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CIMMYT II FARMING SYSTEMS RESEARCH PROJECT

PROJECT NUMBER 698-0435-03

INTERIM EVALUATION

MARCH 1988

TABLE OF CONTENTS

Page No.

EXECUTIVE SUMMARY:..... i

I. BACKGROUND TO PROJECT EVALUATION

A. Project Objectives, Modifications and Refinements..... 1
B. CIMMYT II Revised Activities..... 2
C. Project Setting..... 2
D. Summary and Conclusions of Previous Evaluations..... 3
E. Scopes of Work and Methodology for Present Evaluation..... 4

II. PROJECT ACTIVITIES AND COMPONENTS

A. Comparison of Project Achievements with CIMMYT II Proposal Objectives..... 6
B. CIMMYT OFR/FSP Teams, Including CIDA Input.... 8
C. Regional Training Programs, Workshops, University..... 9
D. Networking Activities..... 12
E. CIMMYT Methodology in East and Southern Africa
- o Technical Assistance to National Programs.. 13
- o Interaction with other IARCs..... 17
- o Assistance to Title XII Programs in the Region..... 17
- o Extension, Agroforestry, and Livestock Components of Farming Systems 18

F. Institutionalization of FSR at the National Level..... 19
G. Farming Systems Impact and Technology Development..... 23
H. Sociological Dimensions..... 25
I. Policy Issues..... 26

III. PROJECT MANAGEMENT

A. Project Coordination..... 27
B. Project Planning..... 29
C. USAID/REDSO Management..... 30

Page No.

IV. FINANCIAL MANAGEMENT AND CONTROL..... 30

A. Accounting and Financial Records..... 30
B. Budgets..... 32
C. Audits..... 33
D. Other Donor Contributions..... 34
E. Financial Management Issues..... 34

V. LESSONS LEARNED..... 35

VI. EXPANDED LIST OF RECOMMENDATIONS..... 37

A. Project and Financial Management 37
B. Training..... 37
C. FSR Impact on Technology..... 38
D. Direct Collaboration..... 38
E. Extension..... 39
F. Livestock/Agroforestry..... 39
G. Networking..... 39
H. IARC Interaction..... 39
I. Title XII..... 39
J. FSR Institutionalization 39
K. Social Dimensions 40
L. Policy Issues 40

ANNEXES

Annex 1 Former Evaluation Recommendations
Annex 2 Issues Included in Scope of Work
Annex 3 Itinerary for Evaluation Team
Annex 4 Persons and Institutions Interviewed
Annex 5 Training and Network Activities
Annex 6 Training Materials
Annex 7 Excerpts from: Report of a Diagnostic Training Exercise
Annex 8 Staff time Allocations
Annex 9 Assistance to Title XII Programs
Annex 10 Acronyms
Annex 11 Organizational Chart for the CIMMYT/FSR II Project
Annex 12 CIMMYT Comments

OUTLINE OF BASIC PROJECT IDENTIFICATION DATA

1. Country: East and Southern Africa - Regional
2. Project Title: SAAR - Farming Systems Research Phase II
3. Project Number: 698-0435-03
4. Project Dates:

   (a) First Project Agreement: May 7, 1985
   (b) Final Obligation Date: December 2, 1986
   (c) Most recent Project Assistance Completion Date: May 20, 1990

5. Project Funding: (amounts obligated to date in dollars or dollar equivalent from the following sources):

(a) A.I.D. Regional Funding (grant)	U.S.$ 5,000,000.00
(b) Other Major Donors	U.S.$ Not available
(c) Host Country Counterpart Funds	U.S.$ Not available
Total	U.S.$ 5,000,000.00

6. Mode of Implementation: A.I.D. direct contractor - grantee (CIMMYT - International Maize and Wheat Improvement Center).

7. Project Designers: An unsolicited proposal from the CIMMYT to AID/REDSO/ESA. Proposal was reviewed and approved by AID.

8. Responsible Mission Officials: (for the full life of the project).

   (a) Mission Director: Director, REDSO/ESA
   (b) Project Officer(s): Project Officer, REDSO/ESA
   Chief Agriculture and Natural Resources Division, REDSO/ESA
   CIMMYT Project Manager/Agriculture and Natural Resources Division, REDSO/ESA

9. Previous Evaluation(s):

   CIMMYT FSR Phase I - Positive mid-term evaluation
   Date: October 1983
   CIMMYT Phase I - Positive final evaluation
   Date: December 1984
   CIMMYT FSR II - Internal evaluation of regional training
   Date: August/October 1985
   CIMMYT FSR II - Price Waterhouse internal audit
   Date: March 1987
   CIMMYT FSR II - Internal evaluation of in-country training call system
   Date: September 1987
   CIMMYT FSR Phase II - Mid-term evaluation
   Date: March 1988

REGIONAL ECONOMIC DEVELOPMENT SERVICES OFFICE

FOR EAST AND SOUTHERN AFRICA (REDSO/ESA)

INTERIM EVALUATION OF THE

INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER'S

EASTERN AND SOUTHERN AFRICA ON-FARM RESEARCH PROGRAM (CIMMYT II)

22 MARCH 1988

EXECUTIVE SUMMARY:

PURPOSE OF ACTIVITY

A collaborative Interim Evaluation of CIMMYT II, the second CIMMYT unsolicited on-farm research proposal funded by the Africa Bureau, was successfully conducted by a three person Team consisting of a CIMMYT socio/economist, a REDSO project development officer, and an external consultant/agronomist. CIMMYT II, a five year five million dollar grant, is a follow-on to the CIMMYT I 'On-farm Research with a Farming Systems Perspective' (OFR/FSP) project funded by AID in 1981 and completed in December of 1985. CIMMYT II, initiated in early 1986, builds upon that highly successful base while placing greater emphasis on training, particularly technical aspects, and in collaborative assistance to on-farm researchers. Based upon CIMMYT I evaluations, additional staff was assigned to provide greater agronomic input and more in-depth participation of project economists with national OFR programs.

CIMMYT II, through its focus on research and extension activities for small-holder production constraints, is a key ingredient in AID's agricultural strategy for East and Southern Africa and complements other USAID commodity research efforts in the region. The stated goal is "to create the capacity to produce and diffuse new agricultural technology appropriate to the needs of representative farmers in the participating network countries." This is to be achieved by training national technicians in OFR/FSP and providing direct field assistance to national on-farm research activities. Networking among cooperating national programs through workshops and newsletters is also included to encourage the adoption of OFR/FSP methodology.

Major outputs are to be an efficient core of OFR/FSP practitioners, including US Title XII FSR teams, in the collaborating countries. CIMMYT efforts in this respect are to be concentrated on the development of appropriate OFR research and extension methodologies and to provide technical assistance and training to national and regional agricultural institutions. Furthermore, CIMMYT II will encourage institutional changes within national research and extension organizations to accommodate and institutionalize OFR/FSP.

USAID is funding four principal project activities:

(1) Training - two basic modes are being used, regional training courses (RTCs) and in-country training (ICT). The primary emphasis in this phase is be ICT, at both professional and sub-professional levels.

(2) Direct Cooperation - CIMMYT staff are to participate in the planning and implementation of research activities and work together with national technicians in support of their on-farm testing and validation of new technologies.

(3) Networking - newsletters are to record experiences and problems in concepts and implementation of OFR and annual meetings will bring together research and extension professionals and their administrators to discuss technical matters as well as institutional and policy issues.

(4) Institutionalizing OFR - this will be done using workshops, visits, newsletters and consultancies CIMMYT is to provide effective examples of well managed national OFR/FSP programs that could be emulated by other network members.

At present CIMMYT II offers services to the following countries; Kenya, Mozambique, Djibouti, Zimbabwe, Zambia, Malawi, Swaziland, Lesotho, Uganda, Rwanda, Burundi, Somalia, Sudan, Botswana, and Tanzania, as well as Ethiopia (with CIDA financing).

