsletters, institutions and editors affiliated with them. One of these is the Farming Systems Newsletter, edited by Michael Collinson and published by CIMMYT in their East Africa Farming Systems Program. Another is the newly formed Farming Systems Research News, edited by Paul Neate and published by ICARDA, representing the Middle East and North Africa. A third interface is with the incipient West African Farming Systems Research Network (WAFSRN) initiated by IRAT, ICRISAT and IITA. At this time WAFSRN does not publish a newsletter, but overtures were made in this regard during 1983. FSSP recognizes the potential of this growing network and is supportive of their activities.

These target interfaces are by no means exclusive of other FSSP networking activities with various institutions and organizations. Association will continue with WARDA, IITA, ICRISAT, ILCA, ICRAF, and ICIPE, in Africa. Similarly, it is anticipated that the FSSP will continue to foster a growing relationship with CIMMYT, CATIE, CIP, CIAT, and IICA in Latin America, and maintain contact with CIMMYT and IRRI as an FSSP/Asian interface emerges.

West African Networkshop(s)

At least one networkshop will be organized by FSSP for delivery in West Africa in 1984. The workshops and symposia attended by FSSP during the past year indicated an expression of interest by participants in this type of activity. FSSP has an opportunity to strengthen the linkages of regional and sub-regional networks to each other, and to provide an opportunity for people involved in FSR/E projects to learn how their counterparts cope with FSR/E issues.

The networkshop is conceived of as an opportunity to address specific interests among FSR/E practitioners and administrators/managers that involve two or more countries. Peer groups will be identified with common concerns, where information

sharing has the greatest potential for benefitting participants. FSSP will help identify these concerns, facilitate and coordinate the workshop(s), identify resource people appropriate to organize and participate in them, and summarize results for use in other communication and training outlets.

While specific topics are not currently defined, it is anticipated that the workshop would be organized around a theme of common interests. For example, workshop themes may include: animal traction in West Africa, institutional structures for adaptive research and extension in Africa, extension methods and FSR/E, research administration with an on-farm component, or the design and analysis of on-farm trials. These workshops can be designed to serve objectives such as training, peer level communication, review of research experiences, review of literature, state-of-the-art synthesis for publication, development of training materials, and general support of networking and networks.

FSR/E Network Committees

Steps will be taken to form FSR/E Network Committees for FSSP activities in each of the following world regions: Africa, Latin America, and Asia. Each Committee will be comprised of one practitioner from a participating country, one FSSP Core staff member or their representative, and one USAID member (project officer, or their designee). These committees will assist in planning and scheduling workshops for 1985 - 1987. Their mandate will be helping to determine the theme and location of workshops that address pertinent and timely concerns of FSR/E practitioners and programs.

The FSR/E Network Committees were conceived of in the Cooperative Agreement between the University of Florida and USAID as a means of identifying areas of farming systems concerns that could be of particularly valuable if addressed in a regional focus. As these committees are formed and begin their planning activities, they are expected to contribute to the program planning for FSSP network activities for the duration of the project.

West African Farming Systems Symposium

FSSP will work with WAFSRN and others engaged in farming systems activities to lay the groundwork for a farming systems symposium in West Africa for 1985. As the FSR/E Network Committee for Africa is formed during the year, candidates for the committee may help facilitate this 1985 activity, which may then serve as a formal meeting time and place for the committee.

Input from WAFSRN and other FSSP technical assistance efforts and training activities will be sought in conjunction with the

planning of this symposium, and in the identification of likely presentors and participants. The posture of the workshops leading to the symposium, and the symposium itself, will be one of conveying practitioner research and extension experiences.

Symposium and workshop activities will be publicized in the FSSP Newsletter and an effort will be made to ensure that information about these activities is widely available through comparable dissemination means.

