

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

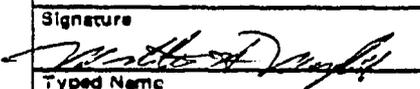
1. PROJECT TITLE CIMMYT Farming Systems Research	2. PROJECT NUMBER 698-0444	3. MISSION/AID/W OFFICE AFR/RA
4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>698-84- 01</u>		
<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		

5. KEY PROJECT IMPLEMENTATION DATES A. First PRO-AG or Equivalent FY <u>82</u> B. Final Obligation Expected FY <u>82</u> C. Final Input Delivery FY <u>85</u>	6. ESTIMATED PROJECT FUNDING A. Total \$ <u>1,213</u> B. U.S. \$ <u>1,213</u>	7. PERIOD COVERED BY EVALUATION From (month/yr.) <u>May 1982</u> To (month/yr.) <u>October 83</u> Date of Evaluation Review <u>October 83</u>
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B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Continue submission of quarterly financial reports and semi-annual narrative progress reports as scheduled	B. Wyckoff AFR/RA A. Armstrong AFR/REDSO/ESA	Continuous
2. REDSO/ESA and CIMMYT continue implementing networking activities.	A. Armstrong & CIMMYT	June 1984
3. Expand circulation of CIMMYT Newsletter; include more field reporting	A. Armstrong & CIMMYT	July 1984

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS <input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T <input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P <input checked="" type="checkbox"/> Other (Specify) <u>No Cost LOP GRANT AMEND.</u> <input type="checkbox"/> Other (Specify) _____	10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT A. <input checked="" type="checkbox"/> Continue Project Without Change B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project
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11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles) AFR/RA: Arian McSwain, Project Officer REDSO/ESA: A. Armstrong	12. Mission/AID/W Office Director Approval Signature  Typed Name William H. Naylor Date
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PROJECT EVALUATION - No.698-8401

SUMMARY - PART II.

13. SUMMARY - The Evaluation Report (McDermott, 10/83; attachment A) and opinions expressed by field personnel from USAID missions and farming systems research(FSR) professionals were highly supportive of the project. McDermott reported that "it was a wise decision to make the grant in the first place, and there is considerably more evidence to justify [its] extension ..." Training, networking, and institutionalization of on-farm research are needed and this project is doing these. In-country training has been meeting its objectives, though in some cases was delayed by program and policy changes within African governments. Future training activities are increasing in number and scope. Networking has resulted in collaboration between CIMMYT, the University of Florida Farming Systems Support Project (FSSP), and U.S. universities. REDSO/ESA and CIMMYT should continue to develop a networking strategy that includes administrators and FSR scientists. CIMMYT should continue its Newsletter, expand its circulation to scientists peripherally related to FSR projects, and increase the level of field reporting.

Assistance with on-farm research has occurred as practical problem-solving exercises within the training curriculum.

The scheduled submission of project quarterly financial and semi-annual progress reports had been a problem. These are now being submitted on time to REDSO/ESA and the RFMC/Nairobi. REDSO/ESA should continue to forward these reports to AFR/RA as scheduled in the project to ensure proper management.

Due to a slow start-up, funds obligated are sufficient to carry this project forward through December 1984, i.e., seven months beyond the original May 31, 1984 PACD. REDSO/ESA needs to execute a no-cost life-of-project extension in May 1984.

14. EVALUATION METHODOLOGY - A midterm evaluation was completed in October 1983. This evaluation was conducted by Dr. J. K. McDermott of the University of Florida, and was based on interviews with host country officials, USAID and REDSO/ESA officers, and U. S. contractors. Kenya, Swaziland, Lesotho, Zimbabwe and Malawi were visited during the course of the evaluation. CIMMYT participated in the evaluation, providing two persons; REDSO/ESA assisted with one. See 83 STATE 279487 (attachment B) for the detailed scope of work.

15. EXTERNAL FACTORS - During the period covered by the evaluation, Zambia and Malawi reorganized their research systems. This reorganization has contributed to the accomplishment of the project goal, since FSR now receives greater emphasis in agricultural research. There were apparently no other external factors impacting the project, and assumptions continue to be valid.

17. OUTPUT - In-country training was behind schedule, but the delay was not significant, and was not the fault of CIMMYT. The Ministry of Agriculture for Malawi was unable to finish its reorganization in time to utilize CIMMYT training, but this is being remedied.

18. PURPOSE - The project purpose is to assist CIMMYT in the implementation of a project to strengthen farming systems research in Eastern and Southern Africa. The project is expected to provide networking between cooperating national programs, training, assistance with on-farm research in nine countries, and begin to institutionalize the FSR process.

Significant achievements in training and networking have been made even though the project has several months to completion. EOPS conditions remain valid.

19. GOAL/SUBGOAL - The goal is to strengthen national agricultural research in Eastern and Southern Africa; to make research more responsive to the needs of African smallholders through farming systems research methodology. Malawi and Zambia research programs have benefited from early contributions from the project (page 4, no. 5, of attachment A).

20. BENEFICIARIES - Direct beneficiaries of this project are the various country participants in the training workshops and administrators seminars. Indirect beneficiaries will be smallholders who receive improved technology in a form useable by them, thus increasing farm productivity. Full implementation of this project did not begin until January 1983. Therefore, the main beneficiaries to date have been trainees who have a better understanding of the on-farm perspective to agricultural research.

21. UNPLANNED EFFECTS - An unplanned and positive effect has been the reorganization of Malawian and Zambian agricultural research systems to include on-farm research in support of commodity research at experiment stations. The documentation for this is difficult to obtain, but this appears to be a project cause and country effect relationship.

Demand for training exceeds CIMMYT staff capacity.

22. LESSONS LEARNED - It is too early to draw conclusions on the CIMMYT strategy. However, the training of participants under actual field conditions by experienced FSR trainers has resulted in more knowledgeable FSR scientists, who are cooperating in a regional network.

23. SPECIAL COMMENTS OR REMARKS - None.

Attachments: (A) "CIMMYT East Africa Economics Grant Project: Evaluation Report", J.K. McDermott, October 1983;
(B) 83 STATE 279487.

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35/57

CIMMYT East Africa Economics

Grand Project 698-0444

EVALUATION REPORT

October 1983

J. K. McDermott
Farming Systems Support Project
University of Florida

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CIMMYT East Africa: Farming Systems Research (FSR)
Project 698-0444

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EXECUTIVE SUMMARY
EVALUATION REPORT
CIMMYT EAST AFRICA ECONOMICS

GRANT PROJECT 698-0444

October 1983

A) INTRODUCTION:

1. This evaluation is being conducted after a scarce 10 months of operation. Grant was authorized in mid 1982 and personnel were on board in January of 1983, a normal staffing interval.

2. The grant was made on the basis of a CIMMYT program in East Africa dating from 1976. The CIMMYT system has been in evolution since the early 1970's and the East Africa program has benefitted from and contributed to the CIMMYT worldwide experience. Some outputs of the AID grant project have stemmed from the decade of experience worldwide, but it is virtually impossible to make attribution. Fortunately, it is not necessary.

3. This evaluation has been based largely on judgements of Host Country officials, USAID officers and U.S. university contractors, and on information they supplied. In addition, some documents have also been studied. Four countries were visited specifically for this review: Swaziland, Lesotho, Zimbabwe, and Malawi. In addition, an evaluation of the Zambia bilateral project provided input.

While one person is responsible for the report, Bob Armstrong of REDSO participated in every interview and was extremely helpful both in generating insights and judgements and in reacting to tentative conclusions and recommendations. As provided in the grant agreement, CIMMYT participated in the evaluation in the persons of Allan Low and

Donald Winkmann, who divided the country visitations. Michael Collinson and P. Anandajayasekeram spent a day in Nairobi reporting and explaining the year's work.

B) PROJECT DESCRIPTION:

The project has four components:

1. Perhaps most visible and resource consuming is the comprehensive in-country training which covers the complete FSR process in a series of training sessions over a 15 month period. The grant called for two of these a year. This training is a mixture of classroom work and practice, the practice being participation in a real live ongoing program.

One program is well more than half finished in Zambia and one has been initiated in Malawi. Tanzania, Kenya, and Sudan, are viable candidates for the in-country training.

2. The second component is direct assistance which is, to a large extent, training; but is not in the comprehensive format. A series of exploratory meetings in most of the nine countries and consultations on special problems, including research organization, are other direct assistance activities.

3. The third component is net working which has four activities:

a) Administrator seminar, planned to be recurring once a year. CIMMYT is contemplating holding one every 15-18 months, because of the number of meetings the directors attend. One has been held.

b) Technical workshops planned for two a year (or two per administrator seminar). They are on discrete topics. These are on substantive problems and bring FSR experts together with conventional researchers. One on animal traction has been held.

c) The third activity is inter-country visits. CIMMYT finances travel, but initiative must come from recipients.

d) The Newsletter is the fourth activity. It is published quarterly.

4. The fourth component is institutionalization. Grant agreement expressed the expectation that little in this area would be accomplished in two years.

5. It is not a component in the grant, but the regional training workshop is highly relevant to the grant. This is a two session training program for individuals from countries who are not prepared for comprehensive in-country training. At one time this was held in Nairobi. The 1985 courses were held at the University of Zimbabwe. This is highly relevant to AID's needs, and use of grant funds for this course can easily be justified if other CYMMIT funding is not adequate.

C) EVALUATION

1. This has been an exceptionally useful project. It takes advantage of the considerable capital that CIMMYT has generated in East Africa. Its design attends to both short-run needs (through training) and long-run needs through net working. It was a wise decision to make the grant in the first place, and there is considerably more evidence to justify extension of the program.

2. In-country training could be judged to be behind schedule, but in my judgement, such delay is not significant. In-country training depends on countries getting their situation prepared for this training. Not all variables are under CIMMYT control. The Malawi program could have been underway by CIMMYT criteria, but Malawi had to get its own situation in order.

3. Net working is highly appreciated, especially by the smaller countries who must depend on external sources for much of their technology input. One Mission Director volunteered the judgement that the value of net working alone justified the cost of the project.