PURPOSE OF THE EVALUATION

The project evaluation plan called for a collaborative interim review with three objectives. First, to access project progress, effectiveness, and achievement as measured against their indicators, baseline data summary, and former evaluation recommendations. Secondly, to establish the relevance, sustainability or validity of current, or anticipated, participation of national research institutions involved in project activities. Thirdly, it will assess REDSO/ESA and CIMMYT project management. Evaluation plans and scope of work are found in sections I E. and Annex 2 of the report.

The Team visited four of the sixteen countries serviced by CIMMYT II; Kenya, Tanzania, Zimbabwe and Zambia. Agricultural institutions and farmer trials were visited in each country. Researchers, extensionists and farmers were interviewed about their understandings and precepts of OFR/FSP and the CIMMYT II program. National Research Directors and Extension leaders were questioned on the status of OFR in each country and the degree to which this methodology has, or will be, institutionalized. University OFR programs, assisted by CIMMYT II, were reviewed in Tanzania, Zimbabwe, and Zambia. Former participants of the ICT and RTCs were also interviewed as to their opinions or recommendations for future project activities. Secondary data in the form of research results, country publications, extension recommendations, university syllabi, and farmer production results also were reviewed by

the evaluation Team. CIMMYT had also commissioned two external evaluations of their in-country training programs and their regional workshops, as well as fiscal audits in two regional offices. Recommendations from these evaluations can be found in Annex 1.

CIMMYT operates four offices in this region. Staffing is composed of CIMMYT core staff, CIDA funded maize and wheat agronomists, and project supported personnel. The Nairobi office provides some coordination actions and has a liaison role with REDSO/ESA. The Team had an opportunity to visit with most of the CIMMYT's regional staff.

FINDINGS AND CONCLUSIONS

The Interim evaluation of the CIMMYT II OFR/FSP program concluded that the grant was being well implemented and that its assistance is contributing to strengthening the Farming Systems Research (FSR) methodology at regional and national levels within research, extension and university systems. Clearly, CIMMYT II has been a major factor in the restructuring of national research programs presently espousing OFR/FSP as an approach to better understand and serve their client farmers. In the countries visited by the Team, the impact of this 'new methodology' can be seen and measured throughout the research/extension continuum. At the farmer level research is taking place on their land, based upon their identified production constraints. This process places the farmer, as a key collaborator and guide, in an OFR team together with multi-disciplinary researchers and the local extension agent. For many countries this is the first time that the farmer has been taken into account as a rational user of his limited resources and the best person to explain to the research community why he uses them as he does. In some cases it was also a new innovation to seek out the extension agent as a partner in the development of appropriate technology and not just as a dissemination or transfer agent - later in the process.

Problems that have been delineated by OFR teams, as needing more on-station work, are now finding their way into the investigation agenda of commodity research teams (CRTs). Further, many of these CRTs have now moved off national research stations and are conducting field trials with local farmers. Both phenomena are very positive statements about the improving status of OFR.

Training activities that CIMMYT II carries on in the region received very positive reactions from the national programs. Participants trained in-country and graduates of the regional workshops spoke highly of their experiences and of the knowledge they gained in OFR. Equally, the professionals that had attended special regional courses, seminars and networking activities generally felt they gained a great deal and had made excellent contacts with others working in similar fields or on the same kinds of production problems. The regional workshops were mentioned many times as outstanding examples of project achievements. Most OFR practitioners in the region received their initial OFR training in these regional workshops.

One of the more significant contributions CIMMYT II has made in developing linkage mechanisms and in furthering the institutionalization of OFR is the work they are doing with the University community. Strong programs have been developed in Tanzania and Zambia that include FSR instruction in various crop science, economics and rural development courses. As a basis for their field work both students and instructors have on-farm trials where diagnostic surveys are conducted, analyzed and trial designs implemented. In Zimbabwe, CIMMYT II supports two post graduate OFR/FSP studentships. The team felt this was also a positive program and one that should continue to expand.

The team noted that several of the recommendations from the CIMMYT I evaluations were addressed in the design of CIMMYT II or are now part of the current operational mode. Specific items that require further attention are the integration of extension, and the inclusion of livestock and agroforestry into the systems approach used by CIMMYT. More sophisticated data and information systems for internal project control, as well as in management of research data by national institutions, are areas that have not as yet sufficiently improved.

The status of the project and accomplishment achieved to date should be reviewed by CIMMYT staff as a first step towards readjusting or changing project activities. CIMMYT should develop a clear strategy for the remaining life of project, including detailed annual work plans, future resource allocations, staff coordination, appointment of a project leader, and the need to reassess budgets were all items and issues that were highlighted by the Team as needing immediate action by CIMMYT and REDSO/ESA. Issues on changes of CIMMYT and REDSO/ESA management procedures and administrative mechanisms that could improved or increase project efficiency were also high priority items.

RECOMMENDATIONS:

The Team made more than thirty specific recommendations in twelve separate categories (section VI). Major recommendations are enumerated here.

1. Project Management:

(a) A strategy for the LOP and an annual budget for 1988 accompanying a workplan should be developed by CIMMYT and submitted to REDSO/ESA for approval. Subsequently, workplans and budgets should be submitted annually by 15 December. (CIMMYT Mexico and Field Staff, by June 30 and Dec. 15,1988).

(b) A coordinator/administrator be appointed to liaison with REDSO; coordinate financial and procurement matters, annual workplans and general planning meetings and deployment of project resources. (CIMMYT/M, May 31, 1988).

(c) An agreement be reached between CIMMYT and CIDA for agronomic support in East Africa, resolving philosophical differences and allocating time to the CIMMYT II project, as originally agreed to in the Grant. (CIMMYT/M, May 31).

2. Training:

(a) Training focus and selection of trainees for in-country and regional training remain unbiased in terms of commodities. (CIMMYT/F, PACDI).

(b) There should be increased support and advising for OFR studentships for field research activities at regional Universities. (CIMMYT/F, REDSO, PACD).

(c) For increase agronomic support, additional resources should be drawn from headquarters, other IARCs, or consultants. (CIMMYT/F, 1988).

3. Technology Development:

(a) Develop means to document and/or measure farmer adoption and OFR/FSP impact on that process. Consultants may also be a source. (CIMMYT/M and Field Staff, PACD).

4. Direct Collaboration:

(a) Direct collaboration should be increased. Joint visits of agronomist/economist to FSR activities should receive greater emphasis. If CIDA funded agronomists cannot provide required technical assistance they should identify consultants to fill these gaps. (CIMMYT Field Staff, PACD).

5. Extension:

(a) More specific assistance to extension/research linkages is encouraged, on a country by country basis. CIMMYT farming systems training materials need to be developed or modified to include this linkage. Consultancy assistance should be sought. (CIMMYT Mexico and Field/S, PACD).

6. Livestock and Agroforestry:

(a) Project T.A. should focus on cropping systems for experimental purposes but the whole system for diagnostic exercises. Where there is a national commitment for working on crop-livestock interactions or livestock problems, other IARCs or consultants should be utilized. (CIMMYT/F, PACD).

7. Title XII Programs:

(a) Continue collaboration with Title XII programs, but areas of work be dictated by opportunities to strengthen national research/extension systems rather than a blanket obligation to service these projects. (CIMMYT/F REDSO, PACD).

8. Institutionalization of OFR/FSP Methodology:

(a) Better linkages need to be developed between OFR and commodity research programs. Emphasis should be placed on seeing that problems identified by OFR teams play an increasing role in national research planning mechanisms. (CIMMYT Mexico and Field Staff, PACD).

(b) Update OFR baseline, describe the organization of national research, extension and OFR activities including on-going relevant research. (CIMMYT Field Staff, December 31, 1989).

9. Policy Issues:

Promote formal mechanisms at the national level to input OFR/FSP generated information and data into national policy and planning bodies. (CIMMYT Field Staff, PACD)

LESSONS LEARNED

A. Project Design Implications:

(1) Technical assistance support to CIMMYT II by another donor has not been integrated into the project successfully, due to differences in project agreements and scopes of work. Better coordination, and a clear understanding between CIMMYT and the donors, should have been accomplished during the project design stage.