Meetings, Workshops, and Symposia

Networking activities are a function of the FSSP Core staff, various representatives of SEs and all others interfacing with the activities of the FSSP with an interest in furthering FSR/E. Sometimes this involves very specific networking functions on behalf of the FSSP. Sometimes activities are conducted in a more informal and less structured manner. The Kansas State University Farming Systems Symposium and the FSSP Annual Meetings are two formal gatherings where considerable networking activities occur on behalf of the FSSP and various participants. The proven successful combination of these activities resulted in their being scheduled in tandem again for 1984. FSSP will participate in and support these activities.

Many opportunities exist for networking in a more indirect or informal manner. FSSP Core staff and SE representatives participate in a wide variety of meetings, workshops, and symposia during a year. It is anticipated that where these activities are compatible with the concepts of FSR/E and in the interest of the FSSP, participants will exert their efforts in support of both. This may be as simple as forwarding a request to have someone's name placed on the FSSP Newsletter mailing list, or directing an inquiry related to specific technical assistance needs. It may require some initiative beyond that, such as arranging for appropriate case study materials to be channeled into the FSSP training program, after experiencing an excellent presentation.

The types of meetings and symposia that offer this kind of opportunity vary by discipline and by institutional setting. Some examples are: international visitors to respective campuses and institutions, Title XII and Bilateral Contract interfaces, professional society annual meetings, and other professional associations.

As a matter of policy, the FSSP Core staff will consider networking an activity consistent with technical assistance and training and the furtherance of the farming systems approach. As a matter of principle, networking is viewed as an important activity that individuals can perform of their own initiative.

FSSP Documentation and Publications

Documentation efforts of KSU and the FSSP have provided the USAID/DIU with the first set of 100 FSR/E documents, which will be made available through the DIU Annotated Bibliography Series. Search and selection of the 1984 set of 100 readings is underway.

The documentation efforts at KSU have resulted in the formation of a collection of documents from the "fugitive literature" in FSR/E. A vertical file collection of some 2,000 items has been established within the KSU libraries. With its potential utility for practitioners and students, the FSSP will provide KSU with the necessary support to microfiche and archive the existing collection, and to make it computer-accessible. Recognizing the needs and interests of visitors to the FSSP at the University of Florida, a copy of the KSU vertical file collection also will be established at this facility.

For the future, documentation network activities have the potential for being more widespread. Similar or duplicate collections could be established where regional FSR/E training programs are regularly conducted, such as in Zimbabwe, the Philippines and Costa Rica, facilitating their use by researchers, trainers and students in other parts of the world. Initial steps to determine the feasibility of such a proposal will be undertaken in 1984.

FSSP publications will continue with those initiated during the past year. These will include four issues of the FSSP Newsletter (in English, Spanish and French), additions to the Working Paper and Information Series, and a continuation of the Training Module Scripts. Two major publications for the year that warrant mention in this report are the FSSP 1984 Annual Report and the FSSP 1985 Work Plan.

Considerable revision has taken place in the Book of Readings for FSR/E that has been developed in conjunction with the training and orientation efforts of FSSP and various support entities. In 1984 the costs and logistics of commercial publication of these readings will be explored.

Another area of exploration will be the possibility of establishing either a monograph series or a journal in farming systems. Either of these options would reflect the content and caliber one might expect from a professional publication.

VIII. State-of-the-Art Synthesis/Research

Introductory Comment

Since research methodology and the scientific method have already gained their niches in human intellectual history, a word is necessary on technology innovation methodology. In agriculture the distinction between science and technology has never been made conceptually as it has in industrial fields where the terminology "R and D" is common. Yet the distinction is critical because farmers seldom use science directly, they use technology.

Although the flow from science to technology and vice versa must be closely related, methodologies for each differ substantially. In science, associated with research, all variables are rigidly controlled so that knowledge can be gained about one. Scientific research analyses by abstracting from the randomness of the environment.

The development of technology synthesizes. It brings in a number of variables and aims to produce something that works or is useful in an environment that is not controlled. FSR/E work falls almost completely in the area of technology development---generating, testing, and adapting technology to the farming system(s) of an area.

Methodologies developed for scientific research are not adequate for technology development. FSR methodologies are essentially technology development oriented.