4. Relationship between CIMMYT and the U.S. university contract teams have been extraordinary. In Swaziland, the Pennsylvania State University team feels that having access to CIMMYT's system and experience in East Africa saved up to a year's time and helped the team to coalesce. Adaptations have been made to the CIMMYT model, but the systematic start has been greatly appreciated. Both Zambia and Malawi have re-organized their research system. Both rely on a U.S. university to help implement the re-organization. In both cases, the rapport between the FSR leader of the contractor and CIMMYT has been excellent.

5. CIMMYT has made substantial contribution to the re-organization of the Zambia and Malawi research systems. FSR is to play a significant role in the new organization. The decision to give FSR this role, and the counsel on how to integrate it into the system, resulted from CIMMYT's reputation and credibility. The AID grant makes possible the comprehensive training essential to adequate performance of the new organization. We do not know the extent to which CIMMYT's ability to provide training entered into either of the decisions. It is clear that the ability to provide the training improves chances for success.

6. CIMMYT's contribution in institutionalism in the first year has been substantial, even though none was anticipated. The Zambia and Malawi re-organizations are classical CIMMYT. The evidence is not as powerful, but the administrators seminar is also helpful. No one

we talked to gave CIMMYT credit for calling attention to the fact that research was not quite relevant for the smallscale farmer. This they recognized. They do give CIMMYT credit for helping them see what to do about it. The Sawziland director would not allow Penn State University to do on-farm research until after the administrators seminar. We did not establish cause and effect, but the chronology suggests such a relation.

7. CIMMYT was criticized for the neglect of livestock, its own lack of agronomists in the program and for not integrating extension adequately. These have different dimensions.

Agronomy input, perhaps not adequate, is not lacking. There is agronomic talent locally, and CIMMYT's great contribution is economics. In Zambia training agronomists from CIMMYT/Mexico were available as they were in the University of Zimbabwe regional course. Still, as CIMMYT gives relatively more emphasis on on-farm research, its need for agronomists becomes more evident. Partly this is because of the substantive need, but it is also needed to help national systems agronomists to adjust to FSR.

CIMMYT does not neglect livestock to the degree that not having a livestock person may indicate. The CIMMYT system can turn up livestock problems. One of the most serious livestock problems is fodder and grass fed, both of which are addressed by the CIMMYT approach. Finally, there was some tendency to look to FSR to solve problems associated with large scale communal grazing. That problem lies outside the farming system being addressed by CIMMYT.

B. CIMMYT is fully aware of the need to link extension and research. The system makes a point to keep extension fully informed and to involve extension. However, the system does not adequately

integrate extension personnel. It is my judgement that the potential for extension participation is considerably greater and that extension needs to define its own interest in the process. This problem needs serious attention, and in the course of CIMMYT program evolution it will likely be attended. FSSP is also interested and can collaborate.

9. The University of Zimbabwe and Edgerton College are putting FSR into their farm management academic programs. Discussions during this evaluation indicated the feasibility of putting FSR into extension courses which are offered by many Universities.

D. RECOMMENDATIONS:

1. Continue the grant.

The basis for the decision on the current grant has been proved correct. There is now more justification for extending the grant than there was for making it in the first place.

2. Continue the project under current administrative arrangements. AID-CIMMYT relationships seem to be almost ideal as currently arranged. Much more information is available now than was available early in the grant when the alternative of placing the grant under the FSSP was considered. It now seems clear that almost nothing would be gained by such action. There is a real risk that much could be lost through a complication of administration.

3. Provide funding for expansion to enable CIMMYT to put at least one agronomist in the program. There is justification for even more expansion but some strategizing needs to be done on the manner in which it is implemented.

4. Make a commitment to CIMMYT to provide a five-year planning horizon so that CIMMYT itself has some security of expectation and can, in turn, give its clients or cooperators some security.

5. Work on integrating extension into the FSR concept. REDSO has a call on FSSP, which is also interested in this task. Missions need to make modest investments of the right nature in extension. Currently, donors are either ignoring extension or are making the wrong investment. Extension needs a small staff, well trained and working closely with research to provide technological support and leadership to field agents. FSR offers an excellent opportunity for extension and research to strengthen these relations.

6. REDSO and CIMMYT develop a networking strategy that (a) involves administrators in a seminar meeting yearly and (b) exploits the commonality of interest in the region.

7. CIMMYT and FSSP hold a joint seminar involving all FSR personnel.

8. CIMMYT review its Newsletter and quarterly reports for the purpose of establishing an improved record of FSR in East Africa as well as improving the current state of information.

I. INTRODUCTION

This evaluation is being done very early in the project history. The grant was awarded in mid-1982, and personnel provided by the grant were on board in early 1983. That represents a rather normal start up time. The cropping season in much of the region starts in the last quarter of the year, and farming system activity has some relation to crop cycles even if one-step removed as is CIMMYT. All of this means that there simply are inadequate data for definitive evaluation.

Principal sources of information have been USAID officers, expatriate teams, host government officials, and CIMMYT personnel. Means of collecting information has been the interview. Chances to observe work and results have been severely limited. Four countries have been visited specifically for the evaluation--Swaziland, Lesotho, Malawi and Zimbabwe. A recent evaluation of a bilateral project in Zambia also provided information. Finally, grantee reports and documents have provided inputs for this report.

This report has a single author. Given the newness of the project and the subsequent scarcity of data, it has been necessary to draw inferences and anticipate results. This carries its own risks. I have attempted to present evidence and explain rationale at least for some of these inferences in an attempt to facilitate evaluation of the evaluation. However, much remains judgmental. If there are serious challenges from reliable sources, they need to be given careful consideration.

While I am responsible for the report I acknowledge with gratitude the assistance of Michael Collinson and P. Anandajayasekeram of CIMMYT/Nairobi. Also special thanks are due Robert Armstrong of AID/REOSO/Nairobi who accompanied me on all four country visits and to

Allan Low CIMMYT/Mbabane and Donald Winkelmann, CIMMYT/Mexico, who divided up country visitation. Not only were they the most pleasant of travel companions they were stimulating participants in a travelling seminar.

Gratitude must also be expressed to government officials, USAID officers, contractor personnel, and others who supplied much of the information and insight contained in this report. Their names are listed in the country reports.

Finally my gratitude is also expressed to the Farming Systems Support Project, University of Florida, and to others who provided the opportunity for such an excellent opportunity to study research and extension activities in this region of Africa.

II. PROJECT DESCRIPTION

The project has four components: training, direct assistance, networking, and institutionalization.

A. Training is handled under two activities.

In-country training is a comprehensive program that runs through the entire FSR process in a series of training sessions over an 18-month period. The grant agreement calls for this program in two countries a year. CIMMYT selects the countries for this training on the basis of commitment, leadership, and resources. The chief resource is personnel with training equal to the B.S., and ten is the minimum. CIMMYT training is designed for the professional level worker, B.S. or above.

The ideal type in-country training program covers the following topics in a series of five to eight sessions: Analysis of secondary data and informal surveys; formal survey design, questionnaire design and implementation; analysis of survey, identification of priorities, screening of known technology for system compatibility, and technology evaluation; design and establishment of on-farm trials; monitoring of trials, recording of data, interaction with farmer; trial harvesting and recording of data; data analysis, economic evaluation, and planning of next cycle. This sequence is modified to fit needs and timing of national programs. The sequence is often preceded by an exploratory session to explain the FSR concept and perspective.

Another type of training is offered at the University of Zimbabwe for individuals from countries who do not have enough personnel for an in-country training program. This training is in two

sessions of three weeks each. The first session is devoted to the diagnostic components of the FSR sequence, and the second series is on on-farm research. As originally conceived, the first session was for economists and the second for agronomists. Currently, however, the intent is for both groups to do both sessions.

All training is a mixture of study, classroom instruction, and practical work. An FSR project serves as the laboratory for the Zimbabwe training. A real live project serves as the laboratory in in-country programs, and the training session often implements a phase of the project.

B. Direct Assistance is offered to countries on the basis of need. It is used heavily for those countries which have a project with an expatriate team but too few national professionals to justify an in-country program. It can also be used in response to whatever a country needs. It responds to request from ex-patriate teams as well as from nationals.

In many cases, direct assistance is similar to training, including an exploratory or an explanatory training exercise. Direct assistance also includes counsel on reorganizing the research system, and two countries, Zambia and Malawi, have received this type assistance.

Spelt in paper

C. Networking is handled by four activities.

1. One is the Newsletter which performs the normal function implied in its title.

2. A second activity is a recurring seminar of research administrators for all countries in the region. This will be held either every 12 or every 18 months for the same participants. There will be papers, but much of the time is spent in discussing

management-institutional issues.

3. A third activity is a series of technical workshops on selected topics. Plans are to hold two of these for every one of the administrator seminars. They are non-recurring. They address a problem area common to many countries and involve both FSR personnel and conventional research personnel. One has been hold on animal traction. This workshop also involves a CIMMYT consultant to inventory work in the area.

4. The fourth activity is inter-country visitation. Persons wanting to visit other countries can apply to the CIMMYT project for travel assistance. CIMMYT does not hold itself responsible for organizing these visits. That is left to personnel of the region. This has been used for both technical and administrative visits. It is expected that there will be requests as participants of the animal traction workshop attempt to maintain contacts made there.

D. Institutionalization will be a function of all other activities. The grant agreement anticipated no institutionalization activity during the first two years. As a matter of fact there have been several accomplishments which have important institutional impacts.

III. GENERAL CONSIDERATIONS

Evolution of FSR

FSR methodologies and management is not a mature area of competence. The state of the art is evolving, and CIMMYT has been one of the major contributors to this evolution. Its program started with a straight forward adoption study made after the introduction of a practice. In one of these studies it was found that although some 50 percent of the farmers had adopted the practice, some 95 percent of those for whom the practice was appropriate had adopted it. This led CIMMYT to a program of analysis before technological innovation and attempts to identify innovations that would better fit the systems of farming and thus increase the probability of adoption. FSR in CIMMYT is lodged in its economics program and is still staffed by economists. In one phase of the evolution, the program emphasized surveys. The current program places a much heavier emphasis on on-farm research than formerly, but it is related to the survey component such that they complement one another. The evolution continues. Integration of extension into the process appears to be a phase not very far into the future.