(2) REDSO/ESA should remain as manager and technical advisor to regional projects, rather than transfer these tasks to either bilateral missions or AID/W. Regional projects benefit from supervision and support provided by a regional AID field office that can help coordinate AID inputs. Services by bilateral mission would be disjointed and less cost effective. AID/W is to distant to respond to project needs in a timely manner.

(3) CIMMYT linkages to Title XIIs have been weak which has affected project performance, REDSO/ESA should work more closely with local missions and ADOs to strengthen the liaison between regional projects and bilateral programs.

B. Broad Action Implications:

(1) CIMMYT Mexico, as the project grantee, needs to be more cognizant of procedures and regulations governing use of AID funds. Relevant information should be conveyed by the grantee to operational staff in the field. REDSO/ESA needs to play a stronger role in providing specific advice on AID regulations to CIMMYT field staff.

(2) The development of an effective project implementation strategy together with annual workplans are essential to successful and effective project implementation. It is imperative for coordination of a program such as this, with staff located in four different countries and with headquarters in Mexico, that such a master plan be developed by CIMMYT

and approved by REDSO/ESA so that there are no misunderstandings or miscommunication. Further, REDSO/ESA staff should give greater emphasis to conducting on-site visits in order to better know field activities and to advise on management or administrative issues.

(3) In the region there should be better coordination between AID funded bilateral and regional projects. REDSO/ESA should catalyze this coordination by calling meetings of project personnel having similar program inputs or focus.

I. BACKGROUND TO PROJECT EVALUATION

A. Project Objectives, Modifications and Refinements

Given the initial success of the International Maize and Wheat Improvement Center's on-farm research programs in eastern Africa, dating back to 1976, USAID first funded an unsolicited application providing assistance to CIMMYT's Regional OFR efforts in 1981. Funding for CIMMYT I ended in December of 1985. The present program, CIMMYT II a five year five million dollar grant, builds upon this highly successful base while placing greater priority on training, particularly in the technical aspects, and in collaborative assistance to on-farm researchers.

Goals, as stated in the second application, "are to work with the national programs, USAID contractors, and other IARCs in creating capacity to produce and diffuse new agricultural technology appropriate to the needs of farmers in participating countries through more effective research in technology generation."

Project purposes of CIMMYT II, "are to provide participating countries with training, direct assistance in on-farm research with a farming systems perspective, networking among cooperating national programs and contracting agencies, and help with institutionalizing the on-farm research process". These activities are in support of AID efforts to build appropriate research and extension systems in countries of Eastern and Southern Africa.

Modifications to CIMMYT II were based upon changing priorities in the region, a better understanding of OFR/FSP and increased donor assistance to farming systems projects. Starting in 1986 the following refinements were made in the second phase:

- Where the 1981 proposal spoke of the need to foster an interest in the approach among researchers and research decision makers, that requirement was felt less urgent in large measure because of the rising tide of interest fostered by earlier CIMMYT work.

- Training would have a higher priority in the second phase than in the first so as to multiply the number of national program researchers who can handle OFR/FSP procedures.

- In support of that training, there was greater need in the second phase for well-versed professionals to work alongside fledgling on-farm researchers to assist them in cementing their newly developed skills.

- The second phase would give continuing attention to bringing extension into the effort so as to demonstrate their role in the process and to develop their capacities for playing that role.

- There was a heightened requirement at the Minister and PS levels that decision makers be sensitized to the particular characteristics of this class of work so that its place within research and extension systems can be recognized and institutionalized.

- Finally, with more OFR/FSP work in the region, there was greater advantage in ensuring that practitioners could share experiences, exchange ideas on methods, and review progress. This gave added importance in the second phase to exchanges (networking) among the region's practitioners.

Many of these activities were present in CIMMYT I, however in the second phase relative emphasis was changed with a greater weight given to training and collaborative on-farm experimentation.

B. CIMMYT II Revised Activities

Major changes were made in the approach of this present project in order to provide a greater level of technical assistance at the field level in assisting national programs in their on-farm research programs and to increase training activities. The second CIMMYT unsolicited proposal included two more professionals added to the grant funded staff bringing their number to three economists and one agronomist; three part-time agronomists to be furnished by CIMMYT through a CIDA grant, and one full-time economist from core funding. Consequently staff was placed in Nairobi, Zimbabwe and Malawi. Delegation of responsibilities were then made in terms of project tasks and countries to be served (see section II. B.).

The economist initially provided by core funding has left the services of CIMMYT and a replacement has been named and will be stationed in Ethiopia, which is not a recipient country of this project. He will also coordinate activities in Somalia and Sudan. The CIDA wheat agronomist has also been moved to Ethiopia.

C. Project Setting

Agriculture is the predominant sector in East and Southern Africa with maize as the leading subsistence food crop. Governments are duly concerned about food security and self sufficiency. Starting in 1976 CIMMYT introduced the idea of off-station research with a focus on identified production constraints of small-scale farmers. About the same time USAID became very interested in the Farming Systems Research approach and funded a number of FSR projects throughout this region. Most were implemented by Title XII institutions, which were not familiar with the methodology. CIMMYT, early-on, played an important role in assisting AID teams and host country agencies in using on-farm research methodology. As a result of this trend many of the national research institutions have recently initiated programs of OFR, with linkages to commodity research teams and extension programs.

CIMMYT's role, as the paramount instructional and networking mechanism for OFR/FSP methodology in this region, is still of high priority to national research programs and to USAID.

Excellent results have been realized, however much still remains to be accomplished to truly institutionalize OFR as a vital part of Ministry programs. Several universities in the region have now included OFR as a part of their instructional activities. These additional FSR linkages are providing early student indoctrination and will further enhance the adoption and institutionalization of this methodology at national levels.

Because of the regional nature of CIMMYT II, political or security problems, although existing, have not been a constraint to total outputs. Efforts had to be reduced, on a national level, in Uganda and Sudan but this has not had an adverse impact on the overall program. At various times the project has been restricted in the services it could provide to countries then under the Brooke Amendment. IDRC and CIDA were able to help CIMMYT continue technical assistance in some of these circumstances. Not all of the countries to be serviced in the region are English speaking; a reality yet to be addressed by CIMMYT II.

D. Summary and Conclusions of Previous Evaluations

CIMMYT I received two highly satisfactory evaluations. Each contained suggestions on how the Farming Systems Research methodology might be improved. A constant theme through each was the need for more agronomic input and better integration of OFR/FSP with livestock, agroforestry, and extension systems. Greater emphases on the project's linkage mechanisms with other IARCs and Title XII institutions were also stressed. CIMMYT was encouraged to move into more sophisticated information and data systems with the capacity to handle national research data in a standardized manner with common storage, recall and analytical capabilities that could then extrapolate site specific research results to other analogous areas. In this same mode it was suggested that CIMMYT develop an OFR/FSP information/data base that could provide services to the network and help measure project impact at regional and national levels.

Based on the successful final evaluation of Phase I AID decided to fund a second grant proposal. A majority of the issues raised in the two former reviews were addressed in the design stage of the CIMMYT II unsolicited application. The addition of CIMMYT wheat and maize, as well as project supported, agronomists to the program were in direct response to these evaluation recommendations. Less attention was placed on project information and data activities in the design of Phase II.

Since the signing of this present grant there have been several outside evaluations held on specific segments of the OFR/FSP program. The regional training sessions were evaluated in late 1985 and the in-country training courses were reviewed during the first quarter of this year. Both were supportive of program efforts and some of the evaluator's suggestions have been taken into consideration by CIMMYT

20

staff during later project training activities. Additionally, the CIMMYT Nairobi Office underwent a satisfactory financial audit from Price Waterhouse. The Zimbabwe office is undergoing an audit at this time.

A detailed list of former evaluation recommendations can be found in Annex 1. The present status of their treatment is included in the analysis sections of Part II below.