The major role of the FSSP is synthesizing state-of-the-art experience in applications of a farming systems approach to research and extension. FSSP can help do for the research/extension technical assistance network what farming systems, through a methodology for technology development, can do for fundamental research and classical extension system. In this synthesis role FSSP addresses institutional linkages at several levels. FSSP state-of-the-art activity refers to both institutionalization issues and applications of the farming systems approach.

A Synthesis Strategy For 1984

Experience in 1983 demonstrated that many important questions and issues remain unanswered and unresolved. There is a definite need for research in several areas of the farming systems approach. This research is imperative not only to provide training content for some of courses the FSSP is to offer, but also to fill gaps more generally in this new approach and thus better enable the project to respond adequately to requests for technical assistance. State-of-the-art research,

then, is inextricably bound to both training and technical assistance.

Much of this research will involve a synthesizing and focusing of materials from case studies and from more basic research already conducted. A debriefing of technical assistance teams returning from the field, also will provide useful material. There also is a need for research that forays into as yet unexplored areas. The FSSP therefore, will encourage further research on topics listed below during 1984. The first four of 14 topics - the institutional setting, the role of extension, on-farm trial design and data analysis, and project/program evaluation - will take priority, meaning that reports on them will be produced in 1984.

A second priority grouping will be addressed in 1984 by the technical committee for further consideration by task groups, selected institutions or selected individuals. Areas to be considered are: economic characteristics of small-scale, family farms; nutrition; the household as a unit of analysis; diagnostic surveys; the role of social science in FSR/E; livestock; agroforestry; integrated pest management, and agricultural and household engineering. These topics also will be considered within the priority of on-farm research, particularly with reference to livestock and agroforestry. Reports on these nine topics may or may not be ready by the end of the year.

A third priority concern - policy and infrastructure - will not be addressed directly in 1984 because it extends beyond the scope of the FSSP. Nevertheless, where appropriate, experience will be identified to help address this issue as it pertains to FSR/E.

First Priority Concerns

The Institutional Setting and Expectations

Little attention has been given to the institutional setting of FSR/E and to research and extension policy. There is an urgent need for research here, because the FSR/E approach, when introduced to a setting for the first time, must be "fitted to a certain institutional configuration. This is precisely the situation now facing many USAID Missions when they design FSR/E projects. It is suggested that research might partially proceed through the analysis of actual cases from different parts of the world in order to develop useful guidelines. For example, good case material should be available from Malawi, Zambia, Senegal, Sierra Leone, Guatemala, Honduras, Indonesia, and the Philippines.

The Role of Extension

It is often remarked that FSR/E is a scheme that integrates research; extension, and the farmer, but the remark usually stops there. The role of extension remains controversial and has not been dealt with adequately. There is widespread confusion regarding precisely what part extension should play in the FSR/E process; or, what part FSR/E should play in the extension process. The FSSP desires to identify linkages and common elements to simplify the process of integration.

On-Farm Trial Design and Data Analysis

The design of on-farm trials and the analysis of data from them pose several problems not encountered in on-station research. Just how one does on-farm research is a concern now uppermost in the minds of many national researchers. While there has been some research conducted on the subject, much remains to be done. There is a need to synthesize extant research and to conduct further research in this vital area.

Project/Program Evaluation

Although not properly an FSR/E substantive research topic, the area of project/program evaluation is of special concern to USAID since projects are subject to periodic evaluations on which important decisions rest. Reference here is to evaluation of neither FSR/E methods or FSR/E versus other approaches to research and extension. Many FSR/E methods never can be evaluated in the abstract, while the very existence of the FSSP implies some prior evaluation of the latter kind.

Second Priority Concerns

The Economic Characteristics of Small-Scale, Family Farms

The small-scale family farm is in a delicate balance. Under stable conditions, it probably produces mostly near the "Stage I/Stage II" interface (Schultz's efficiency theorem). However, weather, market, or technological changes can easily shift this position, forcing it into Stage I or Stage III (areas of inefficient production). There is a need to address this topic more thoroughly, for current economic thought does not treat this production situation adequately.