CIMMYT in East Africa

It is necessary to have some understanding of what the CIMMYT program is and what it is that AID is buying in the CIMMYT grant. On the surface this program is a set of methodologies from rapid assessment through formal survey to on-farm trials and technologies tested in specific farming systems. However, the program is deeper than that, and this extra depth adds considerably to the product AID is giving its LDC clientele access to. The extra depth comes from the perspective CIMMYT has developed. It is capsulated in the way CIMMYT

now describes its program, "on-farm research with a farming system perspective" (OFR/FSP). The perspective is of considerably more significance than is the set of methodologies. The perspective lends orientation to the work, in a sense establishing the objective. Without the perspective, methodologies can be implemented but without achieving their purpose, and they have in some FSR efforts. Methodologies become means, and if one has the proper perspective, there will be alternative means to reach objectives. This is not to down play methodologies, since it is through methodologies that things are accomplished, including understanding of the farming system perspectives.

CIMMYT also offers an excellent knowledge and understanding of East and South African research institutions and a continuity of program that can be helpful to AID. This has enabled CIMMYT to work effectively in the area of institutionalization even though the FP indicated little was to be done the first year or so.

FSR in Context

Since FSR is viewed in so many different ways, it is useful to set forth my own conceptualization of FSR. That conceptualization will likely have some influence on interpretations and conclusions.

1. Farming Systems Research addresses a segment of the total technology innovation process.

2. The technology innovation process is a series of activities that lead from the world's stock of knowledge, to common practice in agricultural production. The activities are here presented in an oversimplified sequence.

Body of	Scientific	Tech.	Tech.	Tech.	Dissemi-	Dif-	Common
Knowledge	Research	Develop-	Testing	Adapta-	nation	fusion	Practice
		ment		tion			

The sequence is oversimplified, chiefly from the fact that there are loops in the process. Feedback sets the process back from time to time, in one degree or another. It can even start the process all over again.

3. In many LDC's, for a variety of reasons, research stops part way through the testing activity (or phase), but extension does not start until the dissemination activity (or phase). (Research stops too soon; extension starts too late).

4. This break in the process seriously hampers technology innovation in agriculture. Some very powerful innovations may be able to jump the gap or even bypass extension. External forces can bridge the gap. These events, however, do not restore the integrity of the

technology innovation process, even though they accomplish some one-time innovations.

5. The FSR approach has the power not only to fill this gap for selected innovations but also to restore the integrity of the total technology innovation process. This is its potential, and it is indeed significant.

6. In order to accomplish its potential, FSR must be managed in relation to the other segments of the process. If FSR is managed as a free-standing function, it will become the third disconnected segment of a process and will likely have little more impact.

7. In order to complete the testing phase and to undertake the adaptive phase, the research must come to the terms with the farming systems in which the innovation is expected to perform. It is this fact which gives FSR its name. Coming to terms with the farmer is also a source of much of the power in FSR. The success of research and extension is judged only by their service to the farmer. They have no other reason to exist.

8. It is necessary (a) that enough be known and understood about the farming system to serve as a basis for planning technology innovation and adaptation and (b) that innovations and adaptations to them be tested in the farming system in which they are expected to perform and by criteria of that system. It is not necessary to address the total system.

Two-tier or Two Dimension

CIMMYT refers to its system as two-tier. One "tier" is the research activity that deals directly with the farmer and his system of farming. The other is the research activity more nearly

conventional. It is associated with the experiment station and commodities or individual problems.

An alternate conceptualization is "two-dimension", with commodity research along one axis and farming systems research activity along the other. The FSR teams, often called adaptive research teams, are responsible for a geographic area and must deal with all commodities. The commodity research teams, CRF's, called applied research teams in Malawi although they are to be organized by commodities, are responsible for a commodity, nation-wide, and must deal with all areas. These two sets of responsibilities literally do constitute two axes, in a sense perpendicular to each other. In analyzing research data and planning annual programs, each axis must protect its own interests, and yet the differences must be resolved.

IV. SCOPE OF WORK

The Scope of Work for this evaluation was contained in a cable to the field, Unclassified State 279487 of 29 September 1983.

This section contains the items listed in that document with the responses.

A. "Assess the effectiveness of the CIMMYT inputs provided under the project and the impact these have had on achieving project outputs and purpose. CIMMYT's efforts over the past several years have been directed at strengthening and restructuring national agricultural research and extension systems to be more responsive to farmers's needs. A.I.D., through various bilateral efforts, is providing support to selected host countries to facilitate this restructuring with emphasis on farming systems research. The CIMMYT project is designed to provide (refer to project paper and grant for more details): (1) Direct assistance to host countries and A.I.D. contract teams in establishing methodologies to carry out useful on-farm research, (2) To provide training in FSR to selected host country scientists, (3) To establish a coordinating network among cooperating national programs, and (4) To assist in institutionalizing the farm-based research process. The evaluation should review each of these objectives from the viewpoint of the types of activities which CIMMYT has undertaken, the quality of their effort and the quantity of accomplishments.

"It is noted in the project paper that nine countries are to be serviced by the project. Some countries have received more support and attention than others. The team should examine the rationale for this and provide guidance to CIMMYT on allocation of inputs for the remaining life of project. Additionally, given the experience of CIMMYT to date, how should resources be allocated toward each of the four objectives listed above, i.e., should more-effort be devoted to training? and less to networking or institutionalizing the FSR approach."

This item calls for information and analysis provided elsewhere in the report. The Description of Project Activities will respond to

part of what is requested here, and Item I below discusses training in more detail. To a certain extent that material will be summarized here.

The purpose as stated in the project authorization document is: To provide: networking among cooperating national programs, training in participating countries, assistance with on-farm research in nine-countries, aid in institutionalizing the on-farm research process, all in support of USAID efforts to build appropriate research and extension systems in Eastern and Southern Africa.

There are certain discrepancies in the documentation. In another place in the document cited above the number of countries was given as ten, rather than nine. The scope of work for this evaluation refers to "establishing a coordinating network," whereas the project document states, "networking among cooperating national programs." This evaluation uses the latter edition on the basis that it is the most useful to AID and is more in the spirit of the CIMMYT program. A "coordinating network" implies a formal body dealing in bureaucratic, administrative issues rather than in technical and substantive issues.

It is my assessment that CIMMYT inputs provided under this project have been exceptionally effective in achieving outputs and purpose. In several cases these inputs have followed on pre-grant CIMMYT activities.

1. In its direct assistance CIMMYT has provided counsel to both Zambia and Malawi in reorganization of their national research agencies. In Swaziland direct assistance to the Pennsylvania State University team has been exceptionally helpful in saving time and in team building. Another form of direct assistance is the exploratory meeting in which CIMMYT visits a country to seminar on FSR and the

farming system perspective. All countries except Somalia and Burundi have been visited for these explorations. Direct assistance is an alternate form of training in that CIMMYT deals in intellectual matters, not in simple straightforward service.

"Impacts" have many dimensions. The most dramatic impact is the saving of time and elimination of frustration of the technical assistance teams that can take advantage of CIMMYT experience.

2. In country training, in a sense, is an alternative to direct action since the trainees are working on a real live project as the laboratory for their training. Our only evidence is the reports of trainees all of which are positive, even though some more than others. No in-country trainee has gone through a cropping cycle, so there is no completely "objective" measure of impact.

Impact of training must be questioned, in a positive sense. The CIMMYT concepts are probably more complicated than CIMMYT personnel realize, since they have worked with them so long. At this point trainees have not been on their own enough to test the training as opposed to execution of an exercise under CIMMYT guidance. It must be emphasized that this is a question, not a conclusion.

We did not observe the University of Zimbabwe training. Of some value as evidence is the fact that the demand for this training is now just about twice the supply, 60 applicants for the last course which could handle about 30. Applications are being received from all over the continent, not just the nine-country area.

The Zimbabwe training is not included in the grant.

3. Networking seems to be exceptionally effective. One mission director feels this activity alone justifies the project. Small countries recognize very clearly that they are going to have to depend

on resources beyond their own as a source of technology, and all countries in the region are small to some degree. In Swaziland, the research director told us that his country had long recognized the need to become more relevant to the farmer but were frustrated in means by which it could be accomplished. At least two donor projects were described that were designed for that purpose. Neither were adequate. The same director would not permit on farm research by the PSU team in the 1982-83 season. This season there will be an extensive on-farm research activity. The director attended the Administrators seminar, and a CIMMYT person has been stationed in Swaziland for ten months. We are not able to establish cause and effect.

Reports of the Animal Traction Workshop in Swaziland were uniformly positive. This workshop brought together FSR personnel with personnel doing conventional research on dry season feeding and use of animal traction. This workshop not only increased contact among members of the two interest groups (which would justify a workshop) but it also facilitated the process of the two groups working together.

Still a third activity is the inter-country visits, both on technical matters and organizational matters. A group from Malawi visited both Zimbabwe and Zambia when Malawi was deciding on the direction of its re-organization.

4. Institutionalization impact or even activity was not anticipated in the project paper during th first two years to any grant degree. However, the CIMMYT style demands institutionalization in so far as human resource development is concerned. CIMMYT has been operating in East Africa as a one-man operation since 1977. An input

of that magnitude demands the development of national human capacity. But institutionalization requires more than the human resource. It requires a system or organization in which that capacity can function effectively. The CIMMYT program is addressing the national organization issue through both its counsel with individual countries and its administrators seminar. CIMMYT has provided major inputs into the Zambia and Malawi re-organizations which are both committed to a two-dimensional structure for their research programs. Zambia has FSR teams in five province (out of nine). Malawi will start with three teams and plans to have one in each of its eight Agricultural Development Divisions by 1985.

We have little empirical evidence of the impact of the administrators seminars. We have considerable historical evidence of the value of this kind of association for professionals who do most of their work in isolation from peers. There is only one research director per country. Research in most of these countries for one reason or another is not highly valued. Thus he wages a lonely battle. It is difficult even to maintain his own convictions, to know what he should expect. A regular meeting with others in almost the identical situation has a powerful impact both intellectually and psychologically. He is able to re-affirm his convictions, he does learn what to expect from research, he can set some norms, he can learn management techniques, among many others. One example comes from the first administrators seminar where the research directors set 30 as the minimum number of professional workers needed for a two dimensional (or two-tiered) research program. With fewer than 30 a research system can effectively deal only with testing and adaptation. This is a highly significant concept. Perhaps the number "30" indicates more precision than is possible, but the concept is sound (see FSR in context in Section III General Considerations.)