E. Scope of Work and Methodology for Evaluation

The detailed scope of work for the mid-term evaluation is presented in Annex 2. The purpose of the evaluation is to: (i) review the progress of the project for the purpose of mid-course correction of project implementation, (ii) review the continued participation of all institutions involved, and (iii) evaluate project management.

The evaluation took place from 29 February through 22 March, 1988. The evaluation team was composed of Dr. Ann Stroud (team leader), Mr. Gregg Wiitala, (USAID-REDSO/ESA, Nairobi), and Dr. Robert Tripp (CIMMYT, Mexico). Mr. Robert McColaugh (USAID-REDSO/ESA, Nairobi) participated in most of the evaluation activities as a resource person.

The evaluation team reviewed project documents, met with CIMMYT staff members, and held discussions and field visits with national program personnel in Kenya, Tanzania, Zimbabwe and Zambia. The itinerary for the review team is presented in Annex 3 and a list of persons interviewed is presented in
Annex 4.

The team was asked to address a wide range of issues, derived from three sources: (i) the scope of work (Section Four: Statement of Work) lists 6 "study areas" and 7 "additional specific project activities that need to be evaluated;" (ii) the evaluation plan for the grant lists 7 issues related to institution building; (iii) CIMMYT proposed a set of issues to be considered regarding possible adjustments in the project (Annex 2).

Many of the issues proposed in these sources address common concerns, and for the purpose of introducing this evaluation they can be summarized in the following items:

1. The evaluation determines whether project inputs such as training courses, workshops, technical assistance and consultancies are being made.

2. The quality and direction of various types of training offered through the project are assessed.

3. The effectiveness of direct research collaboration offered by the project is examined.

4. The evaluation examines the degree to which the utilization of this new perspective on research may lead to appropriate technologies for small farmers.

21

5. The evaluation examines the degree to which a farmer-focused research strategy has encouraged greater participation of farmers in the research process.

6. The impact of the project on the institutionalization of a farmer focus to research and extension in national programs is assessed.

7. The evaluation examines the degree to which a farmer focused research strategy has fostered linkages between national research institutions, on the one hand, and extension services and policy formulation, on the other hand.

8. The status of research networks established through project efforts is evaluated.

9. The involvement of the CIMMYT project with other institutions is assessed. The most important of these is the degree of interaction with USAID Title XII farming systems projects in the region. Further examples of collaboration, with other IARCs and with other CIMMYT staff, are also examined.

10. The effectiveness of both REDSO/ESA and CIMMYT project management is examined.

11. Finally, the evaluation assesses additional areas of support required by national research programs that might be supplied by the project including the extent and need for direct material support provided by the project.

II. PROJECT ACTIVITIES AND COMPONENTS

A. CIMMYT II Proposed Objectives

The CIMMYT Unsolicited Application dated March 1984, which was later funded in its entirety by AID/W, lays out the following goals, purposes and outputs to be achieved during the five year life of project.

Goal: To create the capacity to produce and diffuse new agricultural technology appropriate to the needs of representative farmers in the participating countries.

Purposes:

- o training in participating countries in on-farm research;
- o direct assistance with on-farm research in the countries of East and Southern Africa;
- o networking in on-farm research among cooperating national programs through workshops and newsletters; and,
- o assistance in institutionalizing the on-farm research process.

Project Outputs:

- o more effective USAID funded and contracted in-country programs in on-farm research with a farming systems perspective;
- o national professionals trained in OFR/FSP in cooperating countries in Eastern and Southern Africa;
- o improved OFR/FSP methodologies through exchange and networking interaction between country programs; and,
- o institutional changes in some national research organizations to accommodate OFR/FSP.

1. Four Principal Project Activities

Training: In a sense, all of the activities envisioned have a training dimension. The proposal states that two basic modes will be used, regional training workshops (RTW) and in-country training (ICT). The primary emphasis in phase II will be on ICT, both at the professional and sub-professional levels.

- o Ten In-Country Training programs, each spread over a period of fifteen months, will train 200 research and extension staff members; and,

- o Ten Regional Training Workshops will train an additional 300 country professionals with short courses of two or three weeks.

Direct Cooperation: CIMMYT personnel will participate in the planning and implementation of the research sequence: the surveys to assess farmer circumstances, the evaluation of possible new technological components to enhance farmer productivity, the experimentation on farmers' fields to test these possibilities, and the interpretation of experimental results in the light of farmer circumstances.

- o Project staff will provide assistance in the planning and implementation of OFR and FSR programs. They will work alongside expatriate and national scientists in the field improving the skills of over 100 additional professionals and, at the same time, contributing to the development of technologies appropriate to small farmer needs; and,

- o Over 25 person years of technical consultancy will be provided to national research and extension systems in ESA during the LOP.

Networking: Its aim is to facilitate discussion and exchange among the various country programs so that their accumulating experience can be shared. First, newsletters will record experiences and problems in concepts and implementation. Secondly, a set of annual meetings will bring together research and extension professionals and also research and extension administrators with policy-makers. Additionally, one annual review meeting of national research and extension administrators and AID program directors, will discuss institutional and policy issues.

- o Some 20 seminars and workshops will help orient and guide USAID contractor teams and will foster interactions and exchange experiences between country and contractor researchers and extensionists, and between national research administrators. There will be a minimum of 500 professionals attending these workshops over the project period.

Institutionalizing: CIMMYT will contribute to this process through encouraging exchanges among concerned decision makers - e.g. workshops, visits, newsletters, and facilitating consultancies. More directly, CIMMYT will provide examples from its experience of interactions between the process and effective OFR/FSP management.

- o finally, by the end of the project period, some five or six countries will have reorganized institutional structures and operating procedures in research and between research and extension to sustain a program of OFR/FSP.

2. Project Status and Progress

In the following sections of this document the present status and progress of these goals, purposes, major activities and other project support functions are discussed in detail.

B. CIMMYT OFR/FSP Organization of Technical Assistance

1. Technical Assistance Responsibilities:

East/Central Africa

Country	Economic Assistance	Agronomic Assistance
Kenya	Ananda	Palmer, Ransom, Tanner
Tanzania	Ananda	Palmer, Ransom, Tanner
Rwanda	Ananda	Ransom, Tanner
Burundi	Ananda	Ransom
Uganda	Ananda	Ransom, Palmer
Sudan	Mwangi	-
Somalia	Mwangi	Palmer, Tanner
*Ethiopia	Mwangi	Palmer, Tanner
**Djibouti	Ananda	-

Southern Africa

Swaziland	Low	Waddington
Lesotho	Low	Waddington
Botswana	Low	Waddington
Zambia	Blackie	Waddington
Zimbabwe	Low	Waddington
Malawi	Blackie	Waddington
Mozambique	Blackie	-

2. Country bases: Nairobi, Kenya - Drs. Ananda, Palmer, Ransom
Addis Ababa, Ethiopia - Drs. Mwangi, Tanner
Harare, Zimbabwe - Drs. Low, Waddington
Lilongwe, Malawi - Drs. Blackie

*Country not in USAID project but Mwangi (a core funded position) works here.

25

3. Support to staff (starting date):

CIMMYT core funds	USAID	CIDA
Dr. Mwangi (Nov. 1987)	Dr. Ananda (from Phase I)	Dr. Palmer (Maize) (mid-19
Dr. Collinson (end 4/86)	Dr. Waddington (May 1986)	Dr. Ransom (Maize) (mid-19
	Dr. Low (from Ph.1)	Dr. Tanner (Wheat) (mid-19
	Dr. Blackie (late 1986)	

4. Coordination responsibilities

Ananda - REDSO Project, training, IGADD
Low - Technical networkshops (assisted by Waddington)
Blackie - Research Administrators workshop, Newsletter (assisted by Waddington)

C. Regional Training Programs, Workshops, University

Description of Activities

The training activities covered during the first half of the project include (Annex 5):

In-country training courses - 28
Regional technical workshops - 8
Regional training courses - 9
Research administrators workshops - 2

It should be noted that some of the in-country trainings were single activities and others were part of the CIMMYT 'call system' which involves a series of training sessions with practice periods in between. These sessions sequentially cover the OFR process. In-country training courses using the call system were completed for Kenya (East and West) and Ethiopia (CIDA sponsored). Several FSR orientation workshops were held in various countries (Uganda, Tanzania, Rwanda, Burundi). These may be followed by future in-country training courses as the need arises. Three training activities were held in Zimbabwe for extensionists, the first CIMMYT training activity held specifically for extensionists. The majority of the training courses given under the project do however include extensionists among the trainees. They are usually nominated to attend because of their involvement in FSR as part of their job.