The Role of Social Science in FSR/E

The agronomic and economic sciences are readily accorded a role in the FSR/E process. This is less true for sociology or anthropology. The conceptual basis for FSR/E--the farm as holistic system--has been central to social anthropology for most of the current century. The survey and interview techniques (e.g., the ethnographic interview) of FSR/E are basically anthropological in nature and many of the principles used in technology development and diffusion come from applied anthropology. The role, actual and potential, of the social scientist in farming systems research further needs to be clarified.

Livestock

There has been little research to date on how either mixed systems or predominantly livestock systems are to be accommodated by the farming systems approach. On-farm research with livestock, for example, poses a series of problems not encountered by on-farm crop research. Yet, livestock are important over much of Africa, especially in the more arid northern regions.

Agroforestry

The area of agro-forestry merits the attention of FSR/E and the FSSP. The importance of mixed systems that include trees, crops and livestock is recognized but not adequately anticipated in many programs. Emphasis must be given to further understanding the interfaces and interactions in those systems as an aid to appropriate research and technical assistance.

Integrated Pest Management

IPM is an important area with methodological similarity to FSR. Besides drawing on the methodological merits of IPM to strengthen FSR/E, attention can be given to improved understanding of pest management in small farm systems. Currently labor requirements to accommodate and minimize pest problems are substantial as are concerns for production and productivity losses.

Agricultural and Household Engineering

Consideration of tools and equipment to support agriculture at the smallest scale is needed for food production, preservation, preparation, and marketing. Animal traction, for example, is one possible means for solving small-farm labor

problems. Equipment is needed if animal power is to be effective.

Third Priority Concern

Policy and Infrastructure

It is now widely agreed that policy and infrastructural (FSIP) environments bear importantly on the enterprise of technology generation and diffusion. There is a need to elucidate the linkages, perhaps through case studies, and a further need to provide guidelines on how FSR/E projects and programs might incorporate policy and infrastructural considerations in their work. The FSSP will cooperate with the AID/S&T Policy Strategies Project in this endeavor.

Evaluations

A comprehensive evaluation methodology for the Farming Systems approach is lacking, but the FSSP will not tackle this task per se. Evaluation of FSR/E methodologies continues on an evolutionary basis by practitioners. The FSSP will continue to stimulate this activity through publication and communication in workshops and symposia.

FSSP WORK PLAN COMMITMENTS, 1984

IX. Summary

This summary of the Farming Systems Support Project (FSSP) activities to be accomplished in 1984 is drawn from the FSSP 1984 Work Plan. The time frame given embodies a continuing process for planning, refining and implementing activities. Drawing from these summary elements is an implementation process now underway which starts with implementation memos that express procedures and responsibilities. These action memos, prepared by the FSSP core, outline the following:

1. Why? Variables to consider - problems/opportunities
2. How? Strategy - plan/structure
3. What? Outputs expected
4. When? Timing
5. Who? Actors - entity/group/individual

Initial Memos will be directed to:

- A. General Program Areas:
 1. Training Courses
 2. TA Briefing and Debriefing
 3. West Africa - Training/Networking
 4. Latin America - General Strategy
 5. Asia - General Assessment
- B. State-of-the-Art Synthesis
 1. Management/Administration/Institutionalization
 2. Extension
 3. Design and Analysis of On-Farm Trials
 4. FSR/E Project Evaluation
- C. Communication and Support
 1. Newsletter/Publication
 2. Documentation
 3. Visitors
 4. US Based Workshops
 5. Bio-Data Management
 6. Procedures for Support Entity Task Assignment

Following this round of memos, task assignments will be made for implementation. Some assignments will be very specific with outputs for immediate training and technical assistance use; others will be advisory in nature.

This general implementation process will continue with a second round of action memos by the FSSP Core directed to nine state-of-the-art topics listed in the summary (p.48-49). Results from these implementation activities will provide further input to strengthen planning efforts for 1985 to begin formally in July 1984.