The only conclusion one can reach is that CIMMYT is already making significant contribution to institutionalization and further this contribution is completely compatible with AID's concepts of institutionalization and consistent with AID's efforts to that end.

CIMMYT has given some countries more attention than others. It realized that some sort of strategy was needed. This strategy calls for intensive training in countries with ten or more professionals to be trained and who demonstrate commitment and interest. Other country needs are handled by request with the exception of Swaziland in which

a CIMMYT man is stationed and which gets attention as a sort of "rent payment." Networking and the Zimbabwe training are available to all.

It is difficult to suggest alternatives to CIMMYT's distribution of efforts among the four areas and among nine countries with a few exceptions which cannot be considered major. CIMMYT itself will make some adaptations as it generates experience. It cannot handle more than two comprehensive training programs a year. It expects requests from Kenya, Tanzania, Sudan, and Zimbabwe, all of whom meet some of the criteria.

Suggestions for exceptions are these:

1. CIMMYT is now contemplating reducing the number of administrators seminars to one every 18 months rather than one a year. My own judgment is that the 12 months interval is justified, given the importance of management to research development (not just FSR) in the region.

One reason for reducing the frequency of the administrators seminar is the demand on administrator's time. They are being invited to international meetings by a variety of donors. CIMMYT may be able to collaborate with some other meeting sponsors in such a way that the number of meetings could be controlled but yet meetings are not so spaced as to lose their effectiveness.

2. There may be a chance to economize on CIMMYT time resource by transferring more responsibility to national programs for the technical workshops. One gets the impression that these are valued so highly that national programs, including expatriate contract teams, would help out considerably. CIMMYT may also be able to use consultants.

3. For new starts in any research project in the region, REDSO

should consider making it virtually mandatory that (a) design teams have at least a one-day CIMMYT briefing, more if CIMMYT can manage the time, and (b) new AID-financed technical teams also have a briefing from CIMMYT.

Those represent no major re-allocation of resources.

B. "Examine the relationship of CIMMYT's efforts to ongoing and planned programs of other international centers (ICRISAT, IITA, CIAT) in Eastern and Southern Africa, to the various Title XII research programs (both bilateral and Collaborative Research Support Project (CRSP), and to the S and T Farming Systems Support Project being implemented through the University of Florida."

CIMMYT operates in the area of research methodology and organization. It has a very close convergence of interest with the U.S. University contractors, and this is discussed under item F below. Collaboration is good.

Some of the international agricultural research centers have FSR programs, but so far there has been little opportunity for collaboration. The IITA relationships are discussed under "J" below. CIMMYT and IITA have divided up the continent. CIMMYT has invited an IITA agronomist to its team. The fact is IITA has very little to contribute to a collaboration. CIMMYT and the ILCA are in conversations on collaboration. I do not know the ILCA program in FSR, but it has had some joint activity with IITA. ICRISAT will likely open a major front in Southern Africa, but it will be largely devoted to sorghum. The ICRISAT FSR program aims at developing improved systems per se and operates along ^{lines} substantially different from those of CIMMYT. Collaboration with CRSP's will be effected through national programs.

CIMMYT also has collaboration with IDRC of Canada and the Australian Center for International Agricultural Research. It has worked with ISNAR, ICRAF, World Bank, ILCP, and IITA in national and regional seminars.

So far there doesn't seem to have been adequate collaboration on

meetings organized for administrators of national systems. This may be one of the most important collaboration opportunities. Administrators are key to research success, and their contact with each other can be highly productive. Yet their time and talent represent a scarce resource that must be utilized with care and respect.

It is my judgment that collaboration with other entities is quite adequate. My attitude toward collaboration is specific, however. Given the great number of donor entities operating in related areas or quasi-related areas, one needs a strategy of collaboration that insures that something worthwhile emerges from it and that not more resources are allocated to it than are justified.

There is considerable interest in FSSP and CIMMYT collaboration. The Farming Systems Support Project, managed by the University of Florida, is scarcely a year old. The CIMMYT program has been building for a decade. CIMMYT has developed its FSR program deliberately and has a well-defined identifiable CIMMYT system. Although FSSP is heavily influenced by the Guatemala experience, it is expected to mobilize resources and expertise from a wide range of sources. Some of those sources are U.S. Universities operating in the CIMMYT program area. The University of Florida itself has a project in Malawi which has excellent relationship with CIMMYT, and FSSP has had contacts of varying degrees with Kansas State, Washington State, Penn State, Oregon State, Illinois, and Utah State with a program in Somalia. FSSP has a standing offer to any Title XII University to give all the support it can in FSR programs. The university teams we have contacted have high respect for CIMMYT.

FSSP and CIMMYT have had considerable contact. The discussions have centered more on ways to work together than on any dividing up

the world. In Latin America FSSP and CIMMYT worked together in Paraguay and other countries.

The two entities are not parallel. FSSP is an AID instrument, totally funded by AID for specific AID purposes. It is responsible to work worldwide, although with a focus on Africa. It is definitely a support entity. While CIMMYT is operating on AID funding in East Africa, it has its own program with enough diversity of funding and strategies to continue funding that it can almost be characterized as autonomous. Even though it supports country programs CIMMYT is only a short step from operational, and it is definitely developmental, i.e. constantly extending the FSR concept. FSSP is quite far removed from operations, and the extent to which it will further the state of the art has simply not been determined.

There is not much likelihood that FSSP will mount a field type operation of the CIMMYT East Africa type anywhere in the world and even less that FSSP would pick up the specific program if the CIMMYT Program is terminated. If it did there is little chance it could equal CIMMYT at CIMMYT's own game. This is an individual analysis. It has not been cleared with my FSSP colleagues and in no way reflects FSSP policy or commits FSSP.

These considerations are important to AID. FSSP and CIMMYT outputs are two different products. They should be expected to develop complementarities. They are not very likely substitutes to any great degree. They operate under substantially different AID management styles.

Missions in the CIMMYT region can call on CIMMYT for assistance in training of various types and for some direct assistance in response to specific problems. They can also look to CIMMYT for

consultation with national systems on organization and management.

Support in the FSSP clearly includes help with the organization and briefing of design and evaluation teams, and this function CIMMYT likely will not do, although it may have an input. FSSP will develop a literature program which missions can access. FSSP has networking responsibility, but will not likely be active in this region except in collaboration with CIMMYT.

FSSP could help brief contractor teams and individuals coming on University teams and support U.S. Universities in their back stop operations, including recruiting of personnel.

FSSP can "support" CIMMYT as well as any other entity. As CIMMYT continues the evolution of its program it will create demands and opportunities for collaboration. These opportunities will take the form of field experimentation. Four areas are most likely:

Integration of Extension into the FSR to make it FSR/E, methods to deal with livestock, refinements to on-farm research methodology, and organization and management of national R/E systems. While FSSP may be supporting the CIMMYT program it can be expected that the REDSO/CIMMYT program will provide considerable experience that will be useful elsewhere.

All indications are that collaboration is adequate and with the relevant entities. AID should expect increased collaboration between FSSP and CIMMYT as FSSP gathers momentum. Reasonable attention needs to be given to collaborating with other entities in staging meetings and seminars with administrators.

-C. "Review project implementation and rate of expenditures to determine further accomplishments which reasonably can be expected through remaining life of project or probable shortfalls against targets. Provide a brief updated implementation schedule."

For all practical purposes the CIMMYT project started in January 1983, even though the grant was awarded in mid-1982. That's a scarce ten months at the time of the review. That start up time is no cause for concern.

Project costs have turned out to be somewhat less than budgeted because many trainee costs were picked up by national systems.

Thus less than anticipated expenditures will likely not be reflected in project accomplishments. Comprehensive training was started in Zambia and Malawi in 1983. These are planned for an 18-month cycle. Expectations are to start two more in 1983 from Tanzania, Kenya, and Sudan.

The only shortfall may be in the technical workshop.

As far as project accomplishments are concerned, institutionalization is far ahead of schedule.

Use of consultants and a greater contribution from national programs may help get the technical workshops back on a two per year schedule.

Perhaps a more vigorous promotion of the inter-country visitations in the Newsletter would increase special interest networking.

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D. There was no Item "D" in referenced cable.

E. "Evaluation should address programmatic issues with respect to further support to FSR program in Eastern and Southern Africa. Should CIMMYT support to FSR objectives be continued beyond expiration of project? and, if so, at what level of effort?

" What are problems and constraints with respect to CIMMYT on this issue? These recommendations will assist AID/W in reviewing any proposed follow-on activities to the present CIMMYT activity. Should geographic scope of project be examine/revised? How will countries such as Rwanda and Burundi which have impending agricultural research projects with FSR components, gain access to project services?"

The CIMMYT grant project must be justified on its increase in effectiveness of country programs supported by USAID missions. This impact on country programs will come through direct action (training or assistance) to the country and by networking both at the administrator level and at the technical level.

From our observations the activities under the grant have already had substantial impact as evidence presented throughout this report indicate. It is my judgment, and it is without reservation, that this project should be extended. Virtually all of the benefits to USAID supported country programs are accumulative. That is the impact of five annual seminars of administrators can be expected to improve substantially the management of country research systems in the region and the administrative environment in which USAID programs will be operating.

The CIMMYT program should be expanded to include an agronomist. So far it is largely a program of economists. As emphasis grows on

the on-farm research and the program evolves the need for agronomy expertise grows. Two factors should be considered before expansion beyond that is concerned. One is that it is not CIMMYT nature to be large and highly visible. The second is that as national competence develops, the size of CIMMYT may not have to grow in relation to the increased scope of action that AID may find useful.

There is indication from this evaluation that CIMMYT may be able to have its greatest impact early in project history. Thus there may be more net gain to provide at least limited assistance to Rwanda and Burundi even at the expense of delay in certain calls in other countries. Some assistance with design efforts, even if only team briefing may also help new country programs.

This evaluation produces no evidence or analysis justifying termination of the project. There has been much evidence presented justifying its continuation and expansion. After this short experience there is a stronger case for extension than for making the original grant.

The general nature of the program needs only minor adjustment. It's working well as is.

It should continue as a grant which gives CIMMYT operational flexibility and does not place a heavy management burden on AID.

Size and geographic scope must be decided on many factors that can't be dealt with in an evaluation. Project performance justifies a somewhat larger investment.