The project has responded to the needs of FSR practitioners to cover various issues arising from their work in more detail. CIMMYT has therefore initiated 7 regional technical networkshops to address these issues (Ethiopia, Swaziland, Rwanda, Burundi). (Refer to section on Networkshops).

Regional training courses continue to be given at the University of Zimbabwe two times per year, the first being on the Diagnostic Phase and the second on the Experimentation Phase. Other workshops of a more specific nature have been initiated to address on-farm experiment planning, organization, management, and interpretation as well as data analysis, interpretation and

reporting. These regional training courses are a follow-up activity to the more general regional training given.

In addition the project is now putting more emphasis on institutionalizing FSR training including developing linkages between the university and national research program. Two activities are taking place: involvement with Universities and a proposed "Train the Trainers" course which will train resource people from various interested countries, who in turn can run their own in-country training courses on certain aspects of FSR aimed at junior-level staff.

University activities are as follows:

1. Sokoine University of Agriculture, Tanzania

The project will assist selected departments of the University to include FSR principles and concepts in the syllabus of relevant courses. Once this is done special projects, which are part of the fourth year of study for a BSc degree, will be designed to use FSR concepts, in agronomy, animal science, economics and extension education. Technical assistance by CIMMYT will be given to oversee this activity. This activity has potential for bringing together the National research system and the University, particularly when embarking on the special project phase.

2. University of Zambia

The project is assisting the University by supporting several fifth year student projects which have been initially identified from a diagnostic survey done with students the previous year. The projects are from various departments - animal science, soils, agronomy, engineering.

3. University of Zimbabwe

The University has acted both as a site and as a supplier of resource people for the Regional Training Course. The CIMMYT regional office is also housed here. It was once assumed that the Regional Training Course would be taken over by the University; however, it has since been recommended that this remain a CIMMYT activity (RTC evaluation). Other assistance granted to the University has included support for several research scholarships for MSc students, in lieu of office rent. Direct input for including FSR principles and concepts into syllabi has been minimal although informal input into student special projects has been forthcoming. This is primarily due to lack of University interest. There have been numerous requests to assist more directly on BSc and MSc special research projects. Project staff based in Harare spent time supervising higher degree university of Zimbabwe students working on OFR.

Training materials have been developed during the second phase of the project. (Annex 6). These materials have been used in the training courses as well as given to training institutions or researchers as resource material. Subsequent exercises and lectures have been developed expanding the Teaching Notes series. These include: Introduction to Experimental Evaluation, Steps in

the Economic Analysis of Trial Data, Calculation of Net Benefit, Dominance Analysis, Marginal Rates of Returns (MRR) Computation, Evaluation of Inter-cropping Trials, Evaluation of Factorial Trials, Taking Crop Population Counts, Rainfall Data Analysis Exercise, among others.

Analysis and Recommendations

Generally, the majority of the time of the technical assistance has been spent on training in 1987. (Ananda - 40%; Lowe - 55%; Waddington - 35%; Blackie - 10%). Agronomic input to formal training courses has been adequate in terms of time. The response of the recipients has been exceedingly positive, and the positive effects of the OFR/FSP training has been noticeable throughout the region. This portion of the project has been well organized and generally well targeted.

In-country training is very intensive. In the future, it is recommended that these training courses be modified to suit the needs of the country rather than strictly adhere to a four-part call system. These courses should be done on an as needed basis rather than trying to meet the original quota set in the project document. Projections should be made by the project staff in this regard and approval sought from REDSO/ESA. Where country commitment to the process has been weak, where personnel transfer is high, and where one round of in-country training has previously been given, further requests should be considered but given a lower priority when planning activities. Follow-up training in areas where more specific detail is needed is recommended. This can also be done on an ad-hoc basis, not only on a regional basis but with small, in-country groups of researchers/extensionists. (For suggested areas see section on Technical Assistance).

It is recommended that the focus of the in-country and regional training sessions remain unbiased in terms of the types of researchers/extensionists. Commodity or disciplinary researchers should continue to be included as the FSR approach is now being more widely used than in the past when only OFR teams were involved.

There appears to be a great need for sub-professionals (primarily trial managers) to undergo training on FSR methodologies and more specifically on trial management techniques. It is recommended that a 'train the trainers' approach be used, otherwise, too much project time would end up being devoted to this single activity. More use of the CIMMYT Mexico production training courses is recommended. Further development or modification of training materials that can be used by this group would augment training. IARC collaboration on this type of training is advised in order to make it more efficient.

Involvement with University staff has taken two modes: adjusting syllabi to include the FSR/FSP approach and advising and supporting small research projects which use the OFR/FSP approach. Both activities are serving to integrate various agriculturally-related departments which is positive in itself. There are also instances where joint work has occurred between the University staff and national research institutions, a rare but positive linkage. Further support given to Universities where work has previously been started is recommended. Increase in support and advising to research

studentships is recommended. The two aspects should go hand-in-hand wherever possible. Further sensitization of University staff on the FSR/FSP process as well as further donations of publications dealing with OFR is recommended.

In instances in Eastern Africa where the CIDA agronomy support cannot cover agronomic aspects related to training or University involvement, it is recommended that resources be drawn from CIMMYT Mexico or other IARC projects having a mutual interest in this respect.

D. Networking

Description of Activities

Project networking activities have included both workshops and the "Farming Systems Newsletter". Since 1986, 7 technical networkshops have been offered (See Annex 5), including both in-field reviews and workshops on particular themes. Editorial responsibility for the newsletter has passed to M. Blackie in Malawi with the assistance of S. Waddington. Project staff devoted, an average, about 17% of their time in 1987 to networking activities.

The in-field reviews offer national program personnel a chance to profit from peer review of their research, plus an opportunity to discuss selected research themes. More scope for such reviews, even if confined to staff of a single national program, would seem to exist.

Networkshops on technical themes feature country reports, of variable quality, and contributions from other researchers working in the area. Limited attention has been given to follow-up and sustaining of the networks initiated in the workshops.

The newsletter includes an increasing number of technical articles written by national program personnel. It also includes announcements of current training and employment opportunities. There is some thought given to separating these two areas, and ensuring that announcements arrive in a more timely fashion.

Analysis and Recommendations

Networking is an important component of the project. It is recommended that efforts continue in this area and that the concept of networking be broadened. In addition to formal workshops and newsletters, there is the possibility of exploring more informal interchanges, both between and within countries. More concentration on direct collaboration, and the development of baseline data, should serve to identify further themes of common interest across the region. Once those themes are identified, particular strategies can be developed. They may include formal workshops (external consultants would seem to have a potential role for providing expertise and synthesizing results), efforts at standardized data sets, or informal interchanges. Networking themes suggested during the evaluation include inter-cropping, strengthening university syllabi, and in-field visits. The newsletter may be used to encourage better report writing by national program scientists.

E. CIMMYT Methodology in East and Southern Africa

Time allocations by the staff are presented by country in Annex 8.

1. Technical Assistance to National Programs

Description of Activities:

Technical assistance in this discussion refers to direct collaboration by the project staff, as an informal training mechanism as opposed to the formal training discussed in section C.

The project document, this was termed 'direct cooperation', to mean helping recipients utilize and develop skills developed in the training programs. Direct collaboration with agronomists and economists of national programs will assist and advise them in various aspects of their research/extension programs, including such aspects as planning, implementation, evaluation and acting as a catalyst in further diagnostic and experimental work. Direct collaboration does not mean that the project staff will embark on their own research and enlist the involvement of the national staff.

