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THE EVALUATION OF USAID FUNDED FARMING SYSTEMS RESEARCH PROJECTS: PROBLEMS AND PROPOSALS

A PLAN B PAPER
BY
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Submitted to Michigan State University
in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE

MICHIGAN STATE UNIVERSITY
August 1985

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ABSTRACT

The evaluation of USAID funded farming systems research projects must play an important role in the design of future projects if one is to build on past experience to improve project performance. The development of an institutional memory is particularly important as FSR is new and still taking shape. Based on a comparison of four mid-term evaluations of FSR projects and a review of an Agency funded study, it appears that evaluations are not contributing all that they might to increasing the knowledge base. Frequently, crucial implementation issues are not covered and information is presented in a confusing and inaccessible format.

This study outlines the role of evaluation in USAID, analyses four mid-term evaluations and proposes a list of questions to be addressed by evaluation teams. These questions address key issues related to project design and implementation. The proposed questions could improve future project performance by increasing the Agency's understanding of its past experiences with FSR projects.

ACKNOWLEDGEMENTS

It is my good fortune to have had professors, fellow students and correspondents who willingly and cheerfully assisted me in the completion of this study.

I extend my thanks to the members of my committee. I am most appreciative of the knowledge, effort, humor and wisdom which my major professor, Dr. Rick Bernsten, shared with me during these last months. He took a genuine interest in my work and unselfishly gave of himself. I consider myself very lucky to have worked with him. I am very grateful to Dr. Carl Eicher for his efforts. I profited greatly from his insights and encyclopedic knowledge of agricultural research in Sub-Saharan Africa. I should also like to thank Dr. David Campbell for his help. The respect which he accords his students brings out the best in those which have the good fortune to work with him.

My friend and fellow student, Shayle Shagam, spent an emparassing number of hours helping me with the word processing. His aid has been, quite literally, invaluable.

Lesser men would have changed names, telephone numbers and addresses, in hopes of avoiding the inevitable phone call or visit. He didn't and I certainly am grateful. Thanks also go to the students in the Department of Agricultural Economics from whom I learned much.

Many people at other universities and institutions responded to questions and requests for documentation in a timely and conscientious manner. Special thanks go to Dr. Dan Galt at the University of Florida, Dr. Jerry Ekert at Colorado State University, Dr. Robert Butler at Washington State University and Dr. Jerry Jorns at Kansas State University. I would also like to thank Ms. Nena Vreeland, in USAID's Office of Program and Policy Coordination for her assistance. They have been very helpful.

I will be forever indebted to the villagers of Ngueune Sarr, Senegal, who taught me to recognize the important things in life, during my two years as a Peace Corps volunteer in their village. It is a debt which I will never be able to repay.

Finally, I thank my wife for her constant love, encouragement and support during my studies. I am lucky beyond words.

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CHAPTER 1

Introduction

According to official USAID policy, project evaluations should play a primary role in project design. In theory, they are to be read and assimilated to help those involved in project design determine effective strategies. It would appear, however, that they are not being used to fulfill this essential role. This is not surprising. Lack of substantive information, differing formats and unclear presentations have impeded effective use of project evaluations. This impediment poses a particularly serious problem for Farming Systems Research (FSR) projects.

During the last decade, bilateral and multilateral agencies have invested heavily in agricultural research projects which employ a farming systems research methodology (Crawford, 1982). The FSR approach to agricultural research is new and remains in a formative stage. Farming Systems Research projects are not likely to yield a rapid impact. Their payoffs are expected to occur ten to fifteen years after the beginning of project implementation, once the methodology has been institutionalized within host country research policy. This extended time frame, coupled with the newness of the methodology, highlights the need for input

from past and on-going efforts when designing new and implementing existing FSR projects. If USAID's experience with FSR projects is not well documented and utilized, project designers and implementors will likely repeat unnecessary errors. If the Agency is to profit from past experiences, it must establish an effective institutional memory from which to learn.

Establishing an institutional memory within USAID is difficult. Rapid turnover in host country, mission and bureau personnel; the decentralized nature of project planning and evaluation; and the use of outside consultants all hinder the establishment of an internal knowledge base which might be used to improve project design. For this reason, useful evaluation documentation, containing specific substantive information in a clear accessible format is necessary if one is to avoid past pitfalls.

In an attempt to alleviate this problem, this paper proposes a general evaluation format for farming systems research projects, containing a series of specific questions to be asked by evaluators, designed to solicit important answers pertaining to the characteristics, constraints and potential impact of FSR projects. Although each FSR project is unique, a unifying concept and methodology are common to all. The creation of a general format and series of

questions would increase the amount of substantive information conveyed in mid-term and final evaluations and present it in a clearer and more accessible format. This would encourage greater use of project evaluations by both project designer and project field staff. A standardized set of core questions would permit cross-project comparisons on specific issues such as the role of the farmer in on-farm testing, guarantees to the farmer against yield loss during trials and incentives used to encourage participation in on-farm trials. The use of a short, specific, question-answer format, in conjunction with elements of USAID's Project Evaluation Summary (PES) (USAID Handbook, 1980) would also facilitate inputting information into the agency's evaluation data bank. Past evaluations would then be more accessible to potential users. Finally, this knowledge would be useful to both national programs which design and implement internally funded projects and FSR efforts funded by other donors.

This paper is organized into five sections. The first section provides an overview of the evaluation of development projects. It discusses the reasons for project evaluations and identifies evaluation clients. Specific problems relating to the evaluation of agricultural research projects, in general, and farming systems research projects, in particular, are treated. Standard evaluation research

methodology and its applicability to agricultural research projects is then investigated.

The second section deals with project evaluation at USAID, both in theory and practice. It covers the nature of the evaluation mandate within the Agency, the specific guidelines to be followed in project evaluation, the roles of individuals at the bureau, mission and project levels and the Agency's decentralized evaluation infrastructure. A summary of conclusions reached in a 1982 USAID commissioned study entitled, "AID Experience in Agricultural Research: a Review of Project Evaluations" (Crawford, 1982) is then aired and discussed.

The third section compares mid-term evaluations of four farming systems research projects: the Gambia Mixed Farming and Resource Management Project, the Lesotho Farming Systems Research Project, the Botswana Agricultural Technology Improvement Project and the Malawi Agricultural Research Project. The extent of coverage pertaining to key issues involving constraint identification, research design, testing and general implementation issues is investigated and individual formats are compared.

The fourth section proposes a general evaluation format containing questions addressing pre-implementation issues,

target group identification, problem diagnosis, the design of research, testing new technologies, diffusion of results, interdisciplinary characteristics, institutional linkages and support and general implementation issues. Finally, an attempt is made to define appropiate interaction between the project team and outside evaluators.

The final section summarizes the paper and draws conclusions.

CHAPTER 2

AN OVERVIEW OF THE EVALUATION PROCESS

2.1 Why Evaluate?

Project evaluations are conducted for three primary reasons: to determine progress toward achieving specific goals; to improve planning, implementation and impact of future projects; and to provide a measure of accountability (Hoole, 1978)

Evaluations are, by nature, comparative. Progress may be evaluated according to various criteria. A project may be compared to: objectives enunciated either during project planning or the early stages of implementation, conditions which existed prior to project implementation, progress achieved in past or on-going similiar projects, change occuring in an untreated control group or parameters defining an absolute standard. In reality, project evaluations, although focusing on one criterion, often use several. For instance, an evaluation team whose scope of work mandates a comparison against prior stated objectives may also evaluate against baseline conditions or be

influenced by past performances of similar projects elsewhere.

Improving planning and execution provides a fundamental rationale for project evaluation. Development activities should be viewed as a continuium (design-implementation-evaluation-design), both within individual projects and on an organization-wide basis. Comprehensive and thorough evaluations, presented clearly, could make valuable contributions to improved future performance by increasing the institutional knowledge base and aiding in the refinement of field methodology.

2.2 Identification of Evaluation Clientele.

For evaluations to serve the purposes listed above, evaluators must clearly identify those people interested in the results of their study. Evaluations serve as a tool for many different clients: host country officials, donor mission and headquarter personnel, project field staff,and to a lesser degree, academics at research institutions and policy makers and program planners in other donor organizations. Cook (1985) refers to this identification as stakeholder analysis.

These various clients seek different information from

project evaluations. It is important that evaluators identify and prioritize client needs if full use is to be made of evaluation results. In the case of agricultural research projects, host country officials might be primarily concerned with yield results from agronomic tests while the donor mission and project personnel may be more interested in the adoption rate of a particular recommended cropping pattern or the institutionalization of a research methodology within the host country research strategy. Donor headquarters might seek to determine how a particular project fits into a regional development strategy while academics and personnel from other organizations may want to compare a project evaluation against results achieved in other similar projects. As Cook (1985) mentions, the analysis of different client needs may help identify and correct divergent and unrealistic expectations on the part of interested clients.

2.3 Specific Problems in Evaluating Agricultural Research Projects

The evaluation of agricultural research projects is complicated by a number of factors which are inherent to research projects. Many of these factors are related to delayed or indirect impact.

Through experience, the donor community has come to realize

that agricultural research projects require a ten to fifteen year gestation period before their true impact is known (USAID, 1985). Although many projects have discrete sub-purposes, such as the development of improved cropping patterns for specific recommendation domaines which may be developed in five years, the major purpose of most agricultural research projects is to create an effective research capability within the host country. A project team can only attempt to lay the groundwork for the institutionalization of an approach or methodology. As a result, project impact can only begin to be judged by the time the project staff completes its contract. This obviously poses a major problem for project evaluation. Project evaluators cannot judge progress by only examining outputs but must act as seers, predicting future impact, based on the groundwork layed by the project team.

Institution building projects are often difficult to assess because that which is necessary to create an effective institution is difficult to measure. In terms of agricultural research projects, evaluators have difficulty in quantifying the committement of the host government to research, the effectiveness of research-extension interaction or the contribution of base-line studies. These, however, must be assessed if predictions of project impact are to be formulated. Because many of the

ingredients needed to develop a research capacity are not easily quantified, cost-benefit analyses contribute little to project assessment.