Given the dynamic nature of FSR, there needs to be some strategic planning between AID and CIMMYT. FSR is in its starting phase, and basic training is very much needed. At some point national systems will not need that help at nearly the same degree as now. There may

be need for other assistance, even for developmental work.

AID needs to give CIMMYT a reasonably long planning horizon in its commitment so that CIMMYT can offers its clients and collaborators some security of expectation.

During the developement of this project, which preceded FSSP approval, there was discussion of the possibility of merging the two. That was a time of much uncertainty concerning both projects. Now that experience has been gained and the two projects are taking shape there remains little reason to put them together. CIIMMYT is providing a specific service to the REDSO region under an effective and efficient management style. The perspective for success is good, providing CIMMYT is allowed to persist. It is difficult to see any advantage in merging the projects. It is easy to see serious risks, both to content and to management style, from a merger.

F. "Examine the relationships between CIMMYT and A.I.D. contract universities, E.G., at training sessions what is the mix of contract universities and host country participants?"

The relationships between CIMMYT and USAID U.S. University contractors have been better than might have been expected. U.S. University personnel have been in research all their careers and in fairly close contact with farmers. Still some of them have been exceptionally responsive to the CIMMYT system and in some cases a remarkable rapport seems to have developed.

In some countries, such as Zambia, only three U.S. University personnel attended the course, but that is all that are working in FSR. On the other hand, in Swaziland where most of the national staff are in training, contact has been mainly with the U.S. staff of eight.

U.S. University staff as the resident experts in national programs are highly important to the CIMMYT operation, and evidence that we have gathered indicates this collaboration is completely adequate. U.S. University teams turn over fairly rapidly, and assessments will have to be made as to training of replacements. This may be a problem that FSSP needs to worry about. FSSP may also help in recruitment or selection of personnel for University contract.

In several cases University personnel have played important roles in CIMMYT activities, such as the Zimbabwe training and the technical workshop. There have also been cases in which the University team has been a factor in getting CIMMYT involved in a country.

Many of the universities in the CIMMYT region are involved in FSSP, including the University of Florida.

One problem was noted. Some U.S. University personnel do not take readily to the CIMMYT system. Even though it is compatible with

the "Land-Grant System," the means of applying it are different. It is not easy to evaluate this problem. Confusion regarding means (or form) interferes with a clear understanding of objectives (or substance). In some cases, but not all, this problem has been reflected in some dissatisfaction regarding contractor recruitment. Fortunately, the problem is not widespread. Some "old Land-Grant types" adapt very well to the CIMMYT system.

G. "Review financial and project progress reports to REDSO/ESA, RFHC/NAIROBI and AFR/RA reports in light of reporting requirements of grant. Examine how CIMMYT reporting requirements can meet REDSO/ESA and AFR/RA project reporting requirements."

This review identified no management problem in REDSO stemming from inadequate reporting. The grant document available to me had no reference to reporting. This should be a rather routine matter between CIMMYT and REDSO that can be resolved easily. Good reports, even though time consuming, often work to the benefit of the grantee and so are worth taking seriously. Complete reports also provide a project history that are valuable to AID as well as to CIMMYT. Somewhat more attention needs to be given to the reports, even though immediate project management has not been impaired by reporting inadequacy.

H. "Assess the utility of CIMMYT's rapid assessment survey techniques in terms of acceptance, strengths and weaknesses."

CIMMYT's rapid assessment survey techniques can be identified as (a) analysis of secondary data and discussion with knowledgeable people, (b) the informal survey, and (c) the formal survey. The techniques involve at least two disciplines, economics and agronomy.

The first two are exceptionally useful, in part because they address problems and information sources that for many are virgin territories. The learning curve is very high. These techniques are also relatively simple to master. There is some structure to the informal survey, but its main purpose is to start to know the farmer and gain insights into how he conducts his business. It's a first and vital step to establishing production linkage between the farmer and the public research service. Most researchers accept it readily.

The formal survey is a good technique in the hands of masters. It provides good data on what farmers do. Making it useful to answer why questions and verify insights and hypotheses developed from informal surveys requires considerable skill. It is not clear that novices handle it well.

It is my judgment that perhaps too much is made of the "rapid survey techniques." They are a non-recurring phase of FSR and are only made necessary by the very substantial ignorance of the farmer that prevails in many public institutions organized to serve him. Real understanding of the farmer and his strategies will come with sustained interaction between the farmer and the research system via FSR. On-farm trials and collaboration with extension will likely be the really productive activities for understanding the farmer.

Once the research system has come to terms with the farmer the rapid survey techniques will be of considerably less import. In the meantime they serve their purpose quite well.

I. "Examine the success of CIMMYT's methods used in training sessions. What factors account for the success of these methods?"

Training deals at several levels. It can impart information, it can teach skills, it can achieve understanding and attitude change, and it can teach problem solving or creativity. As CIMMYT emphasizes the farming system perspective in addition to or along with methodologies, it moves to the more complex of these levels of training. It is not simply training in the implementation of a set of procedures as it may some times appear. For example, in the informal survey training, students must come to understand a bit of economics, must learn to distinguish among systems, and must be able to identify farmer strategies in the allocation of his resources. They must also learn skills in selecting respondents, in conducting interviews, in inter-disciplinary collaboration, and in handling data, not all simple, straight forward skills. We have evidence that the CIMMYT training in the utilization of secondary data and in the informed survey has been quite good. In almost all cases trainees seem to have made real progress. We have some comparative evidence. One team did two informal surveys before training and one in connection with training. The team's own judgment is our evidence.

We don't have that evidence with respect to the formal survey. However, at this early stage of project history one can say little with respect to "success" as the discussion of "success factors" will indicate.

The CIMMYT training in FSR methodology is a combination of study, classroom work, and learning by doing. The learning by doing is not simply a training exercise, however. It almost always involves the

actual completion of a task in a project area. Thus, in the Zambia training an informal survey was actually accomplished and used as the basis for a formal survey (also a training exercise) which in turn led to a training session in technology screening and evaluation against farmer strategies and problems and to the design of on-farm tests. The Zambia training cycle is not complete. An evaluation of success of training has to ask, at this point, if the trainees were well trained or well supervised. We do not know how the students will do on their own.

While handouts, written material, and some visual aids are utilized, practice on a real live project with adequate CIMMYT instruction and supervision is the distinguishing characteristic of CIMMYT training in the standard FSR process.

However, CIMMYT does much training outside that mode. In fact, all four areas of CIMMYT work under this grant finally devolve into some sort of training. Direct assistance is a form of training, again with work on real live problems, with individual attention.

Networking for administrators utilizes a seminar format, with small group discussion to increase participation over large group discussion, and these groups deal with real live problems. The technical networking also makes heavy use of participation and is built around problems specifically identified, with participants who face those problems.

The only exception to the real live problem is the training at the University of Zimbabwe. The students do practical work with real data, but it is a classroom exercise.

Practical, work experience training on real live problems supplemented by class work are factors responsible for success.

J. "Review the status of the International Institute for Tropical Agriculture, IITA, Research agronomist involvement in the CIMMYT project."

The IITA agronomist position never materialized. IITA had planned to station an agronomist in Nairobi to work with the CIMMYT program for about two years. The plan was to bring the agronomist back to IITA to work in its FSR program. The plan was not implemented because IITA and the Government of Kenya could not come to an agreement on the agronomist's being posted in Kenya.

V. OTHER OBSERVATIONS

Livestock, Agronomy, and Extension

CIMMYT is being urged to deal more explicitly with livestock, to bring extension into FSR, and to make more use of agronomists. These urgings are on a sound basis, but the needs among the three are not parallel. CIMMYT is not neglecting agronomy. It has access to agronomists from CIMMYT/Mexico. At least two ex-patriate agronomists are working very well with CIMMYT, and there is considerable agronomic talent in the region, which CIMMYT uses effectively. Up until now, the lack of agronomists on the CIMMYT team has not been a limiting factor. However, the on-farm trial is receiving increasing emphasis, and agronomists are needed--both for their real contribution to the process and for relating to other research agronomists.

(The need for engineers may emerge, since labor is the primary constraint but no one raised the issue.)

The livestock issue is of a somewhat different nature. The claim is that CIMMYT is dealing with cropping systems, not farming systems. The fact is that one does not deal with the cropping systems without an impact on the farming system. Another fact is that one of the major problems with livestock is feed supply, which comes in large part from the cropping system. There is, of course, a need to deal with livestock, but just what that need is and how to address it require analysis beyond the conventional wisdom. CIMMYT is not likely to add a livestock expert. It will likely work out a collaboration with ILCA. Mixing the CIMMIT and ILCA systems may present some problems.

CIMMYT recognizes the need to and does involve Extension, but so

far it has not figured how to do so adequately. The CIMMYT scheme is to keep Extension informed, to work with extension personnel in developing and taking surveys, and sometimes even to seeking extension help in on-farm trial work. Until now, however, extension is involved as an instrument of the research process, not as an entity with as much to gain as does research from the improved research contact with the farmer. In some countries extension is taking the initiative in getting into the act in its own interest. In other countries, however, not much activity is noted. CIMMYT needs to do some more work on conceptualizing the role of Extension and its relation with Research, as do national systems, USAID missions, and other projects.

Networking and Expatriates

Networking possibilities are great in the REDSO/CIMMYT area and could be (perhaps are) overlooked. CIMMYT has a great deal of credibility in the REDSO area. This grant has enabled AID to capitalize on that, but it is not clear to what extent. It is clear, for example, that the CIMMYT reputation has had a substantial influence on the reorganization of Zambia and Malawi national systems. What is not clear is whether these countries would have gone ahead with reorganization according to CIMMYT if there had not been resources to offer training and to stay with the systems through the early stages. These resources come through the CIMMYT grant, but they also come through bi-lateral programs. Also intangible regional (or other-country) psychological support that convinces one country to make a substantial reorganization.

What is clear is the critical role ex-patriate teams from the

bilateral programs will play in implanting the CIMMYT system in the region. This sounds almost as if the country programs are supporting CIMMYT, rather than CIMMYT supporting them. It really does not make any difference. The CIMMYT program has seven years experience in the region. Its aims are the same as those of AID, and its emphasis on institutionalization is completely consistent with the AID and Title XII tradition.