--> Developing activity, ___> On-going activity, X Specific target date.

FSSP Administration & US AID Relations

Work Plan Pg #	Activity	Quarter			
		1st	2nd	3rd	4th
10	Develop a procedural manual to specify institutional linkages and implementation procedures including financial arrangements, personnel administration and mobilization, and guidelines for Advisory Council, Technical Committee and Task Force activities.		X		
15	Assist USAID Missions and national governments in a needs assessment at the country level to 1) determine what activities are called for 2) establish a time frame for their implementation				
9	Further develop procedures for the funding match (FSSP and USAID Mission Sources).				
8	An external evaluation panel will be formed to initiate annual FSSP evaluations, beginning with the second full year of operations.			X	
11	Emphasis will continue in strengthening ties with the IARCs. (CIMMYT, ICRISAT, IITA and WARDA) with regional entities.				>
11	Link with the CRSPs and other USAID support projects as appropriate.				>
12	Strengthen ties with the USAID Regional Bureaus and BIFAD.				>
37	Prepare 1984 Annual Report				
37	Prepare 1985 Work Plan				

SE/FSSP Relations

Work Plan Pg #	Activity	Quarter			
		1st	2nd	3rd	4th
10	Moratorium placed on signing new MOAs as of July 1, 1984. New MOAs only after careful deliberation following October 1, 1984.			X	
10	Delegate FSSP program delivery responsibilities, where possible, to SEs. SEs assume responsibility for specific assignments.				>
30	Develop a systematic procedure to select SEs to meet US AID Mission demands.			>	
15	Early priority to charge SE's with: 1) implementation tasks like project design and course delivery 2) state-of-the-art synthesis/research 3) development of courses and training materials 4) Continuation of domestic workshops for SE and AID personnel.				>

SEs and Supply of Services

Work Plan Pg #	Activity	Quarter			
		1st	2nd	3rd	4th
30	TA activities will be evaluated; guidelines and general principles will be established. University personnel will be informed about USAID criteria and procedures.				>
28	Develop procedures for managing requests for TA.	X			
29	Explore the possibility of developing a manual of operations to assist in managing TA issues.		-----	-----	----->

	or individuals. (Reports may or may not be ready by years' end).				
	5) economic characteristics of small-scale, family farms				
	6) nutrition				
	7) the household as a unit of analysis				
	8) diagnostic surveys				
	9) role of social science in FSR/E				
	10) livestock				
	11) agroforestry				
	12) IPM				
	13) agricultural and household engineering				
43	Continue to stimulate interest in Evaluation of FSR/E methodologies thru publications and communication in workshops and symposia.				
33	Will follow-up on FSR Inventory with a summary survey.				
31	Summarize and analyze FSR/E experiences, make this information available to other countries and interested TA teams (through briefings, and debriefings and case studies).				
31	Institutional case studies initiated in selected countries.				

Training and Networking

Work Plan Pg #	Activity	Quarter			
		1st	2nd	3rd	4th
20	<u>General</u> - Workshops and short courses will be conducted; training teams need to be formalized, an FSSP undertaking that must have high priority in 1984.				
19	Lay groundwork with research, extension and educational entities so that the FSR/E training				

	targeting West Africa will be identified in 1984, and at least two will be accomplished.								
35	West African Farming Systems Symposium - groundwork laid in 1984 for a 1985 symposium.								
	<u>Publications & Inventories</u> 100 FSR/E documents made available thru DIU Annotated Bibliography Series.								
37	Microfiche and archive KSU fugitive literature collection to make it computer-accessible.								
37	A copy of KSU fugitive literature collection will be established at University of Florida.								
37	Initial steps to determine the feasibility of similar collections regionally (eg. Zimbabwe, Phillipines, Costa Rica).								
37	Additions to the Working Papers and Information Series.								
37	Book of Readings costs & logistics for publication will be explored.								
37	Explore possibility of establishing either a monograph series series or a journal in farming systems.								
34	FSSP will follow-up on FSR/Inventory with a summary survey, publications distribution.								
34	A listing of FSR/E Projects will be published in the FSSP Newsletter.								
16 & 19	<u>Africa</u> Identify and develop cadres for training especially in West Africa.								
20	A domestic workshop to train trainers for West Africa is planned for June 1984.								
20	Needs will be specified for training								