In addition, there are inherent difficulties in measuring progress against fixed goals. Agricultural research is undertaken because solutions to constraints are unknown. Comparing progress against goals developed before project implementation is often inappropriate because initially specified goals may prove to be ill-conceived or unrealistic.

Finally, most agricultural research projects operate within a six to eight year time-frame. During this time, host country and donor mission and project personnel change. Priorities, both within the host country and donor organizations may alter, due to a reorientation of research strategies or budgetary constraints. These factors, in conjunction with those described above, pose major obstacles in the evaluation process.

2.4 Evaluation Problems Specific to Farming Systems Research

Evaluating of farming systems research projects presents three special problems, in addition to those already cited. First, the FSR methodology concentrates on developing

technologies for specific "target areas". These target areas are formulated based on the similarity of farmers with respect to agronomic, economic and social constraints. Due to the narrow focus of the research and the time constraints within which a technical assistance team operates, it is often difficult to judge the applicability of a technology to similar but unidentical systems. This makes the evaluation of diffusion potential far more difficult.

Second, Assessing farming systems research projects requires that the projects be evaluated from two distinct but interrelated perspectives. FSR projects, like other development interventions, must be judged against some fixed objective or baseline condition. In addition, the implementation of the methodology must be evaluated. It is difficult to assess the extent and potential impact of, for example, farmer involvement in the design and implementation of on-farm trials, research-extension cooperation or the benefits of multi-disciplinary interaction. Yet these aspects must be evaluated through proxies, if evaluations are to provide valuable feedback into the design of future projects.

Finally, Farming systems research evaluation is further complicated by its technical and methodological specificity. Evaluators must have not only the technical expertise to

assess scientific and economic issues, but also possess a firm knowledge of FSR methodology. This combination is often hard to find.

2.5 Evaluation Research Methodology

Evaluation Research utilizes a specific methodology which is used to determine the impact of social action programs. It employs specific types of tests to differentiate project related effects from those caused by external factors. These external effects are refered to as "threats to validity". Evaluation Research test designs seek to insure four types of validity: internal, external, construct and statistical conclusion validity (Hoole, 1978).

Internal validity examines whether changes occuring during program implementation were a result of program activities or were due to exogenous factors. External validity measures whether the observed impact of a program can be reproduced at a later date or generalized to similiar environments. Construct validity examines whether one can generalize from observed results to develop theoretical constructs. Statistical conclusion validity insures that the conclusions obtained were not the result of incorrect use of statistical techniques (Hoole, 1978).

There are several different evaluation designs which can be grouped into three categories: experimental, quasi-experimental and preexperimental (Hoole, 1978). Experimental designs are characterized by a comparison of the treated group with one or more control groups chosen at random. Measurements of the treated and control group(s) may be taken at discrete intervals either before and after the treatment has been introduced or at the post-treatment stage only. This category minimizes threats to internal validity and, in consequence, is the most powerful available to evaluation researchers. Quasi-experimental designs differ from experimental designs in that the control group is not randomly selected. This adversely effects assurances that perceived impacts are due to project activities (internal validity) and therefore is less powerful. The least powerful designs fall into the preexperimental category. These designs might entail a post-test comparison of the treated group with a non-random selected group, a pre-test/post-test comparison of the treated group, or a post-test only comparison of the treated group. Most final evaluations fall into the latter group (Weiss, 1972).

Several factors constrain the application of more powerful designs to the evaluation of agricultural research projects. Evaluations using control groups or treatment only time series analyses are very time consuming and expensive.

Often data needed to establish baseline conditions in the control groups are unavailable. The project evaluated may have inappropriate or unrealistic goals thus making a comparison of progress against stated goals infeasible. Finally, the size or potential impact of the project can be so small that designs other than the post-test only may be unable to detect project impact. (Hoole, 1978).

CHAPTER 3

EVALUATION IN USAID

3.1 Nature of the Mandate

The Agency for International Development is obligated, under Section 621A of the Foreign Assistance Act (USAID Handbook on Project Design and Evaluation, 1980, p. 127) to develop a management capability which systematically assesses USAID's programs and projects and measures actual results against projected results. To fulfill this mandate, the Agency has created an evaluation infrastructure which incorporates evaluation needs into project design, assesses program and project performance and impact, recommends corrective actions for on-going activities and transmits its findings to policy makers at the project, mission, regional and Washington levels.

3.2 Types of Evaluations

The Agency conducts several different types of evaluations. Internal project evaluations are routinely undertaken by project team members and appropriate personnel from the

USAID mission and the host country government. These evaluations focus on ways which project performance may be improved and, as such, are valuable learning tools for project management. The Agency, as an integral part of the project design process, schedules mid-term and end of project evaluations for all USAID funded projects. These evaluations are staffed by outside consultants, host country personnel and Agency staff from outside the mission. Mid-term evaluations monitor the provision of inputs and the resulting outputs, assess progress towards objectives, review the continued relevance of the project purpose and measures of achievement and make recommendations to improve project effectiveness (USAID Handbook, 1980) End of project evaluations seek to assess the extent to which the project has achieved its purpose and to determine if the project has had an impact on intended beneficiaries. The Agency also conducts Impact Evaluations for selected projects. These are staffed by members of USAID/Washington's Bureau for Program and Policy Coordination (PPC) and assess project impact, one or more years after the project completion date (Vreeland, 1985). Addition activities undertaken to judge specific aspects of project performance include: financial audits conducted by the Agency's auditors, project completion reports submitted by project team members, sector assessments which evaluate similar projects in different locations and regional reports which deal with the ensemble

of projects in a geographic region.

3.3 Purposes of Evaluation

The three main purposes of evaluation in USAID, as enunciated in the Agency's Handbook for Evaluation (p 16) are: improved project, program and policy performance, knowledge gain and accountability, to which the greatest priority is attached to the first. According to USAID, evaluations should aid project managers and project team members to identify root causes of problems and propose viable solutions. Evaluations also contribute to the immediate information needs of those responsible for policy making and program development. In addition, evaluations fulfill a longer term need " by accumulating over time documented evidence, reflecting real experience, that can be analyzed, compared and synthesized "(Vreeland, 1985. p. 20), to improve future policy formation. Evaluations provide accountability, by examining the cost effectiveness of a project design and by assessing the performance of those involved in the project.

In addition to these three primary purposes, evaluations also are intended to clarify purposes and goals, build operational content into unclear or unfinished project design, accelerate project implementation and improve communication among project participants by providing a

forum in which to air concerns (USAID Handbook, 1980)

To fulfill the above purposes, USAID requires that evaluations address three key issues: relevance, effectiveness, efficiency, impact and sustainability. Relevance asks if the issues addressed by the project still pose a major problem to improved welfare. Effectiveness asks if the project is achieving its stated objectives. Efficiency refers to the degree of cost effectiveness of a strategy to achieve set purposes. Impact considers the effects of a project on attaining a wider goal such as improved national nutrition or an increase in the national standard of living. Sustainability asks if positive, project-related effects will continue after project activities are terminated.

The Agency establishes the groundwork for future evaluation in the original Project Paper. The Project Paper outlines the intent of the project, the implementation plan, the external assumptions inherent in the project design and the means of measuring progress. These means are embodied in the Project Paper's " Logical Framework ". The " log-frame matrix " defines the project's goal, purpose, outputs and inputs and establishes " objectively verifiable indicators " of achievement, the means of verification and lists important assumptions relating to the feasibility of

attaining those indicators of achievement (USAID, Office of Personnel Management, 1980). Project designers have only a limited ability to specify relevant and feasible indicators because of the substantial unknowns in future project implementation. While it is clearly recognized that the targeted measures of achievement only establish tentative indicators of success, they do provide the evaluator with a starting point from which to compare project progress. The Project Paper also includes an Evaluation Plan which stipulates the nature and timing of future project evaluations.

3.4 Resonsibilities for Evaluation

The Agency's project evaluation system is highly decentralized. Each mission is responsible for scheduling evaluations, the recruitment of the external evaluation team members, the development of scopes of work which specify issues to be examined during the evaluation process and the transmission of evaluation team findings to appropriate personnel in Washington.

USAID/Washington maintains an Office of Evaluation, located in the Bureau for Program and Policy Coordination. This entity develops evaluation methodology, coordinates evaluation activities at the Regional Bureau levels and

conducts evaluations of organization-wide programs and problems. It also maintains a data bank, the Development Information System, which provides project descriptions, evaluations and other program documents to those requesting this information.

Each regional bureau has an evaluation office which supports in-country evaluation efforts and serves as an advisor on intra-bureau evaluation issues. Regional Bureau Evaluation Officers provide a focal point for the collection and dissemination of evaluation findings and methodology and aid in the selection and training of Mission Evaluation Officers. The extent of the Regional Bureau's involvement in and control of project evaluations varies. The Asia and Latin America Bureaus tend to exercise stricter control of evaluator selection and the evaluation scope of work than do other Bureaus (personal communication, Vreeland).

Mission Evaluation Officers facilitate the mission-level evaluation process by helping Project Managers organize their Evaluation Plan, drafting the Annual Evaluation Schedule, coordinating the formal Project Evaluation Review, preparing the Project Evaluation Summary and keeping a record of follow-up actions. The Evaluation Officer does not explicitly evaluate projects, but rather serves as a system manager.

The Project Manager is the key player in the evaluation process at the mission level. The manager selects evaluation team members from consulting firms or academic institutions, handles logistics, provides orientation and support to the evaluators and, most importantly, writes the scope of work describing the issues and duties to be addressed by the evaluation team. What emerges from the above discussion is a picture of the evaluation process in USAID which is very decentralized, placing greatest responsibility for the creation of useful evaluation documentation at the mission level, with the Evaluation and Project Officers.

This decentralized system has important implications. It places the process close to a primary stakeholder, the project manager, and allows the official to create a scope of work, tailored to his information needs. On the other hand, allocating total responsibility for the scope of work to the project manager means that relevance and specificity may vary widely. Spacious, non-specific scopes of work often give rise to spacious, non-specific evaluation reports. Scopes of work and resulting evaluation reports may concentrate on certain aspects of a project while neglecting others. Decentralized evaluations makes comparisions of similar projects difficult, at best. Cross-project comparisons can provide a valuable mechanism by which policy

makers and project designers can refine research methodologies and implementation procedures. Site specific scopes of work also produce different evaluation report formats, thereby complicating the incorporation of evaluation team findings and recommendations into the central data base.