Networking and training from CIMMYT are commonly thought of as aiming at national personnel, and certainly they should be. However, for the intermediate period specific attention needs to be paid to training and networking needs of expatriate personnel. Expatriates in many countries of the region make up much of the national system personnel complement. Even though that is likely to be temporary, it will continue long enough that this class of personnel need attention and not just incidentally.

Expatriate personnel expressed needs for contact with other countries--both expatriates and nationals. REDSO/CIMMYT need to recognize the networking-training potential and encourage expatriate teams to take leadership in developing networking activities. Funds could come from the CIMMYT grant and also from bi-lateral project managers. CIMMYT can help by use of its good offices and by facilitating communication.

*4/10/74
Tack
L. G.*

Persistence vs. Genius

Two countries have reorganized their research systems to reflect the CIMMYT system of "on farm research with a farming systems perspective," and several others have made significant commitments to the concept. Bi-lateral projects are supporting these commitments.

While the logic is sound, though simple, there is some risk in these decisions and investments. The risk is that countries and supporting donors will not persist in efforts to make them work. At this juncture it is probable that persistence will be the better part of genius. It is logical to associate the CIMMYT program with persistence. Seven years in East Africa and ten years in evolution, CIMMYT owes its achievements largely to persistence, a systematic, planned, evolutionary persistence. AID, which has not been particularly noted for persistence, has the opportunity in this project to achieve a measure of persistence that is difficult under other measures. Now is not the time to search for "innovative, new ideas" but rather to persist in support of a concept that stands the tests of logic and has proven effective in other environments and other eras.

FSR and African Universities

At least two African academic institutions, Edgerton College and the University of Zimbabwe, are reported to be building the FSR concept into their teaching programs. We did not see the former, but the U of Z is using it in the farm management program and in an area development project in the Zambesi River Valley which will involve personnel from several disciplines.

Most universities teach courses in Extension. As soon as CIMMYT and other develop the farming systems perspective to include extension, these courses may offer a locus for FSR activities. These programs are sometimes thin in content, and the FSR perspective will be helpful. FSSP is oriented to FSR/E, and that orientation appears, after this exercise, to be useful.

Publications, Newsletter, and Reports

One mission raised a specific question about publications, who

publishes them and who distributes them. The grant document takes little note of publications.

The Newsletter is one element of networking. Limited examination of the Newsletter leads to the impression that it needs more attention to news items of what is happening in the region. CIMMYT invites contributions, which have been scarce, but its personnel travel widely in the region and could do some reporting. Knowledge of what is happening in other countries, even if skimpy, would be useful to readers.

CIMMYT reports to AID have also been on the skimpy side. They seem to satisfy the administrative requirements. The project document is almost silent on the matter. However, for substantive or technical purposes, it would be useful for CIMMYT to make a record of its activities and achievements in the program, completely aside from administrative, contractual considerations.

The same sort of information could be used in the reports and the newsletter.

Ideal Type CIMMYT System

The CIMMYT system can be expected to work best if the country situation permits initiating it from the beginning and if the predominant farming system involves basic grains on non-irrigated land. CIMMYT has had several chances for the ideal type program. Not all have been, however, and, further, national systems have made some adaptations not quite consistent with the ideal.

In Lesotho, for example, a project was underway for almost four years before there was appreciable CIMMYT contact. There still has not been much. Plans are for more contact as new team members join the Washington State team. Whether the CIMMYT system can make a

contribution and still maintain project momentum remains to be known. Lesotho has also added the "combination farm" concept that is not in the CIMMYT system. Purpose of the combination farm is to put all of the ideal technologies together in a single farming system.

Swaziland presented CIMMYT with commercial vegetable production system on newly irrigated land. CIMMYT seems to be accomodating this variation in the "typical" system.

Zimbabwe has come up with the Farming Systems Development Center, an experiment station FSR activity, which is not included in the ideal type program.

We do not know how to predict how CIMMYT will react to and accomodate each of these variations. In some cases it may learn from them. In some cases it may learn that the variations are non productive. Indications are that CIMMYT will retain and protect the integrity of its ideal type but will not insist on strict compliance as a price for its assistance. Most countries seem grateful for the existance of the ideal type and seem eager to understand it. There also seems to be a tendency to want to adapt it in such a way as to have a pogram with some characteristics peculiarly national.

Short-run Expectations

We only picked it up in one country, the only country in which extension personnel were on our list of contacts, but it is definitely expected of FSR in Malawi that useable, extendable results will be produced fairly early. This is a mixed blessing. It does place the right kind of pressure on FSR/E. FSR does not enjoy the long-term shield claimed for conventional research. Yet it does need some time, and that could mean several years because of the annual cycle of cropping. The danger is that the early-term expectations will be

unreasonable term expectations.

CIMMYT and the Sub-Professional

Up until now CIMMYT has emphasized the professional worker in its programs, i.e. those who the B.S. or equivalent. In at least two countries we picked up the need for training of the sub-professional. This was especially noted for the technician who support the professionals, and the kind of training specified was that which could be characterized as basic training in research methodology and not limited to on-farm research.

VI. RECOMMENDATIONS

It is recommended:

1. That the CIMMYT project be continued in its present format.

There is little room to question that the project is a profitable one. It has many ways of paying off. The most straightforward is the time it saves a new project, such as in Swaziland, in getting up to full steam. It almost certainly improves the quality of the work, but that measure is not so straightforward. A few minor adjustments, such as briefing project design teams and new project teams could increase this pay off. Given the AID investment in agricultural research in East Africa, it doesn't take much increase in effectiveness to cover the CIMMYT costs. It is my judgment that CIMMYT contribution is exceeding the break even point by a considerable margin.

The CIMMYT project also has complimentary effect through its institutionalization activities. The fact, for example, that national research administrators gather regularly to reinforce one another in their attempts to improve research management can be expected to improve considerably the environment in which USAID projects operate. CIMMYT assistance in research organization, such as in Malawi and Zambia, should add further to the improved environment.

A further justification is the fact that CIMMYT is working well, in some cases exceptionally (and surprisingly) well, with U.S. University contractors. Even though CIMMYT aims to train nationals, it is highly important to be synchronized with the resident technical assistance teams. In some cases these teams today are the de facto research services and will be until enough trainees return to nationalize the systems. In all cases they are critical to FSR

initiatives.

2. That the project be continued under current administrative arrangements.

This is a grant project. CIMMYT own efforts are so nearly in the Agency's interest that AID can safely handle the project by a grant. This greatly eases the management burden, and some missions expressed appreciation for it. There is considerable discussion of bringing this project under the Farming System Support Project. Such action would expose the East Africa program to significant risks. One is the shift of management from the Africa Bureau to the Science and Technology Bureau. This not only moves the project from Africa management, but it could change substantially the style of management. The FSSP is not a grant, and AID insists in more participation in management than is needed in the CIMMYT effort. The other risk is under funding, since CIMMYT would be in direct competition with many other demands on a worldwide Title XII project.

Earlier discussions on merging the CIMMYT and FSSP projects need to be discounted heavily on the basis of the information now available from experience of the two projects and experience of missions with the projects.

3. That AID and CIMMYT consider expanding the project.

Several factors support expansion. Currently CIMMYT is oriented to the professional level cadre of national research systems. The other needs were identified in this evaluation. One was training for the subprofessional in research, and the other was training for extension, an activity that may also involve many subprofessionals.

Another factor that supports expansion is the need for the services of an agronomist as on-farm research receives increased attention. Up until now, the CIMMYT program has been staffed by agricultural economists.

A factor that needs to be carefully analyzed is the impact of expansion on CIMMYT style and personality. CIMMYT has achieved its current position as a small organization with a carefully drawn strategy and low visibility. At some size there will be a transformation, and that transformation needs to be managed and under control.

Needs are likely to be changing in the region, and CIMMYT/REDSO needs to make some projection of needs as a basis for expansion.

4. That AID make a commitment to provide CIMMYT a five-year planning horizon so it has some security of expectations and can in turn provide security to its clients and collaborators.

5. That CIMMYT give early attention to integrating extension into its "farming system perspective" and that USAID's be encouraged to make modest investments of the right nature in extension.

FSR as CIMMYT is now promoting it offers perhaps the best opportunity to link research and extension that has been available in LDC's since Point IV days. At the same time extension has much to contribute and could well improve chance of FSR success.

Investment needed by the missions is in the development within extension of a relatively small group of well-trained personnel to provide technical leadership to extension. There is currently a significant over investment in number of field personnel in relation the number of well trained people in this technical leadership group.

FSSP and U.S. Universities in the region can be expected to collaborate with CIMMYT.

6. That CIMMYT and REDSO develop a networking strategy for the region.

There is a widespread common interest in the region, creating ideal conditions for networking. The opportunity needs to be exploited.

The emphasis needs to be on networking not a network, at this time. Later, it may be wise to formalize relationships, but currently the emphasis must be on communication.

Such a strategy should include regular meetings of research and extension directors- in collaboration with others who call meetings with them. It should also involve ex-patriates and bi-lateral projects who can provide some leadership and even funds for networking activities.

7. That FSSF and CIMMYT be encouraged by AID to hold a joint seminar to assess the state of the art, to explain each its own program to the other, to explore various means of collaboration, and to analyze needs in further development of the FSR area of competence. This would need to be a working group between the two AID contractors with fairly complete attendance of members of the two groups but with severe limitations on attendance of outsiders.

8. That CIMMYT review its Newsletter and quarterly report with an eye to improving the status of current information on FSR interests and activities and to improving the record with respect to FSR in East Africa.

VII. COUNTRY NOTES

Lesotho has a farming systems project being implemented by Washington State University which was started in 1979. While it was designed as a farming systems project there was virtually no foundation research capacity to which it could attach. Still there was a tendency to go through the FSR ritual. The project has been modified substantially. It aims to help develop the general research capacity but following the farming system perspective.

The CIMMYT comprehensive training program may not be as relevant for Lesotho. Lesotho was represented at the administrators seminar and at the technical workshop on draft power. It receives the Newsletter. At this point CIMMYT has not made a contribution to the institutionalization of FSR in Lesotho. Two CIMMYT visits have been made. Yet all the evidence we could marshal indicated that the CIMMYT project was not understood and no help was requested.