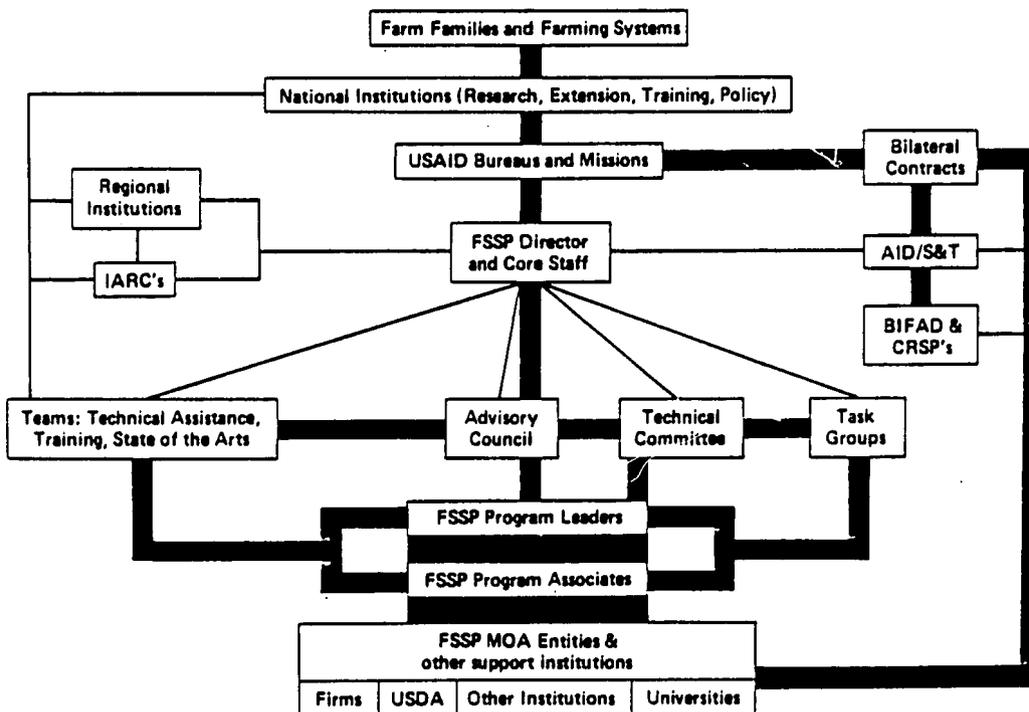
	in West and Central Africa during 1984 for countries requesting support.				
21	One-week orientation course for host-country nationals in Africa ready in second-quarter of 1984.	----->			
21	A rapid-survey simulation exercise ready for Africa by the end of 1984.			X	
35	West Africa Farming Systems Symposium - groundwork laid in 1984 for a 1985 symposium.	----->			
34	West African Networkshop(s) for West Africa.	----->	X--	-->X	

APPENDIX 1

FSSP ORGANIZATION, ADVISORY AND SUPPORT STRUCTURE

The FSSP Organizational and Response Structure organogram (below) addresses the general position of the FSSP within the international research and development system. It also provides a sketch of the advisory and support components to the FSSP lead entity, the University of Florida, and to the FSSP core staff and director's office. The basis for this structure is presented in the 1983 FSSP Work Plan as Attachment A of Appendix 1 in this document.

FSSP Organizational and Response Structure



Further amplification of the roles and responsibilities for the Advisory Council, the Technical Committee and Task Groups are discussed below. Detail will be developed to support these procedures, guidelines and concepts in a policy/operations manual anticipated for 1984. One further important component to be added to the three support elements will be an External Evaluation Panel. Procedures and guidelines for this activity will also emerge in 1984.