The amount of time that has been allocated by USAID funded technical personnel to direct collaboration activities in the past two years has been about 25% (Ananda - 27.5%; Blackie - 24%; Lowe - 7.5%; Waddington - 23.5%). Inputs from the two CIDA agronomists are less easy to judge. This is due to the fact that the CIDA project does not include their assistance to the CIMMYT II project in their scope of work. They are primarily working with commodity (maize) researchers. Assistance to OFR programs however does happen occasionally and whenever possible they try to accompany the economist in the CIMMYT II project where they have mutual work sites.

Originally, the idea was to build up FSR teams located at various research stations. Thus, in most cases FSR researchers and extensionists got concepts from training courses directly followed-up by collaborative efforts. Trainees have represented to a lesser extent extension disciplines, and less often disciplinary scientists or those involved in livestock research. Follow-up of these types of recipients has been less pronounced. In several countries, the FSR process is evolving away from using FSR teams and formalizing the process in all research activities (Kenya, Zimbabwe, possibly Zambia in the future). This means that subsequent direct collaboration may need to change its focus to meet the demands of a more diverse group.

The quality of FSR was judged during the project evaluation through field visits and interviews and is outlined by country as follows:

Kenya

Kenya researchers have received ICT (East and West) as well as direct collaboration from CIMMYT. Present status from selected visits revealed that the areas where on-farm research was going on and the number of experiments were not extensive. The work had not evolved substantially since the last in-country training (1986). The on-farm process was seen to be useful in

helping to identify research themes and in understanding the farming systems. OFE is primarily used in the final stages of verification testing and demonstrating to the farmer research 'packages' rather than single components but not used very much in technology generation process. Farmer participation in experimental management was minimal but was included in evaluation of technology. The researchers interviewed commented that agronomy assistance had been concentrated on maize commodity research rather than on on-farm trials except when done on maize. Although the exposure to working close to the farmer had influenced the researchers, little use had been made of new information gathered concerning new problem identification, re-ranking problems, etc. Partly, this is due to the national research system encouraging an experiment to run at least three years before changing it. They had problems with data analysis and understanding and dealing with the variability in their results even though most had attended a workshop on these aspects. A strategy for setting priorities to match farmer user groups, agro-ecological and edaphic zones could use strengthening; treatment choice has not always been scrutinized for system compatibility; reporting of diagnosis and experimental results has been poor; logistics in planning research has been poor. CIMMYT initially assisted in funding the materials and fuel for the small experimental projects, but when these resources were finished, future budgets to cover expenses were not forthcoming.

Tanzania

Only two zones presently use FSR. This is due to previous USAID/FSR project focus. CIMMYT's activities in Tanzania have been limited by the Brooke Amendment. The Tanzanian researchers visited indicated substantial progress in using the FSR process. Their experimentation involves farmers and is not solely researcher managed. The original diagnostic survey has been added to by informal observations made during the experimentation process and has helped to adjust the experimental program. The number of sites and categorization of research areas is fairly well done, and there have been substantial changes in the commodity and breeding research programs due to sharing of diagnostic information and training in FSR. Data analysis still needs assistance and economic analysis has not been used extensively enough. They have asked and received CIMMYTs assistance, primarily in more formal training activities (modified ICT). A former USAID/FSR project assisted greatly in follow-up of the use of the FSR process. Work has continued even though there has been a severe lack of resources once the USAID project terminated. The on-farm and non-maize commodity researchers have received little assistance from the CIDA agronomists.

Zimbabwe

Zimbabwe researchers and extensionists have received their training through the Regional Training Course rather than through the in-country training call system. Development and integration of FSR into the system using the CIMMYT methodology has been limited. This seems to be primarily due to the conservative nature of the Zimbabwe research system and the lack of understanding or support for the process at higher administrative levels. There has been a Farming Systems Research Unit (FSRU) based at headquarters, with no spread to other research stations. It was stated that most researchers

are now doing research off station; however, we were not able to visit any representative work. It appears that this work is researcher managed and not necessarily conceived with a diagnostic survey as background. The FSRU on-farm work is mainly researcher managed on mini-research sites. Experiments benefit from being located in the environment of the farmer but little emphasis is placed on involving the farmer in the actual research process. Complicated trials (multi-factorial) tend to move straight to verification. At this stage the farmer is supplied with the inputs and taught how to use them. Management tends to be much higher in these plots and is still not very representative of the farmer's management of the non-experimental variables. There is difficulty in understanding and classifying variability in the system and in sampling it through stratified site selection or by using post-stratification of data. The CIMMYT economic assistance to these trials has been substantial. The CIMMYT agronomic assistance has been good but lacking in some aspects such as assisting in site choice for verification trials based on a defined sampling system and the development of a more sophisticated data collection and analysis system, particularly for verification trials.

Zambia

Zambia was one of the first countries to receive the intensive in-country training course during Phase I. The CIMMYT FSR team model was followed developing ARPT groups for each zone which are in charge of diagnostic surveys and on-farm experimentation. Once started the CIMMYT involvement lessened as other donors, on a zonal basis, supported the work. Zambia, unlike the other countries visited, has a large contingent of expatriates doing the work due to lack of trained Zambian manpower. This situation is slowly changing as trained Zambians return; however, this means that the majority of the teams have young, relatively inexperienced researchers. The CIMMYT project assistance has returned lately due to some of the donor agency project completions leaving a gap for further assistance. Therefore, field assessment of the influence of CIMMYT was difficult.

Analysis and Recommendations

Generally, although direct collaboration has been taking place, it is recommended that time allocated to this activity be increased in the future. It is important that collaborative efforts be well-organized and focused on situations where there is a good chance of achieving results.

There has been a very positive development in terms of the FSR process affecting commodity research teams, particularly in the use of the diagnostic surveys to re-orient their research (See technology impact section for examples.) Although CIMMYT has not conciously concentrated efforts on direct collaboration with commodity researchers (other than maize), this development has occurred.

The economic support has been hampered in some cases by the lack of continuity in host country staffing or lack of higher level trained staff (Kenya and Tanzania). In other instances, economists per se have not been appointed to the research service as a matter of policy, so that follow-up here must be with other disciplines (Zimbabwe and Zambia).

CIMMYT agronomic support only started in earnest after Phase II began. The agronomic quality of the field work needs much more attention. In East Africa, support has been limited due to the CIDA agronomist's scope of work problem previously mentioned. In Southern Africa, the assistance has been more continuous, but needs to be better targeted to the identified shared problems of the FSR practitioners. It is therefore recommended that the technical assistance work be re-oriented. Joint visits by the agronomist and economist are encouraged wherever possible. In East Africa, there should be greater agronomic emphasis. If the CIDA agronomists cannot supply the support to the extent needed, consultants should be identified and supplied with a specific scope of work to answer the needs. The identification of this work should be done using advice from the CIDA agronomists.

Although the evaluation team is not in a position to make recommendations to the CIDA-sponsored agronomists, we would strongly urge that in any extension of the CIDA project more explicit attention be paid to resolving the false dichotomy between commodity-based and systems-based research, and that the degree of commitment to a farmer-oriented approach to research be spelled out in some detail including time contributions to activities in the USAID project. This would be an important step towards resolving any differences in approach that may remain.

It is further recommended that more specialized small group training be done within countries on issues that are common problems to FSR researchers. As examples the following areas were mentioned by national program staff: data analysis particularly dealing with variability aspects, planning and priority setting with more extensive use made of 'zoning' systems, trial management covering variations on researcher management (Zimbabwe) and farmer management (Tanzania), inter-cropping methodologies and analysis, organization of verification systems, understanding risk especially in semi-arid areas, inclusion of livestock and agroforestry FSR methodology, understanding and measuring labor allocations. More time should be spent on identifying common needs, organizing outside assistance (consultants) to help address these issues where it is not feasible for the project staff to undertake all activities of this nature. When direct collaboration is needed for crops other than maize, and where these crops are attended to by other IARCs in the region, it is recommended that the project staff notify these potential resource people. Technical areas needing longer term assistance should receive greater consideration. Consultancy funds in the project, previously under utilized, should be designated for areas such as: adoption studies, training material development, agronomy assistance (see above discussion), synthesis of the effects of FSR/FSP in the region, case studies that can affect policy, etc. Such areas should be identified by project staff and consultant assistance organized.