Much of our time was spent in explaining the project and getting some feel of needs. One area of need that emerged in several different forms was assistance with on-farm trials, including development of an on-farm trial strategy, design of trials, and analysis and interpretation of on-farm trial results. There appeared to be a definite tendency to apply vigorous scientific criteria appropriate to highly controlled research- a fact which may indicate an interpretation of the FSR concept different from that of CIMMYT. Another need was that of fostering communication among technical people in the region with common interests. This would not be as specific as the animal traction workshop, but would simply facilitate communication among individuals who are isolated from others with

similar interest. This kind of meeting would need CIMMYT sponsorship, but could be staged in such a manner as to take few CIMMYT resources.

A third need identified was training of top layer sub-professionals in basic research technologies. Currently, CIMMYT training is geared to professional level people, but it is possible CIMMYT can address this need or work with others in addressing it. A need was also expressed for Farming Systems Extension. While CIMMYT recognizes the need to link with Extension, I am not satisfied that the evolution of the CIMMYT system handles Extension adequately. FSSP also does not address it adequately.

We were not able to talk to the deputy director for research who attended the CIMMYT administrators seminar as well as the animal traction workshop. He may have had a better understanding of the CIMMYT program, but if he did he apparently was not communicating with either his director or the team. Some of the confusions were interesting. Some wanted more and different attention from the other branches of CIMMYT. One set of needs addressed help in subject matter.

Even with this lack of CIMMYT-Lesotho interaction and understanding we found no criticism of CIMMYT. The work of CIMMYT in East Africa was known and respected. There did seem to be a hesitance to call on CIMMYT, either a hesitancy or a lack of information. The entire mission is interested in the concept of inter-country collaboration, as well as in FSR. The mission director met with us twice, in our first and last interviews. There is evidence of considerable frustration over several inter-country efforts in agricultural research being discussed or mounted for the area. As in Swaziland the USAID recognizes that Lesotho must rely on other

countries for much of its agricultural technology and is keenly interested in contacts with other countries.

One generalized need was emphasized. That was the need for more attention to the training of some extension personnel up to a level equal to that of most researchers. The WSU/Research Division group is providing considerable training to extension field personnel, acting almost as a specialist staff.

Keeping of detailed farm records was one of the first activities started in the project. There are now mixed feelings as to the utility of these records. The sample size will likely be reduced, but there is real hesitancy to discontinue the activity.

It was in Lesotho that was expressed the most specific feeling of need for ex-patriate team members to participate in regional networking.

There is not a two-tier (or two dimensional) structure here. Rather the entire research program is oriented to the farmer. This is perhaps the logical structure for a small country. There is one question, however. The Research Division aims at developing some so-called "combination farms" on which "ideal systems" are utilized.

Persons contacted: Edna Borady, USAID Mission Director; Barry Hill and Jim Dunn, USAID Agricultural Office; Winston Ntsche, Director; and Abraham Sefeame of Research Division; Clark Ballard, David Holland, Gordon Van Eps, Earl Klosterman, Peter Wyeth, and David Youmans of the Washington State University team; and Mark Wood of Peace Corps.

Malawi

The Department of Agricultural Research (DAR) of the Ministry of Agriculture is being reorganized to bring FSR in as integral part of the research program. Called Adaptive Research Teams in three of the eight Agricultural Development Divisions plus a national ART team. Plans are to have ART's in all eight districts by 1986. There is a considerable similarity to the Zambia program which also uses the Adaptive Research terminology. A member of the University of Florida team occupies the line position of director of the national ART. The similarity with Zambia is not a coincidence. Both national systems plan to adopt the CIMMYT system, and the Zambian reorganized system was visited, as part of CIMMYT's networking, as Malawi was deciding on its reorganization.

Extension may also add positions to enable it to participate on almost equal basis with research in the adaptive research effort. The Director of Extension felt somewhat left out of the adaptive research effort, commenting that Extension seems to be brought in on second thought. He hopes to add two positions in each ADD to join the DAR team of agronomist and farm economist. If this can be accomplished, Malawi will have one of the few (if not the only) program with extension as a full partner.

Pieces seem to be in place for a program that has a good chance for success if program managers stay with it for a long enough time for the concept to be made functional.

Plans are to have ART's in all ADD's plus a headquarters team operating within three years. We were not able to discuss with the commodity research teams their views of the organization. The ART's have several linkages to establish--with farmers, with commodity teams, with extension, and with the ADD's. To a certain extent, but

not entirely, ADD's and Extension are the same.

Some disappointment was expressed that CIMMYT does not work with livestock. However, extension has very little work with livestock, even through the ADD's. There was made mention that ILCA was interested in providing livestock inputs. We do not know what it has to contribute.

CIMMYT has provided training and assistance this year to enable at least two ART's to do some on-farm research this season. Plans are, however, for CIMMYT to bring its complete eight session comprehensive in-country training program to Malawi, starting in March 1984 and continuing for 18 months. It will be the ideal CIMMYT course. Some worries were expressed that the sessions would not be long enough and that Malawi would need more help than CIMMYT could provide to one country.

Two ADD's were visited -- Lilongwe and Kasumbo. Program officers of each one were clear on their expectation of FSR. Both referred to improved technologies for the intermediate to short term. They both emphasized their interest for near term results. Both had the same complaints about conventional research. It didn't seem to fit the needs of their clients. Both called attention to the fact that FSR goes directly to the farmer, to learn about his problems and why he dealt with them the way he did.

We also heard here, from extension, the expectation of early or intermediate term results from DAR as a consequence of FSR. Our only contact with extension was in Malawi. We do not know how general this expectation is in the region.

Lilongwe ADD (LAOD) has had considerable experience with FSR and considers itself a pioneer in the effort, while Kasumbo is just now

starting to work with the concept. CIMMYT helped with surveys in one area of LADD in 1978, but it was not followed up with on-farm trials. A University of Florida team member helped with a survey in another area since 1980. The evaluation officer of LADD attended a CIMMYT regional course in Nairobi.

Even though Kasumbo ADD was not as experienced in FSR, it was no less clear on the problem it wanted to address. The program manager wants to provide full cooperation and support to the ART of DAR and made a special plea that needs to be taken seriously. That was to provide ample training opportunities to certain of this staff so they could participate fully with DAR personnel. DAR does not want to share its training resource and exhorts Extension to find its own donor.

We find here as in other countries excellent cooperation and mutual respect between CIMMYT and U.S. University contractors. One University of Florida staff member has served as instructor for the CIMMYT-University of Zimbabwe regional training program.

The organization of the ART's is not the only organization task faced by Malawi research. The conventional research component is also being reorganized. Until now it has been organized by subject matter discipline. The re-organization will be by commodities, and each commodity team will involve several disciplines. Thus conventional research personnel will be faced not only with developing relationships with the ART's but also with adapting to a new set of relationships among themselves.

The internal changes along with extension's interest to get into the FSR game puts a heavy responsibility on Malawi administrators. The chance for payoff is high. If they succeed, Malawi, will have one

of the most completely integrated technology innovation system in the LDC world.

USAID/Malawi holds that extension participation in FSR is essential and that technical assistance to help make FSR functional will be needed for up to five years. FSR as a concept is now completely accepted, but the task remains to make it fully functional. A real fear exists that T.A. may be terminated before FSR is adequately institutionalized.

Persons contacted: USAID: Bill Judy, Agricultural Officer, and David Garms, Acting Mission Director.

Ministry of Agriculture: Willie Lipato, Principal Secretary; Gilbert Chirwa, Chief Projects Officer, Planning Division; Terry Legg, Chief Agricultural Research Officer; M. Muwilo, Chief Agricultural Extension Officer; Henry Mwandemere, Deputy Chief Agricultural Research Officer; Tony Standen, Controller; Richard Bolt, Assistant to Research Officer, and M. Erez, Planning Advisor; and S.S. Kamvazina, Livestock Officer.

Lilongwe Agricultural Development Division: F.M. Kangaude, Program Officer; G.S.Z. Jere, Evaluation Officer; and Perine Jere, Research Trials Officer.

Kasumbo Agricultural Development Division: Nick Sickinga, Program Officer; P.N.H. Zulu, Crops and Trials Officer; G. Ndolo, Extension Officer; and M.E. Geake and A.G. Khum ban yina, Evaluation Officers.

Bunda College: Ray Billingsley, Head, Department of Sociology

Swaziland

The Swaziland research organization has 14 positions for professional level people, one filled by a Ugandan and 13 by Swazis. Two others have been appointed into positions they hope will be approved. Of these, ten are now in U.S. training under the Pennsylvania State University project, which has eight persons on board.

One of the three CIMMYT persons, Allan Low, is stationed here even though Swaziland does not meet the CIMMYT criteria for intensive work. Plans were to station him in Zimbabwe, but diplomatic arrangements could not be effected. Since Low had lived in Swaziland previously he was posted back there.

Without exception, USAID, the contractor, and the Host Government were grateful for CIMMYT assistance and recognized that had Low not been posted in Swaziland they would have received much less attention.

The USAID is particularly grateful for the networking services and feels that networking results alone justify the project. USAID also appreciates the fact that CIMMYT collaboration has been well received by its contractor. USAID, however, raised two issues one was the training of sub-professionals in FSR. As of now CIMMYT training is aimed chiefly, at professional level people. The other concerned the provision for publications in the CIMMYT grant, both publishing and distribution.

The Host Government was grateful for the CIMMYT concept as well as assistance. For years it had been recognized that the technology innovation system was not as effective as needed. Several attempts had been made through FAO to address the problem, but with limited results. CIMMYT seminars in-country and the administrators workshop

gave an indication of direction in which to go, and the USAID/PSU project provided a significant resource with which to move.

One FAO initiative dealt with extension since that is the place in the system where the problem was manifest. A type of specialist service was developed as B.S. level personnel were brought into Extension for the first time. That group is still functioning and could be important in the FSR program. Another FAO effort aimed at establishing a socio-economic unit in research, but it was never adequately integrated.

In the short run the PSU team is virtually the Research Service. The PSU team has found CIMMYT assistance to be very helpful. After a seminar with Mike Collinson it did two informal surveys on its own. They were helpful but not highly productive. Low helped with a third survey which the team found to be more helpful. Low is working with the team in one of the three areas in which it is working. He has region wide responsibilities, however, and cannot give the timely attention PSU would like. For example, he helped design the formal survey following the informal survey, but timing is such that he was not available for formal survey analysis and the translation of survey information to on-farm trials. The Swaziland program presented one challenge to the CIMMYT system. In one area, an irrigated commercial (even though small scale) vegetable production was encountered. The CIMMYT system has been designed for rain fed, food grain-general production systems on small farms very close to subsistence type. CIMMYT/PSU are working to adapt the system to this situation and apparently with success.