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Advisory Council

The Council is composed of three members. This small Council can easily and effectively be drawn together for decision purposes. It demands "diplomatic" commitment by the members such that results can be forthcoming without deferring to a larger group SE representative where expectations might be less intense.

Composition of the Council with three members includes a three-year term rotated on an annual, calendar year basis with one member being reassigned each year. The three-year term will be inclusive of the first year as an active participant, the second year as Chairman of the Council and the third year as Vice-Chairman of the Council.

The Council serves as a nominating committee to fill vacant seats. Recommendations for members of the Council are taken primarily from the administrative coordinators of the FSSP. The candidates recommended are considered by the director and the on-going Council, which makes a recommendation to the administrative coordinators of the FSSP for election of a new member at the annual meeting. Each support entity with a signed Memorandum of Agreement has one vote in selection of Council members.

The Council is representative of support entities within the FSSP and is particularly concerned with operations of the Technical Committee and implementation of the MOA's. It is primarily responsible to the director of the FSSP as an advisory body and a sounding board for policy purposes.

Council members' travel and per-diem costs for council meetings will be funded by the FSSP. No salary will be provided for Council activity.

Appointees

The Advisory Council began its role in 1983 following from the December 1982 FSSP Annual Meeting. It was a Provisional Council until specific policies and procedures were established by the Director in consultation with the provisional members. The above policy was confirmed at the 1983 FSSP Annual Meeting as was membership on the Advisory Council. The members, their affiliations and terms are as follows:

<u>Name and Affiliation</u>	<u>Term</u>
Dr. Wendell McKinsey Univ. of Colorado	1983
Dr. James Meiman Colorado State Univ.	1983, 1984 (1983 Chairman)
Dr. Larry Zuidema Cornell University	1983, 1984, 1985 (1984 Chairman)
Dr. Dale Harpstead Mich. State Univ.	1984, 1985, 1986 (1985 Chairman)

Technical Committee

The Technical Committee includes all "standing committee" responsibilities for technical concerns. A limit of one standing committee requires the task force concept (ad hoc committees) to be as flexible as possible in addressing technical support needs of the FSSP.

Responsibility and Role

Technical Committee members will be active as a technical resource base; these regional and institutional representatives will serve network and communication purposes. Areas to be considered by the technical committee include, but are not limited to: research, extension, management, data retrieval and analysis, family, livestock, cropping, agro-forestry, soil and water, infrastructure and policy systems.

The Technical Committee will provide for common goals in the overall program and serve as trustees of the systems approach and the FSSP. The Technical Committee will assist with developing guidelines and roles for task force strategies. Directions for task group activity will evolve from and through the Technical Committee based upon recommendations from the Advisory Council and the FSSP Director and Core staff. The Technical Committee will be a forum for discussing concerns related to training and technical assistance. It will address consensus building to achieve greater consistency in the farming systems program and complementarity with broad concerns for research and extension. Thus, the Technical Committee

will be representative of discipline interests in farming systems only through multi-disciplinary interfaces and the integrated research and extension programs.

The Technical Committee will contribute, along with advice concerning short-term technical support needs, to long-term planning of support efforts that will engage task groups and support entities to sustain a viable farming systems technical base and an evolving support structure within AID Missions and national governments. It will be a base for discussing major inter-institutional linkages for research and extension programs through the overall network (workshops, communication, documentation and publication by and for output of practitioners) for adaptive research and extension.

The Technical Committee will not be a policy making body for general administration and operation of the FSSP.

Appointees

In 1984 the memberships of the Technical Committee will be completed with naming of the international members. US members we named in September of 1983 and met first at the FSSP Annual Meeting in Manhattan, Kansas. The US members, their affiliations and terms are as follows:

<u>Name and Affiliation</u>	<u>Term</u>
Sam Johnson University of Illinois	1984
Bob McDowell Cornell University	1984
Bob Hart Winrock	1984, 1985
Jim Henson Washington State University	1984, 1985
Cornelia Butler-Flora Kansas State University	1984, 1985, 1986
John Caldwell Virginia Polytechnic Institute	1984, 1985, 1986
Steve Franzel Development Alternatives, Inc.	Alternate

Ken Buhr
University of Florida

Alternate

Michael Joshua
Virginia State University

Alternate

Membership

The committee consists of 15 members, named on a rotational basis, including six members and three alternatives from support entities (universities, private firms and other U.S.-based entities), and nine members from developing countries with three members each from Asia, Africa and Latin America.