Research instigated directly by the project staff even when involving national scientists should not be done. It is important to stay in a collaborative mode, where assistance, although directed, is given to the national scientist's program, which of course can be influenced. Any activities which catalyze cooperation between national institutions is encouraged.

2. Interaction with other IARCs

Description of Activities:

CIMMYT staff have collaborated with other IARCs in a number of training activities in the past few years. Collaboration has been strongest with CIAT, ILCA, and ICRAF. Joint activities have included workshops in Rwanda, Burundi and Ethiopia, and these institutions have contributed to project activities such as the University of Zimbabwe regional training workshop, Kenya in-country training, and the regional workshop on data collection and analysis (1986 - 1988).

The degree of collaboration depends on the correspondence between goals and priorities of the particular institutions. Pressure is evident to increase the coordination of IARC activities in the region. Two inter-center meetings are planned for mid-1988 to discuss possible modes of interaction; one is being organized by IDRC to discuss philosophical issues in coordination, the second being instigated by CIAT and CIMMYT to discuss cooperation in training activities.

Analysis and Recommendations:

Further work depends on commitment from the other IARCs, and there is increasing evidence for this. It is recommended that the project continue to pursue such collaboration as a priority, so that a more coordinated effort at national research program development is achieved.

3. Assistance to Title XII Programs in the Region

Description of Activities

In the past two years, project assistance to Title XII programs has concentrated on formal training activities in Rwanda, Burundi, and Swaziland, directed at national staff (See Annex 9). Discussions and visits have also been carried out with personnel of Title XII projects in Lesotho, Malawi and Zambia. Several other Title XII projects have been completed during this period. These activities have been carried out in response to requests from Title XII personnel. In Rwanda and Burundi, the training has served as a forum for discussing research methods and for coordinating the work of various IARCs. The work in Swaziland is a continuation of close collaboration with the Swaziland Cropping Systems Research and Extension Training Project.

Analysis and Recommendations

The proposal envisions personnel in USAID Title XII farming systems projects as important clients. There have been a number of examples of excellent collaboration, but the extent of interaction has not been as high as expected. One of the principal reasons for this has been the lack of parallel commitment from the Title XII projects. As many of these projects will be drawing to a close in the near future, it is recommended that the CIMMYT project continue exploring means of collaborating with Title XII projects, but

that choice of particular areas of work be dictated by opportunities to strengthen national research systems rather than a mechanical commitment to service these projects.

4. Extension, Agroforestry, and Livestock Components of Farming Systems Extension

Description of Activities:

Extension involvement in FSR has been in the formal training courses and in field activities where they have been drawn into the research process. Research/extension linkages were evident to varying degrees in all the countries visited. They were strongly developed in Zambia; limited, and informally arranged in Zimbabwe and Tanzania; and weakly developed in Kenya. Country differences are not necessarily due to project influence but to the varying institutionalization of the FSR process within any given country. For example, in countries such as Kenya where the Training and Visit (T and V) system has been installed, FSR aspects which involve extension staff are very difficult to develop due to the rigid management of T and V as well as emphasis on blanket recommendations which are the antithesis of FSR. In Zambia and Tanzania the extension methodologies used are diverse due to different donors having influence and instituting different systems in designated parts of the country. In Zimbabwe, the extension system is relatively well-developed as a residue of the colonial era; however, emphasis has completely changed from the large- to small-scale farmer. The extension service senses the need for diagnostic surveys, verification trials and a faster, more direct research system to answer farmer problems, but their understanding of the FSR process as presented by CIMMYT is not well developed. Zimbabwe has started a Committee for On-Farm Research and Extension (COFRE) which intends to strengthen linkages at all levels of research to the final verification stages where there should be considerable extension involvement. The project staff has been involved in and influential in the preliminary meetings and should be continuing to participate.

The project's strongest direct interaction with extension has been in Zimbabwe, only recently. There has been modification and use of the diagnostic process particularly in helping extension to identify and prioritize problems, brainstorm for solutions (whether it be to change the extension message, modify recommendations or involve research directly in the process of new technology generation.) (See Annex 7 for excerpts from training exercises.) The occasional extension agent met during the evaluation who had been involved in the CIMMYT formal training courses had an appreciation for the process. Unfortunately, extension has received much less assistance through direct collaboration and less support from their superiors.

Analysis and Recommendations:

The involvement of extensionists in the formal training courses has had positive results and should continue. More specific assistance to extension is encouraged but should be considered on a country by country basis, given the differences and difficulties of working successfully in various systems. Emphasis should remain on the research/extension linkage aspects, that is, in

the areas where extensionists are involved in OFR. If further administrator networkshops are scheduled, it is recommended that directors of extension services be included as their FSR sensitization has been limited. Where increased involvement in formal training or direct collaboration is identified to be particularly fruitful, consultant or CIMMYT Mexico assistance may be solicited particularly to work out more extension-oriented training materials and modifications of the FSR process so useful aspects of the methodology for direct extension use can be targeted.

Livestock and Agroforestry

Project assistance in terms of formal training and collaboration remains limited in these areas. Involvement of other IARCs has been tried but remains limited. The tendency to have a maize-based focus and the lack of personnel hired under the project with expertise in these areas contributes to this deficiency. A livestock resource person has now been enlisted to participate in the Regional Training Course. It is recommended that although these aspects of farming systems are very important, the project's technical assistance continue to focus primarily on cropping systems for experimentation purposes but on the whole system for diagnostic purposes. Where important crop-livestock interactions or livestock problems are identified, and where there is promising national concern for working on these problems, consultancy assistance should be sought. If IARCs continue to be unresponsive or lack experience, then other consultancy sources should be identified. Agroforestry should be treated in a similar manner.

F. Institutionalization of FSR at the National Level

Description of Activities

One of the primary purposes of the project is to assist in institutionalizing the on-farm research process, through training, direct assistance, and networking. It should be made clear that this does not imply the promotion of any particular institutional arrangement for carrying out on-farm research. Instead, it should be interpreted as the establishment of research procedures that use an understanding of farmers' conditions and problems as a primary consideration in setting research priorities; that develop and test possible interventions under farmers' conditions; and that analyze research results and derive recommendations based on criteria relevant to well-defined groups of farmers. To be effective, these research procedures must be widely accepted and utilized throughout the research institution.

The evaluation team had the opportunity to visit four countries, where the degree of institutionalization was assessed. A brief summary of each of those countries is presented below:

Kenya

Under the current reorganization of the Kenya Agricultural Research Institute (KARI), there are 8 regional research centers with responsibility for adaptive research and 16 national research centers with commodity and/or disciplinary focus. Each of the regional research centers is to have a

farming systems section, but it is not clear if it is to be staffed only by economists or whether agronomists are to be included. As it is now, agronomists seem to be drawn either from commodity sections or from agronomy sections to participate in on-farm work. Agronomists and economists have been trained in CIMMYT call system courses and are in place at a number of stations, but because of considerable shifts in personnel, relatively few seem to have attended the complete set of calls. It is not clear if the farming systems sections will continue as permanent entities, or if they will evolve into ad-hoc units of variable composition.

At the national level there is a position established for an adaptive research coordinator, although the position is currently vacant. It is not clear what duties would be included in the job description for this position. KARI includes transport and other costs associated with OFR in its budgeting, but a separate budget has not been established.