Clearly, the benefits of a decentralized format must be balanced against the information needs of those stakeholders removed from the immediate project environment. Personnel directly involved in the project are presumably knowledgable about the project environment and the basic project activities. They need informed assessment of particular issues. Other personnel, removed from the project, often need more substantive information which describes project activities and develops a clear rationale for evaluation team recommendations. A process which incorporates the specific information needs of the Project Manager, the project staff and the Mission Evaluation Officer with the needs of Bureau and regional policy makers, program analysts and project designers could make a valuable contribution to the design of future projects.

3.5 A Summary of Conclusions Reached in an USAID Funded Study

In 1982, USAID's Office of Evaluation, Bureau of Program and

Policy Coordination, commissioned Development Alternatives Incorporated, to conduct a study of agricultural research projects to: review historical trends in agricultural research, identify those projects in USAID's agricultural research portfolio and " identify major issues affecting the design and implementation of agricultural research projects by reviewing evaluations of a sample of those projects." (Crawford, 1982, p.1)

The authors analyzed evaluation documentation for 48 projects, 33 of which were on-going at the time of the study. They were unable to reach conclusions as to promising strategies in agricultural research, due to a lack of substantive information conveyed in the project evaluations. They found that evaluations lacked sufficient background information to inform readers who did not have close prior knowledge of the project. As a result, the evaluations' potential input into policy formation and project design was minimal.

In general, mid-term evaluations focused on monitoring inputs and outputs and made recommendations for fine-tuning project management. Few evaluations devoted much emphasis to judging overall performance (Crawford, 1982, p 41). There was only scant coverage of past activities, approaches and ensuing results and factors which contributed to project

success.

Specifically, major areas left unaddressed by most evaluations containing an on-farm component included:

- problems involved in the implementation of on farm research
- the role of multi-disciplinary research in project activities
- the participation of small farmers in the research process
- the analysis of the effects of new technology on project beneficiaries
- the ability of the government to support project related reccurent costs
- the relation between government pricing policies and the proposed technological innovation
- the adequacy of financial and administrative support given to host country researchers
- the contribution of host country counterparts to project success
- the level of contractor support for its technical assistance field team
- the effectiveness and timeliness of short term consultancies

From a review of 44 evaluations, only five covered problems

encountered in the implementation of on-farm trials, three described the role of farmers in the research process and two discussed the ability of the government to support recurrent costs (Crawford, 1982)

There was substantial inconsistency not only in the scope of issues covered, but also regarding the format in which they were presented and the methodology used. Many of the evaluations did not contain a lessons learned section, the scope of work of the evaluation team, the extent to which various project participants were contacted, the amount of time allocated to the evaluation or the disciplinary composition of evaluation team members (Crawford, 1982, p. 151).

What emerges from this study is a picture of the USAID evaluation of agricultural research projects which is not only of minimal utility to policy makers and program designers, but also to project team members and USAID mission project officers. In the following section, four farming systems research projects will be examined, in light of the conclusions obtained from the preceeding study. With the exception of the Lesotho project, the other projects were not included in Crawford,s study.

CHAPTER 4

A COMPARISON OF MID-TERM EVALUATIONS IN FOUR FARMING SYSTEMS RESEARCH PROJECTS

4.1 The Gambia Mixed Farming and Resource Management Project

This project contained many different components. Although a few of its components were never operationalized, it was considered a success, due largely to the adoption of maize by target area farmers.

Lenght of contract: 6 years
Project implementation began: 5/81
Mid-term evaluation conducted: 4/83
Funding level: $9 million
Contractor: Colorado State University
Composition of the technical assistance team: 2 agricultural economists, 2 agronomists, 1 range ecologist, 1 sociologist

The goal of the Gambia Mixed Farming and Resource Management Project (MFP) was to "increase the economic well-being of the rural people of the Gambia" by fostering " intensification and integration of crop and livestock

enterprises with existing Gambian farming systems so as to contribute to increasing net rural income on an ecologically sound and sustained yield basis" (Project Paper,1980, p. 3). The project paper divided the project into six components: (1) Land Resource Use Evaluation and Classification and Cartography; (2) Grazing Areas Development and Managemaent; (3) Maize Improvement for Increased Food and Feed Production; (4) Improved Rural Technology; (5) Stengthening Ministry Planning and Evaluation Capacity; (6) Agricultural Skills Training and Communication.

The purpose of the Land Resource Use and Evaluation, Classification and Cartography component was to provide the Government of the Gambia (GOTG) with land use maps containing detailed information on current land use patterns. A sub-component was to furnish training in aerial photographic interpretation. Midway through the project, aerial photography had been completed but much of the work was of unsatisfactory quality and was being reworked at the time of the evaluation. The training of local personnel had not yet been initiated.

The Grazing Areas Development and Management component was to provide support to the government in developing and managing controlled grazing areas to improve animal nutrition and to allign carrying capacity with the existing

ruminant population. This was to be achieved through assisting in the development of a national land use strategy, the training of specialized pasture agents and by aiding the government in the planning and implementation of a program to create animal access routes to grazing areas, wells, firebreaks and stock handling facilities. Gambia's rangeland is said to be overstocked and overgrazed. When left fallow, natural vegatation provides inadequate animal nutrition. To remedy this, the project has introduced improved grasses and forage legumes. These new varieties were tested in the field. A national resource inventory was being conducted and feeding trials using crop by-products were introduced.

The objective of the maize improvement component was to increase production of maize for human and animal consumption by developing a technical package, testing cultivars, experimenting with fertilizer response and plant densities and training extension workers to use the new package. The project undertook on-farm and on-station trials to test grain and fodder yields. The project issued seed and fertilizer on credit to participating farmers. Maize was unexpectedly well received as a food source by village women. In response, female extension workers developed a set of recipes using maize and demonstrated these recipes at public gatherings.

The purposes of the Improved Rural Technology component were to preserve the value of crop residues by transporting them after harvest to village households and to improve the contribution of draft power by creating better harnesses and yokes. The project paper advocated the purchase of 400 farm carts, to be sold through the Gambian Cooperative Union to interested farmers. The project team considered this aspect to be peripheral to the overall project purposes and consequently did not pursue implementation. At the time of the evaluation, research on improved farm implements had not been initiated.

The Strenghtening Ministry Planning and Evaluation Component was charged with: developing quantitative and qualitative information describing and analyzing Gambian livestock and land use systems, monitoring and evaluating results from field testing of technical packages and training Gambians in field survey techniques. The project's Socio-Economic Unit (SEU) was responsible for implementation. The SEU conducted several surveys. The initial baseline survey covered social composition of compounds, cropping patterns and land use, livestock ownership and management, integration of crop and livestock practices and availability and use of labor, capital and credit. Other surveys addressed cattle herding, the functioning of Livestock Owners Associations (LOAs),

research-extension linkages and constraints to technology transfer.

The final component, Agricultural Skills Training and Communication, was to provide local and international training to support and sustain project activities. In addition to training in relevant physical and social sciences, training in the use of media for agricultural extension was programmed.

Major Findings of the Evaluation Team

The evaluation team found that substantial progress was being made in each of the project's main thrusts. On-farm research was proceeding on schedule and was relevant to the needs of limited resource farmers. The project's initial design was deemed to be overly complex and placed too many demands on project personnel. This has been largely corrected through on-site redesign. Much of the success to date is attributable to excellent cooperation on the part of host country both in the staffing and implementation of project activities. It was found that implementation could be substantially improved by accelerating the project's data processing capacity.

Assessment of the Evaluation

The project, itself, was complex, containing six different components. This complexity is reflected in the evaluation report. The report contains much information but it is presented in a confusing and unorganized fashion.

The body of the report is divided into the following sections: rationale and summary, project design, implementation mechanisms, major thrusts of the project, relationship to USAID strategy and conclusions. This was followed by annexes, dealing with separate project components, each of which followed a different format.

The evaluation provided substantial information concerning the specifics of various on-farm trials, but did not discuss the design of the research or the farmer's role in the testing process. The dispersed and overdrawn manner in which the evaluation was presented prevented easy access to specifics of project implementation. Thus, this evaluation is of little use to future FSR design teams.

4.2 The Lesotho Farming Systems Project

The Lesotho project illustrates what can happen when a host country is unprepared and ambivalent about accepting a new

research methodology. The FSR approach clearly lacked sufficient government and farmer support to institutionalize project activities.

Length of contract: 6 years

Project implementation began: 4/78

Mid-term evaluation conducted: 3/81

Funding level: $9 million

Contractor: Washington State University

Composition of technical assistance team: chief research officer, farm management economist, sociologist, communication specialist, animal scientist, marketing economist, range management specialist, administrative officer

The goal of the Lesotho Farming Systems Research Project (Project Paper, 1978) was to " improve the quality of rural life." This was to be achieved through the creation of more productive agricultural enterprise mixes which were: acceptable to farmers, commensurate with limited farmer resources and ecologically sound. To attain the stated purpose, the project attempted to: create a farming systems research unit within the Ministry of Agriculture, engage in on-farm applied research in specific areas, and train a cadre of professionals to support project activities.

The establishment of a farming systems research unit was hindered by several factors: lack of support by elements in the Ministry of Agriculture, inadequate human resources and an insufficient agronomic data base. Its establishment was predicated on the assumption that " interdepartmental coordination and cooperation exists among MOA (Ministry of Agriculture) divisions and sections in the Research Unit" (Project Paper p. 3). This assumption was largely invalid. As a result, support for this component was tenuous. Many people in the Ministry believed that the technical assistance team should work within the existing organizational structure. At the beginning of project implementation, the Research Division (RD) of the Ministry of Agriculture had ten staff members, only three of whom had Bachelor of Science degrees. The absence of skilled counterpart scientists and institutional support, coupled with scant baseline knowledge, resulted in a change in project direction. It was decided early on that this component of the project should concentrate on establishing a general research capability in the Research Division, rather than creating a more narrowly focused farming systems research unit.