The technical committee members will be identified to provide subject matter balance along with geographic and institutional representation. Greatest priority will be given to technical capability: FS experience, international experience, contributions to FS literature, discipline base and multidisciplinary experience.

The committee will convene annually. It is expected that the various regional subcommittees (Asia, Latin America, Africa, and U.S.) will meet three or four times per year.

U.S. Members

Selection of the technical committee members from the U.S. will be based upon recommendations by the FSSP Director for approval by the Advisory Council. Clearance for individual appointments will be obtained through the respective administrative coordinators at the participating entity. Selection will be primarily from Program Leaders at will be eligible if their entity has signed or is near to signing a Memorandum of Agreement with the Farming Systems Support Project.

Tenure of the Technical Committee will be on the following basis. Two members will be named for a one-year term, two members for a two-year term and two members for a three-year term. Term length will be a maximum of three years for any given individual. Alternates will be selected annually and may be candidates for openings on the committee. During their term they may periodically assist with specific assignments on behalf of or as adjunct members of the Committee.

International Members

Of the three Technical Committee members from each continent, two will be from national institutions and one from regional or international entities such as the IARC. Rotation for the participants in the

Technical Committee from the separate continents will be on a three-year basis with one new member added each year.. Initial assignments will be one, two, and three years to begin the rotation.

The selection process will include consideration of recommendations by various national, regional and international bodies and AID Bureaus and Missions. The final selection will be made from these recommendations by the Director in consultation with the Advisory Council. The regional sub-committees (Asia, Latin America, Africa) should include more than three members to appropriately address the broad concerns in these diverse geographic settings. It is expected that these subcommittees will be directly involved with the network activities of the region and the FSSP.

Leadership

A chairperson of the Technical Committee will be elected annually by the Committee from the representatives within the United States so that coordination can occur between the technical committee and the FSSP Director and Advisory Council. Each regional subcommittee will elect a chairman annually.

Financial Support

Travel to Technical Committee annual conferences and meetings, including both transportation and per diem, will be funded by the FSSP. No salary will be provided for the serving on the technical committee.

Tasks and Task Groups

The task-oriented approach to support training, technical assistance, networking and state-of-the-art research is conceptualized in two ways. First, tasks can be performed by a single individual, several individuals at one support entity, several individuals from several support entities and non-aligned individuals (not with an SE) working independently or with SEs. Second, needs may be expressed to include a specific task, such as updating or revising a training module, or a specific theme such as concerns for linkages of FS to agro-forestry, integrated pest management or research/extension programs. Each area - tasks and themes - course demand a product, some being more tangible than others.

The specific activities most commonly related to tasks are those identified by the FSSP Director and Core while theme activities are those most closely related to technical concerns (concepts,

methodologies, research needs, institutional development, etc.), where the FSSP Technical Committee is primarily responsible.

Identification of those to act upon task and theme assignments will be made by the Director on consultation with the Advisory Council, the Technical Committee and the Core. It is expected that these groups are in close consultation with the Program Leaders at each SE for inputs, relative to individuals most qualified to serve and relative to overall institutional capability. The biodata files held by the FSSP/Gainesville and the SE capability statements are guides in this activity. Final selections will be made on the basis of expressed and demonstrated capability. Should an effort require difficult decisions among "near equals" a competitive procedure can be followed under supervision by the Advisory Council and Technical Committee.

Funding will be by the FSSP on an activity basis where a specific desired product has been well-defined and is approved through the above structure. Funding is not on a project basis, per se, but by activity. Task or Task Group will have an appropriate "sunset clause" as no task group will have standing committee or major project responsibilities.