PSU feels that CIMMYT collaboration saved them considerable time. It provided a concept and set of methodologies with which to start.

Had the team been left to its own resources, it would have had to devise them. The concepts, methodologies, and limited attention also helped the team come together around common themes. It is significant that a group such as the PSU team which certainly was accustomed to coming to terms with farmers not only found the assistance helpful but also was willing to accept counsel and was grateful for it.

Although a few Swazis are closely involved in the FSR learning, it must be recognized that most of the research service has not been.

Extension has not been integrated into the on-farm trials. It is kept informed and is provided some in-service training. Some agents "pick up quickly" and are cooperative.

Persons contacted: USAID: Robert Huesman, Director; Jimmy Philpott, Deputy Director; Paul Daley, Agricultural Officer; and Shane McCarthy, Project Officer.

Pennsylvania State University: Gale Dunn, irrigation agronomist; Christopher Seubert, agronomist; Tom King, Chief of Party; D. Grenoble, horticulturist; Roland Freund, economist.

Government of Swaziland: Norma Themba, Director of Research Planning; Frank Buckham, Chief Research Officer; Robert Thwalla, Senior Agricultural Officer; Basil Maphala, research economist.

Zambia

Zambia was not visited in the course of this evaluation. These notes are from an earlier evaluation of a Zambia bilateral project.

The Zambia research organization is larger and better managed than most. It relies very heavily on expatriates for most technical work. Only a few Zambians are to be found in the research program and then only in junior positions. There are two exceptions. The director and chief research officer are Zambian, and they are giving what appears to be exceptional leadership. Evidence of the leadership is the apparent firm control the leadership is exerting to maintain an internal integrity of the research program in spite of the heavy reliance on expatriate individuals and on donor agency programs and support. Another evidence is the way the leadership is handling FSR. It is firmly committed to implanting FSR and just as firmly committed that it will be integrated with conventional research program. It is dealing with five area FSR projects, largely manned by expatriates of various nationalities and supported by various donors. It is firmly committed that they will maintain a certain degree of standardization of direction, concept, and method.

CIMMYT has played a major role in the Government's arriving at this position, dating back to the late 1970's when CIMMYT started work there. CIMMYT demonstrated its methodological system in the Central Province and counselled with the Government as it set up the organization to integrate FSR into the program. The integration is not complete, but organization and management is aimed at making it so.

At this point, the Government of Zambia is not disappointed in its reliance on CIMMYT, and it clearly identifies itself with the

CIMMYT system. However, it recognizes that FSR is not a mature area of competency and is willing to accept other inputs and to see its own activities evolve.

Currently, CIMMYT is a little more than half way through its series of calls for training. Many of its trainees are the expatriate implementers. The University of Illinois FSR team has participated in the training series, three sessions of which are completed, all in its area. The team has been grateful for CIMMYT help but acceptance has varied among members. One Illinois person has been named director of the area effort even though Zambians are involved. An agronomist, he values the CIMMYT assistance very highly and is following the general CIMMYT system.

We can't report how well informed USAID is regarding the CIMMYT operation but judge that if both the Host Government and its contractor were satisfied USAID would likely be positive.

Two points used to be made from the Zambia case.

1. AID in its grant to CIMMYT is building on to a significant CIMMYT contribution in Zambia made from previous effort and is taking advantage of CIMMYT experience and credibility in East Africa.
2. The second point is that CIMMYT has made a major contribution in institutionalization in Zambia even though the PF indicated not much was expected in institutionalization in the first two years of the grant. In the Zambia case, CIMMYT would have had an impact without the extra resources from AID. It seems reasonable to think however, that the CIMMYT training and networking under the grant will be significant in helping implement the Zambia strategy developed with its assistance.

Zimbabwe

Zimbabwe is not included directly under the USAID Funding Agreement, since USAID/Z has no Farming Systems project. However, the country figures importantly in CIMMYT's program, and it may soon be eligible for CIMMYT assistance through the University described below.

There has been an active Farming Systems project here since 1980, the year of Independence. The country was faced with mounting a program for farmers on the Communal Lands. Zimbabwe has three classifications of farmers: Those who own land and cultivate more than 200 acres, the large scale commercial; land owners who farm less than 200 acres, the small scale commercial; and those who farm on communal lands. These are the former Tribal Trust Lands. Farmers do not have fee-simple title, but they do have secure use rights to areas of arable land. Grazing lands are held and exploited in common.

A farming systems program was started with CIMMYT help and with a close collaboration between the Research and Specialist Services Division (RSS) of the Ministry of Agriculture, the Ministry Extension Service, and the Faculty of Agriculture of the University of Zimbabwe. CIMMYT provided supervised training for RSS staff and University staff in an area characterized by uncertain rainfall and relatively poor soils. Two years of drouth has not seemed to dampen interest.

In 1982 a second area was opened in a much more promising area. One technology tested in the new area has generated considerable farmer interest. It is a minimum tillage technology making use of a tine, an implement to open a narrow furrow in which grain is planted. Rationale is that this instrument will greatly decrease the demands placed on oxen at the beginning of rains, the time they are weakest. Researchers think that even those farmers not owning oxen will benefit

in that oxen owners will complete their work more rapidly and can hire their oxen out.

Zimbabwe is adding some elements to the conventional FSR process. Meetings are held with farmers in planning on-farm trials. The farmers select the sites for the trials and all are held responsible for care and maintenance of the plots. This apparently stimulates much interest. Farmers insisted the researchers discuss the on-farm trial program after results were in. After only one year of experience farmer demand for the time was far beyond supply. RSS will make some available through extension and anticipates that Extension will make a report on its performance this crop cycle.

RSS has also organized a Farming Systems Research Center on a branch experiment station. Its purpose is not clear. CIMMYT worries, and with some cause, that it will tend to lead FSR away from the farmer and the authentic farming systems perspective.

We did not talk to anyone from Extension, but all our Ministry of Agriculture respondents reported excellent collaboration of Extension and a keen extension interest in the program. Also reported was a growing interest from old-line researchers and plant breeders.

ILCA is interested in working with RSS to open the new areas this year and will make a livestock officer available to the program. Zimbabwe is also unusual in the degree to which it insists on including livestock in FSR.

They also report great interest from farmers. One meeting has been held with farmers to report on year's work, largely at the insistence of farmers who wanted to know what happened.

The Ministry of Agriculture has kept in touch with CIMMYT from the beginning and is confident in the CIMMYT work and wants further

CIMMYT attention. Personnel do want more help in dealing with livestock in the system than CIMMYT offers.

The Faculty of Agriculture, in existence only since independence, is struggling for its own development. It wants to develop a research base. The dean, who was formerly head of the Department of Land Management, which houses economics, soil science, engineering, and extension, used farming systems as the orienting concept for the departmental research program. He was one of the first to contact CIMMYT, and his department collaborated with FSS in the surveys in the first area. His interest continues and he has an IFDC grant for an F&E program in the Zambesi valley.

The Faculty is currently developing a program with USAID that among other things will provide six expatriate staff, three for three years and three for five years. To the extent that program is associated with the Zambesi Valley project, it will make Zimbabwe eligible for CIMMYT attention under the grant.

CIMMYT is also working with the Land Management Department to put on two training sessions a year for the region. The Department's contribution is largely logistics. CIMMYT and others provide the staff. The departmental program benefits greatly from this talent. The future of this program is not certain, and the Dean would like a little more security of expectations. CIMMYT would like the University to take more technical responsibility for the training.

Technically, this training program is not one of the items included in the CIMMYT grant, but it is so compatible to the purposes of the grant project that it would be in the Agency's interest to allow grant funds to be used if needed. We have no direct evidence of the quality and impact of this training, but we have much indirect

evidence. Many of the leaders of FSR programs in the area have attended similar courses held in Nairobi.

Our stop in Zimbabwe was very short, and we encountered some mysteries that could not be cleared up. There seemed to be a great enthusiasm for FSR, even to the point where one officer expressed fear that too much was expected. In spite of this, RSS has no plans to increase its investment in FSR. In fact the opposite may be true. The single agronomist assigned to FSR also is responsible for the Farming Systems Development Center, and that will reduce his on-farm time. One officer explained this lack of investment by a personnel freeze. Another officer of higher rank, however, said there were ways of dealing with the freeze. There are no RSS economists available to work in FSR.

In the meantime, the University is increasing its investment and commitment for FSR. We heard conflicting reports concerning UZ-RSS collaboration.

No one from Extension was on our schedule.

Extension is receiving more attention than research. Apparently, we were told that there are plans for a great increase in field staff. We could get no information on plan for research staff development.

Persons Contacted: Marc Winter, agricultural officer, USAID; Phillip Chigaru, director of Research Specialist Services, Ministry of Agriculture; Ephraim Whingwiri, head of Agronomy Institute, RSS; Enos Shumba, Agronomy Institute; Malcolm Blackie, dean, Faculty of Agriculture, University of Zambia; Mandie Rukuni, Department of Land Management, UZ; and Sam Muchena, Deputy Secretary, Ministry of Agriculture.

Southern Africa Development Coordinating Committee

SADCC

We visited with Carl Eicher of Michigan State University on assignment to USAID/Zimbabwe as regional agricultural development officer. He has had little opportunity to view the component of the CIMMYT program being evaluated. He spends 25 percent of his time in the Department of Land Management which is responsible for the CIMMYT training course, but which is not technically a component of the AID grant program. He offered some observations on that program, but largely from the viewpoint of institutionalizing it within the university.

He also described the ICRISAT regional sorghum program to be sited in Zimbabwe. It provides for an ICRISAT farming systems economist in year four of the project. That is too far away to be of any significance for this review.

The SADCC/AID program is now designing a project in grain legumes, but too little is known about it to anticipate opportunities for collaboration.

SADCC/AID is also organizing the SACCAR (Southern Africa Center for Cooperation in Agricultural Research) to be sited in Botswana. It will involve networking among national researchers and can be expected to provide excellent opportunity for collaboration.