The Farming Systems Program component was charged with developing three alternative technologies to be tested in three agro-ecological environments. A baseline survey was

conducted among 471 households in the three target areas. Farm records were kept for a more limited number of target group farmers. On-station trials with maize, cowpeas, sorghum and soybean were begun (although the specific purposes of the tests are not included in the evaluation). Trials aimed at improving draft animal nutrition were undertaken. Timely access to draft animals appeared to be a major constraint to increased agricultural productivity, particularly among poorer farmers who often rent oxen at planting time. Planting was often delayed due to animal fatigue. To address this constraint, the project team began testing the effects of protein and mineral supplements on weight gain and the practicality of rotational grazing on communal pastures. At the time of the evaluation, results of the livestock and cropping trials were not yet available.

Major Finding of the Evaluation Team

The evaluation team found that the project designers were overly optimistic in planning the establishment of a separate farming systems unit within the Research Division of the Ministry of Agriculture. An inadequate project time-frame, insufficient host country support and a lack of adequately trained local scientists made such an activity impractical and inappropriate. The team felt that improving the general research capacity within the existing

organizational structure was more feasible and useful. A national research strategy was sorely needed to give direction to existing research efforts.

The effectiveness of the applied research component was hindered by an absence of existing cropping guidelines to be tested and scarce counterpart personnel. The purpose of project team activities in target areas was unclear to local farmers. Farmers thought that the main focus of the project was localized rural development. As a consequence, farmer expectations were raised and dissatisfaction with the absence of tangible results threatened project credibility. The evaluation team advocated instituting a research activity, yielding quick, if limited, payoffs, to establish credibility among target area farmers. The unavailability of inputs also limited the choice of potential appropriate technologies for testing. At the time of evaluation, it was too early to predict acceptance of technological innovations.

In terms of general implementation issues, the technical assistance team was not adequately orientated before arriving in Lesotho and was given insufficient support by the USAID mission, during the beginning stages of project implementation. Project effectiveness was further impeded by poor relations between the contractor, host country

officials and USAID/Lesotho.

Assessment of the Evaluation

The Lesotho evaluation follows the Project Evaluation Summary (PES) contained in the USAID handbook. The evaluation closely monitors the provision of inputs (technical assistance, training, commodities, construction, host country contribution) and the progress toward achieving targeted outputs. It does not, however, provide insight into the manner in which the research was designed nor does it specify what technologies were being tested and how test procedures were carried out. As a result, this lack of substantive information makes the evaluation of little use to those not directly involved in the project.

4.3 Botswana Agricultural Improvement Project

This project, at mid-term, was considered to be a model for the design and implementation of future FSR projects. Attention was focused on the need to institutionalize project activities by involving diverse host country agencies in all aspects of the project.

Length of contract: 5 years

Project implementation began: 4/82

Mid-term evaluation conducted: 7/84

Funding level: not given

Contractor: MIAC

Composition of technical assistance team:

3 agricultural economists, 2 agronomists, 1 animal scientist

The goal of this project was to improve small farmer welfare and increase production through the development, diffusion and adoption of appropriate technology. The project purpose was to improve the Ministry of Agriculture's capacity to develop and extend cropping recommendations relevant to small farmers. This was to be achieved through the initiation of applied research in two different locations and in-country and overseas training of host country professionals in relevant disciplines and reseach methodologies (Project Paper, 1982).

The project team identified the major constraint facing small farmers in Botswana as an inability to establish stands, due to an inadequate quantity and distribution of rainfall. This severely limits available cropping alternatives. The research teams tested a number of cropping alternatives, in response to the major moisture constraint.

These included testing ridge plowing, weed control, replanting and overseeding/ thinning. There were no test results during the two years, due to the prevailing drought conditions. It was determined that limited access to animal traction, stemming from labor bottlenecks at planting time, was another significant constraint. In response, the project planned to experiment with draft management to facilitate early plowing, improved harnesses and yokes and appropriate post-harvest crop by-product and forage technology.

The project team placed considerable emphasis on the need to institutionalize project activities. To this end, the team attempted to inform policy makers within the Ministry of Agriculture of project activities, through the institution of seminars, discussions and visits to the research sites. The project established linkages with the Botswana Agricultural College by incorporating BAC researchers into project activities and providing input into curriculum development. It was recognized that enthusiastic support by senior officials was crucial to long-term project success. The project provided funding for a Research-Extension Liasion Officer (RELO) who sought to improve research-extension linkages by participating in policy meetings of the research and extension units and by arranging seminars which focused on relevant issues. The project team involved

counterparts in all aspects of planning and implementation and provided extensive on-the-job training in survey techniques and micro-computer use.

Major Findings of the Evaluation Team

Despite the absence of on-farm test results, the evaluators found that the project team was doing an exceptional job in the implementation and institutionalization of project activities. Many factors contributed to mid-term project success: a well designed project paper, competent and experienced project team members, extensive existing baseline data, a long history of in-country research in Botswana, previous host-country experience with farming systems research projects, strong linkages with ministry officals and other on-going projects and excellent relations between researchers and farmers. Continuing constaints to improved project performance were: a lack of qualified host country personnel and poor relations between government research and extension personnel.

Assessment of the Evaluation

The Botswana evaluation uses the PES and provides a supplementary narrative which responded to issues included in the scope of work. The scope of work is detailed and

addresses many issues which are of paramount importance to the success of farming systems research projects.

It is clear that the evaluation team had both extensive knowledge of FSR methodology and considerable prior experience in evaluating adaptive research projects. The evaluators highlighted the project team's efforts in institutionalizing project activities through linkages with the research and extension services at the policy making and field levels, as well as, linkages with other on-going projects and international research centers. The evaluation also discussed exogenous factors which had a positive influence on project progress, including, the existance of a substantial data base, the long tradition of agricultural research in Botswana and prior host country experience with farming systems research projects. Although the evaluation did list the number of agronomic trials undertaken, it did not describe micro-issues related to on-farm testing (the role of the farmer in research design and testing, guarantees against farmer risk, financial analysis of the proposed technology.) Nevertheless, the evaluation clearly highlighted important issues responsible for project success, and consequently, could be of use in future project design.

4.4 Malawi Agricultural Research Project

The project's difficulties at mid-term highlight the importance of multidisciplinary cooperation during the research process. The absence of cooperation resulted in a suspension of the project's on-farm research activities.

Length of contract: 5 years

Project implementation began: 5/80

Mid-term evaluation conducted: 2/83

Funding level: $9 million

Contractor: University of Florida

Composition of the technical assistance team: 3 agronomists, 2 horticulturalists, 1 plant breeder, 1 agricultural economist, 1 anthropologist, 1 animal scientist

The purpose of this project was to improve the capacity of the Department of Agricultural Research to develop relevant research for small farmers. This was to be achieved through the creation of separate research units for agricultural economics and farming systems research (to be headed by the project team agricultural economist and anthropologist, respectively), the integration of team scientists into commodity focused research endeavors at the major research station and the provision of U.S. university training for 30 host country personnel. Farming systems research was, thus,

part of a larger research effort (Project Paper, 1980).

The major objectives of the Farming Systems Analysis section (FSA) were: to establish an FSR program, create a research-extension liasion system, conduct diagnostic surveys, initiate on-farm tests of potential technology packages and monitor farmer adoption.

An FSR unit was established at the major research station and comprised of the contractor team anthropologist and four host country nationals. A diagnostic survey was undertaken by members of the FSA unit, research station agronomists and extension service agents. After evaluating survey results, on-farm testing of maize varieties and fertilizer applications was initiated in four locations. The multi-disciplinary activity which existed during the diagnostic phase was not reassembled during on-farm testing. Tests were designed, monitored and analyzed by the farming systems anthropologist, without the solicitation of significant input from either host country or project team scientists. As a result, substantial friction developed between the FSR unit and other components within the research project. At the time of the evaluation, multi-disciplinary cooperation was virtually non-existant and the second round of on-farm, farmer-managed trials was suspended, pending the official incorporation of an agronomist into the Farming Systems

Analysis section.

Major Findings of the Evaluation Team (Specific to the FSR Component)

The evaluation team found that lack of multi-disciplinary cooperation seriously affected the FSR section's mandate to create relevant technology for the small farmer. The absence of sufficient agronomic input resulted in dubious testing methodologies and inappropriate test conclusions. The team also found that host country personnel assigned to the FSR section were not appointed on merit and were ill-equipped for their roles.

Findings Relevant to the Project At-Large

It was concluded that there was confusion and disagreement among project team and host country personnel as to the general project purpose (institution building, adaptive research or training) and the specific role that the farming systems research component would play therein. The absence of a national research strategy defining research priorities, coupled with a lack of input from the FSR and agricultural economics sections, resulted in commodity based research which had only minimal applicability to small farmers. Many of the research studies undertaken by members

of the agricultural economics section were macro-oriented and only indirectly applicable to small holder constraints. Project success was further hampered by poor project management which was manifested in unclear participant responsibilities and uncoordinated financial accounting. The evaluation team, nevertheless, felt that a follow-on project could make a substantial contribution to the original project objectives.

Assessment of the Evaluation

The evaluation is divided into sections devoted to: introduction, inputs, outputs, purpose assessment, project management, previous evaluations and conclusions and recommendations.

A substantial portion of the evaluation deals with monitoring budget allocations, commodity and construction inputs, and training. The evaluation compares the output of the farming systems component against project paper objectives but does not discuss problems encountered in the implementation of on-farm research, the nature of test monitoring, nor the specific role of the extension service during farmer managed testing. Although the evaluation does emphasize the importance of multi-disciplinary cooperation, other methodological issues relevant to farming systems

research are not treated. The document provides little which can be drawn upon for future project design.

4.5 An Overview of Mid-Term Evaluations

If an evaluation is to contribute to improving future project design and implementation it must assess a wide range of key issues relevant to FSR and present those issues in a clear and organized fashion. The following tables identify important areas of concern and note whether these topics were treated in the project evaluations. The importance of these issues will be discussed in the following chapter.

Table 4.1

Comparison of Coverage of

Pre-implementation Issues

in Four Farming Systems Research Projects

Issues	Gambia	Lesotho	Botswana	Malawi
Orientation of team before arrival	no	yes	no	no
Role of mission in in-country orientation	no	yes	no	no
Overview of host country agriculture	no	no	no	no
Quality of the project paper	yes	yes	yes	yes
Research organization staffing and capabilities	yes	yes	yes	yes
Existing data-base	no	no	yes	no
Local support for FSR	no	no	no	no

Source: Evaluation Reports, respective countries

All four evaluations discussed the utility of the project paper and the capabilities of the host countries' research organizations but did not provide an overview of host country agriculture nor discuss local government support for farming systems research. Only one of the four evaluations discussed the orientation of the project team after arrival, the role of the mission in project team orientation or the magnitude of the existing data base.

Table 4.2

Comparison of Coverage

Target Group Orientation

Issues	Gambia	Lesotho	Botswana	Malawi
Reasons for target area selection	no	no	yes	no
Process used for decision	no	no	no	no

Source: Evaluation Reports, respective projects

Issues surrounding the selection of target areas were virtually ignored despite their importance to project success. Only the Botswana evaluation discussed the reason for target area selection.

Table 4.3

Comparison of Coverage of

the Descriptive and Diagnostic Phase

Issues	Gambia	Lesotho	Botswana	Malawi
Methods of data collection	yes	no	yes	no
Scope of baseline survey	yes	yes	yes	no
Participation by other entities	yes	no	no	yes

Source: Evaluation Reports, respective projects

All evaluations, with the exception of Malawi, described the scope of the baseline survey. Only two evaluations discussed data collection methodology or the participation of other entities in the descriptive and diagnostic phase.

Table 4.4

Comparison of Coverage of the Design of Research

Issues	Gambia	Lesotho	Botswana	Malawi
Appropriateness of research priorities	yes	no	yes	yes
Assessment of on-farm trials	no	no	no	no
Financial analysis of proposed technology	yes	no	no	no
Input of farmers into the design process	no	no	no	no

Source: Evaluation Reports, respective projects

While three evaluations discussed the appropriateness of research priorities, no evaluation described the role of the farmer in the design of research. Two evaluations assessed on-farm trials and only one analyzed the financial implications of the proposed technology.

Table 4.5

Comparison of Coverage of

Testing

Issues	Gambia	Lesotho	Botswana	Malawi
Manner in which research participants were chosen	yes	no	no	no
Relevance of tests	no	no	yes	yes
Provision for farmers risk incentive	no	no	no	no
Extent and description of monitoring	yes	no	no	no
Farmers' role in testing	no	no	no	no

Source: Evaluation Reports, respective projects

Few evaluations covered basic issues fundamental to the implementation of on-farm testing. Neither the farmers' role in testing nor the provision of incentives and guarantees against risk for participating farmers was described. Only one evaluation discussed the manner in which research participants were chosen or procedures for monitoring on-farm tests. Two evaluations assessed the relevance of the research for the small farmer.

Table 4.6

Comparison of Coverage of

Interdisciplinary Characteristics

Issues	Gambia	Lesotho	Botswana	Malawi
Nature and extent of multi-disciplinary interaction	no	no	yes	yes
Interdisciplinary team composition	yes	yes	yes	yes

Source: Evaluation Reports, respective projects

Although each evaluation described the disciplinary composition of the technical assistance team, only the Botswana and Malawi evaluations outlined the nature and extent of multi-disciplinary cooperation during the various phases of project implementation.

Table 4.7

Comparison of Coverage of

Institutional Linkages/Support

Issues	Gambia	Lesotho	Botswana	Malawi
Linkages with commodity based research	no	yes	yes	no
Linkages with academic institutions	no	no	yes	no
Cooperation with other on-going projects	no	no	yes	no
Host country prior experience with FSR	no	no	yes	no
Role of the extension service	yes	no	yes	no
Nature of relations between the host Country research and extension services	yes	yes	yes	yes

Source: Evaluation Reports: respective projects

Every evaluation looked at the relationship between the research and extension services (which was uniformly poor), yet, with the exception of the Botswana assessment, crucial linkages with other agencies were not investigated. This was so despite the recognition that linkage is essential for project institutionalization.

Table 4.8

Comparison of Coverage of

Implementation Issues

Issues	Gambia	Lesotho	Botswana	Malawi
Understanding/agreement of project purpose				
by: farmers	no	yes	no	no
host country officials	no	yes	no	yes
project team	no	yes	no	yes
Magnitude of recurrent costs	yes	no	no	yes
Competence of project team with respect				
to: technical skills	yes	yes	yes	yes
language skills	no	no	yes	no
Suitability of training component	yes	yes	yes	yes
Availability of inputs	yes	yes	yes	no
Relation between macro policy and				
project activities	no	yes	yes	no
Adequacy of project time frame	yes	yes	yes	yes
Host country financial support	yes	yes	yes	yes
Quality of project management	yes	yes	yes	yes

Source: Evaluation Reports, respective projects

Every evaluation discussed the suitability of the project training component, the availability of inputs, the adequacy

of the projects' time frame, the extent of host country country financial support and the quality of project management. Only the Lesotho and Botswana evaluations described the critical relationship between project activities and government macro-economic policies, such as commodity pricing and credit for small farmers. The technical skills of the project team were assessed in each evaluation but only one evaluation assessed the team's language skills. The extent of understanding and agreement as to project purpose was discussed in half of the evaluations.

Table 4.9

Format of Evaluations

The following table denotes whether the evaluation formats contained the following items:

Components	Gambia	Lesotho	Botswana	Malawi
Summary	yes	yes	yes	no
Log frame	yes	yes	yes	no
Scope of work	no	no	yes	no
Reasons for evaluation	yes	yes	yes	no
Persons contacted	yes	yes	yes	yes
Lessons learned	no	yes	yes	no
Table of contents	no	no	yes	yes
Bibliography	no	no	yes	no
List of project publications	no	no	no	yes

Source: Evaluation Reports, respective projects

The evaluation formats differed widely. Only the Botswana evaluation included the team's scope of work. Each evaluation team structured and organized its findings in a different fashion.

The preceeding tables illustrate that issues critical to a

thorough assessment of FSR projects were frequently omitted from project evaluations. This is hardly suprising in view of the limited direction provided by the evaluation teams' scopes of work. In the following chapter, a standardized format and set of questions is proposed, aimed at making FSR evaluations more comprehensive and better organized.

CHAPTER 5

A NEW EVALUATION FORMAT

The conclusions reached in both the Development Alternatives study and the preceeding comparison of four farming systems research projects clearly indicate that the evaluation of agricultural research projects in general, and FSR projects in particular, is contributing little to increasing the knowledge base of the project's stakeholders. Increasing this knowledge base is critical for farming systems research because the methodology is new and still in its formative stage. The potential payoffs are not immediate. Much more needs to be learned about the planning and implementation of FSR projects and evaluations could contribute significantly to the learning process.

Although each FSR project is unique, the issues and problems confronting it are sufficiently similiar to make cross-project comparisons a valuable source of information. Cross-project comparisons could be greatly facilitated through the use of a generalized evaluation format for the Agency's portfolio of FSR projects. Evaluations should describe the pre-implementation environment, tell what happened, explain why it happened, assess the likely impact of the project and provide recommendations to improve on-going or future

project performance. Many of the evaluations reviewed have assessed project performance without describing basic project activities such as: the technology being tested, difficulties involved in on-farm testing or the role of the farmer in the technology generation process. This information is essential if future projects are to profit from past experiences.

Evaluation is typically implemented in a short time frame, thus, there exists a need to rapidly assess the project. A systems approach is required as the project is one of many interacting components within the country's development strategy. To improve the quality of evaluation in FSR, several discussion questions are proposed, for each of the nine major types of issues that should be covered in evaluation: pre-implementation issues, target group orientation, the descriptive/diagnostic phase, the design of research, technology testing, technology diffusion, interdisciplinary characteristics, institutional linkages/support and implementation issues. These issues are associated with the four standard stages of farming systems research and the project environment in which it functions.

The sections are introduced by paragraphs explaining the types and importance of the information being sought. The

evaluator should keep in mind that there are no right or wrong answers as FSR is still evolving. Evaluation should be most interested in assessing the adequacy and breadth of considerations taken into account to ultimately provide a basis for evaluating what works and why. Each question is proceeded by a code which indicates the persons to be consulted in formulating responses to individual questions. (MP=Mission Personnel, TATP=Technical Assistance Team Personnel, HPC=Host Country Project Counterparts, HRSP=Host Country Research Station Personnel, HMO=Host Country Ministry Officials, HEP=Host Country Extension Personnel, F=Farmers). When responding to the proposed questions, the evaluation team should indicate from where the information was solicited by circling the appropriate codes. An explanatory paragragh follows each set of questions, outlining the rationale for the questions. Within the paragraph, questions are refered to by number.

5.1 AN OVERVIEW OF FARMING SYSTEMS RESEARCH

Before proceeding with the exposition and discussion of questions to be asked by the evaluation team, a brief description of the goals, processes and characteristics of FSR is in order.

There is a substantial variety of opinion as to what constitutes farming systems research and how it should be operationalized. Most of the disagreements, however, center on implementation issues such as site selection ie. target area verses recommendation domaine (Shaner, Philipp and Schmehl, 1982) or survey techniques ie. baseline data survey verses rapid appraisal (Gilbert, Norman and Winch, 1980; Shaner, Philipp and Schmehl, 1982). There is little disagreement as to the basic goals and stages of the approach. However, the specific objectives relating to how this general goal will be achieved will vary from project to project.

The goal of Farming Systems Research is to create technology which is appropriate for the small, limited resource farmer (Gilbert, Norman, Winch, 1980). The methodology emphasizes the needs and constraints of small farmers, adopts a problem-solving perspective and interdisciplinary approach and stresses the importance of a complementary relationship with commodity based research efforts (Shaner, Philipp, Schmehl, 1982). Farming Systems Research attempts to assess the opportunities and constraints facing small farmers and identify small changes in cropping or animal husbandry practices which can result in larger, positive changes in farmer productivity. Where there is minimal existing

technology that can be adapted through on-farm trials, FSR has a major role in helping to establish basic research priorities that will ultimately generate appropriate technology for small farmers. The methodology looks at the farming system as a series of interrelated activities (ie. cultivation, husbandry, off-farm employment,consumption, marketing)-- each of which has an interrelated impact on farmers' decision making. Recognizing that problems facing farmers cut across disciplines, FSR approaches problem solving from a multidisciplinary perspective, drawing upon expertise in a wide range of areas. The methodology is premised on the belief that FSR is not a substitute for commodity based research, but rather complements research station activities. It also emphasizes the itinerative nature of research and the need for feedback linkages between research and extension, both to identify farmers' problems and to assess prototype technology.

Research implementation is divided into four stages: descriptive/diagnostic, research design, testing and diffusion (Gilbert, Norman, Winch, 1980; Shaner, Philipp, Schmehl, 1982; Byerlee, Collinson, 1980). In the descriptive/diagnostic phase, researchers use surveys and interviews to learn about the farming system and identify constraints to increasing productivity. In the research design phase, available technologies are first assessed to

determine if they appear appropriate to extend as on-farm trials. If no potentially applicable technologies can be immediately identified, prototype interventions are tested and refined in a controlled environment. If results appear encouraging, the technology(ies) is then tested by researchers and/or farmers on farmers' fields. If the new technologies yield increases in productivity, they are transmitted to the extension service for diffusion (Shaner, Philipp, Schmeh, 1982). In addition, FSR is increasingly recognized as responsible for identifying macro-constraints to technology adoption and communicating needed changes to policy makers.

5.2 PRE-IMPLEMENTATION ISSUES

These questions seek to ascertain the general environment in which project activities began. Empirical findings support the notion that project success in agricultural research is more a function of political and institutional factors than direct project outputs (Murphy, 1983). A project may be well organized and implemented, but chances of success are minimal unless the external project environment is condusive to achieving project purposes. Conversely, a very positive project environment can compensate for weaknesses in project design and execution. The following questions treat host country development priorities, prior research experience,

the preparation of mission and project personnel and the suitability of strategies and objectives enunciated in the Project Paper.

Government Policy-Key Questions

For maximum impact, an FSR project should serve as a building block in the development strategy, in general, and the research strategy in specific. The following questions are proposed to provide the evaluators an understanding of current policy directions.

1) What are the country's medium term development goals? How does the project purpose mesh with those goals? MP, TATP, HMO
2) At the beginning of project implementation, did the country have a long term research strategy?
   MP, TATP, HMO

Questions 1 and 2 deal with the macro policy and strategy environments. If the host country government is emphasizing aggregate yield increases rather than improvement in small farmer welfare, it may be less disposed to support and institutionalize a project which is not in concert with its medium term priorities. This can substantially impact prospects for project success. Similiarly, if there is no preconceived, long-term agricultural research strategy, it

will be difficult for policy makers to define the role which the project plays in the development process and hence impede institutionalization of project activities.

Prior Experience and Current Data-Key Questions

Projects are not independent, but are affected by related past and existing activities. To provide the evaluators with a historical context into which the FSR project falls, the following questions are proposed:

3) What is the nature, quantity and quality of relevant pre-existing agronomic and economic data and cropping recommendations? To what extent has the project attempted to utilize existing information? MP, TATP, HRSP, HPC, HEP
4) What types of agricultural research have been undertaken in the country? What was the magnitude of past research efforts? TATP, HRSP, HPC, HEP
5) Have there been other FSR projects implemented in the country? If so, what type of results have they produced? MP, TATP, HRSP, HMO, HEP
6) What experience did host country and project team personnel have with interdisciplinary research? TATP, HPC, HRSP
7) What types of development activities have been introduced in the project areas? How have farmers responded to these initiatives? MP, TATP, HPC, HMO, HRSP, HEP, F

Question 3 assesses the pre-existing data base. If there is a reliable body of data, the time needed for a description of the farming system and a diagnosis of farmer constraints may be shortened. The existence of a set of cropping guidelines can provide project researchers with a starting point for technology testing and redesigning. The presence of these attributes can accelerate the descriptive/diagnostic phase. Questions 4, 5, 6 and 7 try to ascertain the breadth of host country experience with agricultural research and the types of development activities in which the target area farmers have participated.

If a country has had a long history of agricultural research and prior experience in FSR, project implementation and linkages can be greatly facilitated, as was the case in the Botswana project. Likewise, past negative experiences of target area farmers with development projects can hinder project implementation. A string of project failures could discourage farmers from participating in project activities, particularly when benefits are uncertain and not immediately apparent. This is particularly true for projects involving a livestock component. Farmers may be understandably reluctant to experiment with livestock management, given the magnitude of their capital investment. This reluctance can be magnified if they have had negative experiences with past

development projects.

Host Country Perceptions and Personnel Orientation-Key Questions

Host country perceptions of FSR and prior orientation of the technical assistance team are important determinants of potential for project success. These issues are addressed in the following questions:

8) How is FSR viewed by diverse members of the research and extension services? TATP, HPC, HRSP, HEP
9) How familiar was the project staff with past research efforts? MP, TATP
10) What role did mission personnel play in project team orientation? MP, TATP

Question 8 explores the opinions of research and extension personnel with regard to FSR. If FSR is perceived as an inferior, "unscientific" methodology by a majority of host country researchers, prospects for the institutionalization of the project methodology and activities may be severely proscribed. Questions 9 and 10 describe project team orientation. Familiarity with past research successes and failures can often provide guidance when planning implementation strategies. The role of mission personnel is especially important in project team orientation. The

provision of logistics support, background briefing and the introduction of project team members to host country officials can greatly aide project start-up (see Lesotho mid-term evaluation).

Characteristics of Project Design

The main objective measure against which a project is compared is the project paper. Consequently, it is important to assess the adequacy of this "ex-ante" prediction of probable impact to determine to what extent it should serve as a yardstick against which implementation should be judged. The following questions are intended to explore these issues.

11) How realistic and suitable was the project purpose and the measurements of achievement as stated in the project paper? TATP, HPC, MP
12) How specific was the project paper with regard to implementation plans? TATP
13) Is (was) the project time-frame of sufficient duration to determine the probability of success or failure? TATP, HPC

Questions 11, 12 and 13 seek to determine the relevance of project paper objectives and the guidance offered therein. Although the project paper provides only preliminary

objectives and guidelines, the absence of an implementation plan can retard the initiation of project activities. Despite the fact that the project paper is not "written in stone" a brief assessment of the relevance of the project paper can provide valuable feedback into the design process. In addition, if the evaluation scope of work demands a comparison of project outputs with the measures of achievement contained in the project paper, the relevance and feasibility of those measures must be assessed at the outset. This is particularly true because there exists institutional incentives to exaggerate probable impact to insure project approval.

5.3 TARGET GROUP ORIENTATION

Target areas or recommendation domaines (see Shaner, Philipp, Schmehl, 1982, p.44 for the distinctions) are locations where field research activities will take place. These areas are designated based on the agro-climatic environment and the homogeneity of farmers with respect to cropping and animal husbandry practices, resource endowment, access to markets and ethnic affiliation (Shaner, Philipp, Schmehl, 1982). Relative homogeneity is necessary to insure that technology developed at one site may be transfered to others within the target area and to similar locations beyond the specific research target area. The questions which follow are to determine the rationale for target area selection.

Target Area Selection-Key Questions

Comprehensions of the reasons underpinning target area selection is crucial to an appreciation of farmer motivations concerning adoption of proposed technologies.

14) How was the target area chosen? Who was involved in the decision making process? TATP, HPC, HMO

15) What criteria were used in the selection of the target

area? TATP, HPC, HMO

It is very important to understand how and why a target area was selected because the choice of target area obviously effects prospects for project success. The selection process also indicates the degree to which the project collaborates with other institutions.

5.4 THE DESCRIPTIVE AND DIAGNOSTIC PHASE

The objective of this phase is to gain a thorough knowledge of the farming system within the target area, through the use of site visits , informal interviews and structured surveys to better understand the constraints facing small farmers. Opinions vary with respect to the amount of baseline data needed. Some practicioners believe that extensive surveys are necessary while others advocate the use of a more rapid appraisal (Gilbert, Norman, Winch, 1980). The choice of methodology and scope of data have important implications for constraint identification and research efficiency.

Data Collection Methodologies and Constraint Identification-Key Questions

Clearly, data collection methodologies and analyses determine the accuracy of constraint identification yet,

typically, evaluations do not discuss these issues in detail. These questions address these issues.

16) What types of data were collected? How were they collected? What contributions did the data make to constraint identification? TATP, HPC
17) What were the major constraints identified? TATP, HPC
18) How were interviewees chosen? TATP, HPC

There are almost as many methods of FSR data collection as there are instiutional practioners. Documenting data collection methodology and relating it to project needs and objectives allows for cross-project comparisons which might lead to conclusions regarding prefered methodology. FSR has been criticized for not being cost effective. A review of approaches could point toward techniques which are less costly in terms of time and money. but not less effective.

Labor Patterns and Community Decision Making-Key Questions

It is essential to assess project activities in the context of established agricultural practices to fully understand the proposed changes. The following questions provide needed background information.

19) What is the seasonal breakdown of agricultural activities during the year? TATP, HPC, F

20) Are there labor bottlenecks during the cropping cycle? If so, what impact does the proposed technology have on those bottlenecks? TATP, HPC, F

21) How are community wide decisions reached in the village- by general consensus, by a select group of elders or by a few powerful individuals? TATP, HPC, HEP, F

Questions 19 and 20 are informational in nature and help those not directly involved in the project better understand project activities, facilitating the identification of common constraints in USAID's portfolio of FSR projects. Question 21 addresses the community power structure. It is necessary to recognize the dynamics of community-wide decision making because it effects both the selection of farmers to participate in on-farm tests and methods of technology diffusion. In a target area where substantial influence resides in a few individuals, their inclusion in and understanding and endorsement of the tests can greatly impact farmer perceptions and involvement in research activities and eventual diffusion. This knowledge is important when assessing on-farm research activities.

5.5 THE DESIGN OF RESEARCH

Initial research priorities should evolve after the completion of the descriptive/diagnostic phase. The design

of research involves the identification of opportunities to relieve perceived constraints. If no "likely solutions" are evident, it will be necessary to initiate applied research trials at the experiment station. On the other hand, it is often possible to design interventions for farmer field testing,based on an assessment of prior local research results.

In the four projects reviewed, scant information was available concerning the specifics of research design. In some cases, research strategies were not evident ie. was research geared to increasing production, quality resistance to biological or physical pests or storability? The questions which follow try to illuminate key aspects of the design process so that results from testing can be understood and linked with critical elements of the preceeding stage. This linkage is necessary if one is to understand the underlying reasons behind success or failure of the tests and farmers'ultimate response to reccomendations proposed.

Characteristics of the Research Design-Key Questions

The technologies which are ultimately proposed are determined by results achieved in the design phase. To assess the potential for widespread adoption, it is necessary to understand the process by which the

recommendations were developed.

22) What were the technologies being tested? How were the research priorities established? TATP, HPC

23) How were farmer practices duplicated at the research station? TATP, HPC

24) Does the proposed technology require additional farmer or government inputs ie. money. provision of fertilizer, machinery etc.and are these inputs within the capacity of farmers to acquire ? TATP

Farming systems research is a generic term for an approach to applied research. Technologies developed within the FSR framework run the gamut from ones which require no additional physical inputs but only simple changes in management practices, ie. earlier planting, to ones which involve substantial additional inputs or significant changes in management. The magnitude of these changes is defined by the extent to which farmer practices are duplicated during the design stage. Technologies developed which correspond closely to farmer practices may have a better chance of bearing fruit but the potential payoffs are probably less significant than with a package of complementary innovations (Collinson, 1982). The framework in which technologies are developed provides information as to the complexity of the technology transfer. Questions 23 and 24 address these

issues.

Research Relevance and Feedback-Key Questions

The following questions treat research activities within the context of the whole farming system, look at the role which the farmer played in the design process and assess the adequacy of research direction, as outlined in the project paper.

25) How do research activities fit into the holistic orientation of FSR? TATP, HPC
26) What were the major design problems in the project paper, as identified by the project staff? How were these addressed? TATP
27) How was feedback from researchers, extension agents and farmers solicited in the project design? TATP, HPC, F

Question 25 relates to the effects of the proposed technology on the larger farming system. It is aimed at determining the impact of the innovation on farmer decision making. Question 26 addresses the extent and adequacy of guidelines contained in the project paper. Although the document is only provisional, a well conceived project paper can have a determinant effect on project success, as was the case in the Botswana project. Question 27 attempts to determine the involvement of farmers and field personnel in

technology design. Inappropriate research designs can often be identified early, through consultation with research, extension farmers concerning the proposed innovation. Innovations may be inappropriate for cultural, economic or agronomic reasons. Screening during the descriptive/diagnostic phase may not be complete. For this reason, feedback from research, extension farmers during research design can prove invaluable.

5.6 TESTING

Testing is founded on knowledge acquired in the descriptive phase and experiments conducted in the design stage. The description of test procedures and analyses of results in the four project evaluations were insufficient to permit comparison. The role of the farmer in technology testing was virtually ignored. The following questions try to highlight important elements of this stage.

Farmer and Field Selection

The choice of farmers and fields for participation in testing has a crucial effect on forthcoming research results. The selection process should be clearly outlined by the evaluators.

28) What were the improved practices being tested? TATP

29) How were research participants chosen? TATP, F

30) How were the fields selected? TATP, HPC, F

Questions 28, 29 and 30 address the manner in which farmers fields were selected. There is a variety of opinion concerning selection criteria. Conducting on-farm testing, using only progressive farmers, holds the possibility for greater cooperation and results but can distort perceptions of the technology's potential and exclude the needs of the poorest farmers. Conversely, the selection of representative farmers may provide a clearer picture of overall potential but can complicate testing and does not show what could be done, given improved management practices (Collinson, 1982). It is important for the evaluator to understand the power structure in the target areas because it can dictate farmer selection. In an area where a few respected individuals have substantial influence on farmer decision making, the selection of those individuals for participation in on-farm testing may prove crucial if the technology is latter diffused. Obviously, the composition of participants and choice of fields have major impacts on testing results. The selection process and rationale behind it should therefore be clearly stated.

Implementation of Tests-Key Questions

These questions address basic issues pertaining to the

implementation of field testing. Often, the specifics of testing are not covered in evaluations despite the evident importance of this information.

31) Did farmers understand the goals of the tests? What measures did the team take to insure understanding? TATP, F
32) What changes in management, labor or capital were required to implement the technology?
33) Did the testing involve substantial inconviences for the farmer? If so, what were they? F, TATP, HEP

Every development project, regardless of its nature, must establish, early on, credibility with its intended beneficiaries. This is particularly true for FSR projects where benefits are not immediate. Intensive project activity in target areas invariably heightens villager expectations of immediate, tangible results. This leads to discouragement and dissatisfaction when those results are not forthcoming (see the Lesotho evaluation). According to the USAID funded study (Crawford, 1982) less than 15% of the evaluated projects containing an on-farm testing component, mentioned on-farm implementation problems. The Botswana evaluation stated that relations with farmers were excellent but didn't say why. Two years of no-harvest research trials can dampen enthusiasm for participation in the testing phase. Because the farmer-researcher relationship was evidently good, it is

important to know how the issue of project credibility was dealt with. Farmers must clearly understand the purpose of project activities if credibility is to be established. Question 31 addresses this issue.

Questions 32 and 33 deal with the magnitude of changes embodied in the tested technology and inconveniences resulting from participation in testing activities. If testing procedures excessively disrupt normal farmer activities, the participant may not devote as much time for cultivation of test fields as he ordinarily might. This obviously effects test results.

Monitoring of Plots-Key Questions

It is essential for the evaluator to understand the monitoring procedures used in field testing because they can provide valuable insight into the reasons underpinning adoption. Close monitoring of tests will allow for further refinement of the methodology before diffusion.

34) How often did the project team and/or extension service visit the research plots? TATP, HEP, F

35) How were the farmers' tests monitored? TATP, HEP, F

Questions 34 and 35 treat the monitoring of on-farm testing. The involvement of extension personnel in the monitoring of

the tests can greatly enhance effective diffusion. Extension agents can familiarize themselves with the technology and provide recommendations and insights based on past experience. The lack of participation can diminish enthusiasm needed to diffuse a proven technology. Monitoring may involve simple observation of the technology during the cropping cycle or it may entail interviews with farmers concerning impressions about the tested innovation. This information can significantly contribute to better understanding the reasons for adoption or non-adoption.

Incentives and Guarantees-Key Questions

If farmers are to participate in field research, incentives and guarantees against risk often must be provided. These questions focus on the nature of incentives and guarantees.

36) Were incentives used to promote cooperation among farmers? If so, what were they? TATP, F

37) Were there guarantees against farmer risk? TATP, F

Questions 36 and 37 concern incentives and insurance for participating farmers. Incentives may guarantee participation but farmers may be more interested in gaining those incentives than in conducting tests in the prescribed manner. On the other hand, the absence of insurance against farmer risk can discourage participation in the testing

phase. These basic implementation issues were not discussed in the four evaluations.

Methodology and Analysis-Key Questions

These questions cover central issues related to data collection and analysis techniques and help the evaluator better understand the research process which was employed.

38) Were control plots used in the tests? TATP, F

39) What was the testing methodology? How many trials and replications were performed? What were the yield increases/decreases? TATP

40) Were results achieved under typical biological and physical conditions ie. rainfall, temmperature, insects? TATP, F

41) What types of analyses were conducted on test result data? Were the data of sufficient quality and quantity to accurately assess the innovation? Were data analyzed in a timely fashion? TATP

Questions 38, 39,40 and 41 discuss general testing methodology. With the exception of the Gambian evaluation, little was said about field testing methodology. This data can prove very useful to project design and implementation teams by accumulating a body of knowledge from which lessons can be drawn.

Farmer Involvement and Implementation Problems-Key Questions

The following questions are intended to highlight farmer involvement in on-farm testing and discuss problems encountered in the implementation of on-farm tests.

42) What was the role of the farmer in the implementation and evaluation of the tests? F, TATP

43) What were the problems encountered in conducting on-farm research? TATP

Question 42 addresses farmer involvement in the tests. Despite the fact that the farmer is the intended beneficiary, his/her role in the testing phase is rarely discussed (Crawford, 1982). The extent of farmer involvement in testing can be a critical factor in the decision to adopt the proposed technology. Question 43 attempts to summarize problems encountered during the testing phase. Cross-project comparisons could identify a set of issues and possible solutions to the problems typically confronted.

5.7 DIFFUSION

During the diffusion stage, promising technologies, confirmed in the testing phase, are disseminated, often to specific pilot areas. The national extension service assumes

the major role in extending the technology to new areas (Shaner, Philipp, Schmehl, 1982). Obviously, if the technologies are not diffused, the project impact can be but minimal. Extension services are beset by common problems, chiefly, inadequate budgets, a shortage of human capital and poor relations with host country research establishments. Farming systems research projects can have only a limited impact on these problems. The diffusion of technologies face many constraints. For this reason, learning more about what happened and why can contribute to improved project design. (This section may not be relevant for mid-term evaluations as technologies are rarely diffused at mid-term.)

Factors Influencing Adoption-Key Questions

These questions assess the adoption of proposed technologies and factors which aided or impeded adoption.

44) How was the adoption of the technology assessed? How was this determined? TATP, HPC, HEP, F

45) What were the farmers' reasons for non-adoption? TATP, HPC, HEP, F

46) What were the socio-cultural factors which aided or impeded adoption? TATP, HPC, HEP, F

47) Were existing price incentives to farmers adequate to encourage adopting the research generated technology? TATP, F, HEP

48) Were influential farmers and local organizations used to encourage adoption? If yes, how? TATP, F, HEP

The ultimate indicators of success for FSR projects are the adoption rate and the sustainability of project activities. Questions from the preceeding sections should help the evaluator better understand factors effecting the adoption rate. Questions 46 and 47 address socio-cultural and economic issues which may have effected rates of adoption. Farmers do not base their decisions regarding adoption soley on agronomic considerations. Government pricing policies and cultural norms substantially influence farmer behavior. These issues must be assessed by the evaluation team. Question 48 tries to determine if the help of local organizations and elites was solicited. In traditional, hierarchical societies, their endorsement of a new innovation can prove critical for adoption.

Techniques and Capacities for Diffusion-Key Questions

The following questions treat methods of diffusion and the capacity for cooperation between the research and extension services.

49) What is the published project output? Who receives copies of published reports? TATP

50) Were any media used to disseminate the technologies. If

so, how? TATP, HPC, F, HMO

51) Were there adequate linkages between research and extension to effectively disseminate the technology(ies)? TATP, HRSP, HEP

Questions 49 and 50 pertain to the manner in which test results and technologies were diffused. A project can only be institutionalized if members of the host country research and extension organizations are aware of and involved in project activities. In consequence, the extent to which research findings are disseminated can give an indication of efforts by the project team to inform collegues of project progress. Question 51 addresses the key issue of research-extension cooperation. Documentation of problems and project team efforts to improve this relationship can help in the design of strategies which minimize sources of potential conflict.

5.8 INTERDISCIPLINARY CHARACTERISTICS

Farming Systems Research methodology stresses the need for interdisciplinary cooperation. A frequent criticism of commodity based research is that it has often failed to approach problem solving from an interdisciplinary perspective (Crawford, 1982). Problems facing farmers are not segmented along disciplinary lines, consequently, FSR attaches great importance to interdisciplinary cooperation during all phases of project implementation.

52) How was interdisciplinary research conducted at each stage of the research process? TATP, HPC

53) What factors helped or hindered the implementation of an interdisciplinary approach? TATP, HPC

Interdisciplinary cooperation is necessary at all stages of the research process. Question 52 seeks to determine the nature of cooperation during the various stages. Question 53 should highlight factors which affect the implementation of an interdisciplinary approach.

5.9 INSTITUTIONAL LINKAGES/SUPPORT

Development projects do not operate in a vacuum. If a

project is to be successful, it must receive support from concerned host country agencies and USAID mission personnel. If activities are to be sustained after the project completion date, those activities must be institutionalized within the host country research strategy. This can only occur if prior linkages have been established with host country policy makers, research scientists and extension personnel, both at the national and local level. The questions which follow address government support and linkage with other agencies.

Integration and Cooperation-Key Questions

The following questions deal with the integration of the project within the host country bureaucracy and the nature of cooperation with other external entities.

54) Was the project set up as a separate entity or was it integrated into a ministry? TATP

55) How were commodity and disciplinary agricultural research programs involved in project activities? TATP, HMO, HRSP

56) What is the nature, if any, of cooperation with other on-going projects? TATP

Question 55 assesses the extent of cooperation between the project personnel, research station personnel and ministry

officials. Sustainability can only be achieved through linkages between the three groups. Development projects can benefit from consultation and cooperation with other on-going projects. Relevant baseline data may be shared and common problems discussed. Evaluation teams should look at opportunities for cooperation, where they exist.

Role of the Extension Service

The participation of the extension service in all phases of project implementation can prove critical to project success. An understanding of their role is essential.

57) What type of relationship exists between the research and extension services? TATP, HMO, HPC, HEP, HRSP

58) What was the role of the extension service in: identifying the target area, establishing contact with farmers, helping researchers become familiar with the local area, helping with farmer selection surveys, monitoring and feedback? TATP, HPC, HEP

Question 57 addresses the relationship between the research and extension services. Although the ability of the project team to favorably influence that relationship is limited, it is nevertheless a decisive factor in project success and must be considered during the evaluation process.

The extension service plays the major role in the diffusion of technologies. It can also provide crucial input into the descriptive, design and testing phases. Question 58 assesses the involvement of the extension service in project activites.

Host Country Inputs-Key Questions

A well designed and implemented project can fail if anticipated support is not forthcoming from host country agencies. This issue is addressed in the following questions.

59) Did the host country government furnish agreed upon services? If not, how did this effect project success? TATP

60) What changes are necessary to improve project success? TATP

Questions 59 and 60 address the provision of host country contributions and the identification of major constraints posed by external institutions.

5.10 IMPLEMENTATION ISSUES

The following questions are applicable to all development projects. Many of these questions were included in the four evaluations which were reviewed, but often the information

was difficult to locate and not clearly presented.

Interpretation of Purpose and Establishment of Credibility-

Key Questions

The questions which follow deal with the extent of agreement as to project purpose and the establishment of project credibility.

61) Is there agreement among project team, administrators and extension personnel as to project purpose? If not, what are the conflicting interpretations? How might these be resolved? TATP, MP, HMO, HEP

62) Was the establishment of project credibility ever an issue? If so, how was it handled? TATP, HMO, HEP, HRSP

Question 61 addresses the degree of consensus regarding project purpose and direction among those involved in project activities. If there is substantial disagreement, project credibility at the bureaucratic level can be threatened and the potential for institutionalization curtailed. Credibility must be established with target area farmers, the extension and research services and policy makers at the ministry level. Each participant identifies different factors which contribute to credibility. Clearly, a bureaucrat requires consensus, if he is to support the project. This issue is treated in Question 62.

Cooperation and Financial Administration-Key Questions

Cooperation among project participants with regard to both research implementation and financial administration is essential for project success. The following questions address these issues.

63) Did mission personnel, project members and host country officials enjoy a cooperative working relationship? TATP,MP, HPC, HMO, HEP

64) Were there problems with financial administration and auditing? TATP, HMO, HPC

Questions 63 and 64 assess financial and personnel management. Cooperative relationships are particularly important in projects containing an institution-building component.

Inputs and Staffing-Key Questions

The availability of inputs and the qualifications of project staff have a determinant impact on project success. These issues are assessed in the proceeding questions.

65) Were there exceptional difficulties in the provision of inputs? If so, what were they? TATP

66) Were there delays in fielding expatriate technical

personnel? TATP

67) Was there extensive turnover in host country personnel? If so, what impact did this have on the project? TATP

68) Was the performance of the contractor in supporting its field team adequate? TATP, MP

69) How were short term consultants used? TATP, HPC

70) Did the host country provide adequately trained counterparts. If not, what were the major deficiencies? TATP

Questions 65 through 70 address the provision of inputs and require no explanation. The training of host country personnel is a major input of institution-building projects. Effective on-the-job training is critical if the project is to be sustained after the project completion date. The evaluation team should describe the nature of on-the-job training and identify opportunities for improvement.

Training, Publishing and Recurrent Costs

The following questions address the adequacy of training, opportunities for publishing by host country researchers and the magnitude of projected recurrent costs.

71) What was the nature of on-the-job and overseas training for host country counterparts? How might this be improved? TATP, HPC

72) Were opportunities for publishing extended to host country personnel? TATP, HPC, HRSP

73) Does the host country have the apparent ability to cover the recurrent costs of project implementation? What is the mission's policy regarding funding after the project completion date? TATP, MP

Opportunities for professional recognition are fewer in applied, interdisciplinary research, than in commodity or disciplinary research, particularly in those countries which have emphasized the latter. To encourage involvement of host country research station scientists in the project, possibilities of joint authorship of articles treating project-related issues should be explored. Question 72 looks at this issue. The final question deals with the magnitude, ability and willingness of the host country to assume recurrent costs. This issue was not treated in the four evaluations but is clearly of central importance if the project is to be sustained.

CHAPTER 6

SUMMARY AND CONCLUSIONS

This paper has attempted to elucidate deficiencies in USAID's evaluation of Farming Systems Research projects and has proposed a set of questions to be addressed by the evaluation team, aimed at improving present and future project design and implementation through a better understanding of what happened during the life of the project and why. The paper discusses the reasons for evaluation, identifies the composition and needs of the evaluation "stakeholders" and highlights specific problems relating to the evaluation of agricultural research projects in general, and FSR projects, in specific. Evaluation Research and its applicability to agricultural research projects is then briefly discussed. Evaluation policy within the Agency is described, the conclusions of a study of Agency funded agricultural research projects are aired and the comparison of four mid-term FSR project evaluations is undertaken. A set of questions covering key issues for evaluation is then proposed.

A review of Crawford's study (1982) and the evaluations of FSR projects in Gambia, Lesotho, Botswana and Malawi indicate that project evaluations are of little use to program and project designers because they lack sufficient

description of project environment and activities, do not address key implementation and institutionalization issues and often do not present the facts and analyses in a clear and accesible format.

The Agency's evaluation process is extremely decentralized. The project manager, within the individual mission, is responsible for developing the scope of work which specifies the questions and issues to be addressed by the evaluation team. While the project manager is familiar with the major implementation issues confronting the project, he may not have sufficient knowledge of FSR methodology to develop a scope of work which addresses all of the key issues relevant to improving project implementation. A review of several scopes of work supports the hypothesis that spacious and non-specific scopes of work give rise to evaluation reports which often ignore crucial implementation issues. While each FSR project is unique, the methodologies employed in each project are sufficiently similiar to allow the creation of a generic set of issues to be addressed by teams evaluating FSR projects. This set of issues, embodied in the questions developed in this study, can serve as a foundation upon which individualized scopes of work are constructed. The incorporation of these questions within scopes of work should improve the Agency's capacity to learn what happened and why. This standardized format would permit cross-project

comparisions of specific issues and facilitate inputting of information into the Agency's data bases.

According to a recent USAID study entitled, "Plan for Supporting Agricultural Research and Faculties of Agriculture in Africa" (1985), the Agency plans to concentrate on funding commodity and disciplinary agricultural research projects rather than projects which focus on applied research. Dissatisfaction with FSR projects appears to be growing within the Agency. The methodology is threatened with a premature demise. If it is to be sustained, those involved in project design and implementation must learn from past experiences. This can only be achieved by expanding the knowledge base through the identification of a specific and comprehensive set of issues to be investigated by project evaluation teams.

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