The idea of a farmer focus to research seems to be generally accepted. The on-farm research carried out at Embu and Coast research stations follows on from the diagnostic work carried out during the training course, but the researchers have little experience or logistic support, and there is little evidence that the on-farm work is well linked to the rest of the research agenda, although other researchers participate in diagnostic activities. Extension agents participate in the management of on-farm trials. In addition, each station has a program committee that considers research proposals, and members of extension sit on this committee.

Tanzania

Farming systems research teams are established at two out of 6 zonal research centers, with plans for a third and perhaps more depending on World Bank funding. The teams include both biological and social scientists. The research centers are also staffed by members of commodity teams and disciplinary specialists. Some agronomists are found as members of commodity teams and others belong to farming systems teams.

There is a national coordinator of farming systems research with two assistants, all economists, based in Dar is Salaam. The national coordinator deals with matters of logistics and funding, but is not directly involved on OFR. There is a budget allocation in the Tanzania Agricultural Research Organization (TARO) for FSR teams.

Research planning is done at both the station and national levels. At the station level, plans are discussed by all teams and priorities are identified. At the national level, plans are discussed and approved by commodity coordinating committees and by a farming systems advisory committee. These committees have overlapping memberships, but the degree of contribution of the farming systems unit to overall priority setting is not clear. Extension agents participate in the management of on-farm trials in designated villages. Extension agents participate in annual review meetings at the research station.

Zimbabwe

The Farming Systems Research Unit (FSRU) is a separate unit of the Department of Research and Specialist Services (RSS), reporting directly to the director of RSS. It is composed of two animal scientists (including the leader), two crop scientists, one economist and 10 technicians. It carries out work in two areas of the country.

There is also an Agronomy Institute and a Crop Breeding Institute under RSS, and these institutes do some experimental work on-farm, but apparently not in relation to a diagnosis of farmers' conditions. A recently established committee from on-farm research and extension (COFRE) attempts to coordinate research and demonstrations that go on farmer's fields. The majority of this work does not seem to take a farming systems perspective, except for the work of the FSRU itself.

The FSRU work is now organized around a 'cluster concept' that places research trials, verification trials, and extension demonstrations in a small number of concentrated areas or clusters. There is considerable interaction with extension at the cluster sites, but coordination of research and extension at the national level is a goal still being pursued.

The future of the FSRU is currently being debated. It is not clear if it will remain as a separate entity.

Zambia

On-farm research in Zambia is carried out by adaptive research and planning teams (ARPT) in each province. The teams, based at provincial research stations but working in carefully defined areas in each province, consist of an agronomist, social scientist and research-extension liaison officer (RELO), provided by the extension service. The ARPT has a national coordinator (an agronomist) and there is a coordinator for rural sociology.

Most of the ARPT work is supported by donors, a different one for each province. This leads to some problems in coordination. Commodity teams also have regional trials, usually managed by agronomists based at provincial research stations. The degree of interaction in planning and research activities between ARPT members and commodity teams is variable but improving, although in many instances the commodity teams are headquartered at research stations, a long distance from the ARPT.

The RELO is responsible for interacting with extension subject matter specialists at the provincial level and for supervising trial assistants. The arrangement is hampered by a high turnover of RELOs.

A new planning strategy has been instituted in which the country is divided into 3 agro-ecological zones and research programs of commodity teams, specialists and ARPT are to be coordinated by zone.

Analysis and Recommendations:

To the extent that the programs listed are representative, some conclusions can be drawn regarding the degree of institutionalization of on-farm research. In the first place, it is obvious that the ideas and concepts of on-farm research have gained considerable respect in national research programs. Most programs have designated some personnel to carry out this sort of work, and although many difficulties remain, there is much less evidence of active opposition to these ideas than was found a few years ago.

Having acknowledged this progress, it must be pointed out that there is still a great deal of work to be done before results can be expected on any kind of a regular basis. This situation stems from several factors. First, there is still considerable confusion over what a 'systems approach' actually entails. Although many researchers understand the primacy of the farmer focus in on-farm research, it is still possible to hear a range of interpretations of what a systems approach entails, from researchers and administrators at all levels. These interpretations include OFR as a substitute for extension, a type of social science research, an approach aimed at marginal areas only, and research that necessarily involves crops and livestock simultaneously and/or multiple cropping.

Second, most of the on-farm research is still being carried out by relatively junior-level staff with poor support. On-farm research is often poorly conceived and planned and inadequately analyzed and reported.

Finally, lack of progress in on-farm research is linked to a larger problem of generally inadequate mechanisms for planning and priority setting in national research programs. Research stations and programs pursue a wide range of research, with little thought to the critical mass necessary for achieving results. The contribution of on-farm research to the planning process is not widely appreciated.

The primary goal of the project is the institutionalization of a farmer-focus to agricultural research. Most of the recommendations in this section deal with ways of reaching that goal. Nevertheless, it is worth detailing some specific points that should be given particular attention.

- A certain critical mass of researchers and resources is necessary before results can be expected. Any efforts that separate rather than unify researchers in national programs will be counter-productive.

- The project must pay attention to entire research systems and make sure that the idea of a farmer-focus is understood and utilized throughout the research organization.

- Probably the single most effective way of establishing a farmer-focus to research at this time, given general acceptance of the principles, is to achieve results. Results include actual technologies in farmer's hands, significant re-orientations of research priorities with recognized gains in efficiency, or improved dialogue with policy

or extension entities. The achievement of these types of results implies concentration on particular areas and more direct collaboration.

- One of the most important ways of achieving these sorts of results is through the encouragement of better documentation of planning and analysis in national programs.

A baseline data summary giving the status of on-farm research in 14 countries in the region was prepared in late 1985 as part of the Phase II agreement. It is recommended that this information be updated and monitored, particularly as a means of assessing progress in the institutionalization of on-farm research, but also as a basis for discussing strategies and work plans for particular countries.

Responsibility for baseline data on particular countries could be divided among project staff. Baseline data for each country should include the following:

- Organization of agricultural research and extension; institutions involved and their linkages (2-3 pages).

- How on-farm research is organized, planned, staffed and funded (2-3 pages).

- For each research project or area in the country where project staff are involved, a brief (one paragraph) description of research themes and methods. Such descriptions should not be confirmed to research labeled as "farming systems" or "on-farm research", but should include any research familiar to project staff which takes advantage of, or could take advantage of, a farmer focus.

Development of a collection of documents (annual reports, survey reports, etc.) to support the baseline is encouraged.

G. Farming Systems Impact on Technology Development

Description of activities:

Factors affecting the adoption of technologies by farmers is a complex issue influenced not only by the research methodology used to generate the technology but by other factors such as the strengths and weaknesses of extension, the amount of support and services given to research and extension institutions, the level of competence of researchers and extensionists, non-technical, policy, input or market related issues, etc. It has been assumed that the FSR/FSP process is an improvement over traditional research methodologies because it uses a 'systems approach' to understand farmer circumstances and problems. There has been evidence in Asia and Latin America that this methodology has corrected some of the misdirected research and led to the development of suitable technologies that farmers can use. It is well known that in Africa, traditional research has not answered farmer problems, thus, the introduction of FSR methodologies should have a positive impact, especially in re-orienting research. However, there has been almost no documentation made of the impact that FSR/FSP has had in Africa.

In viewing the situation briefly in the four countries visited, it became apparent that although the FSR process was being used, the experience is still in its preliminary stages. In many cases the first round of new technologies will not be ready for extension for another two to three years.

Evidence was gathered to illustrate where the FSR process has influenced the direction of research. A few instances of farmer adoption, regardless of whether or not the technology had been passed to extensionists, had occurred by the mere demonstration effect of on-farm trials. There were also examples of technology which had reasonably passed through the FSR process but which had a low adoption rate. The following list presents some examples of new research priorities derived from FSR work in the region:

1. The inclusion of agronomic work (fertility) on local maize as a new priority for research (Malawi).

2. The inclusion of inter-cropping trials to develop appropriate recommendations for crop mixtures (Malawi).

3. Economic analysis as well as yield parameters for evaluating maize fertilizer trials (Malawi).

4. The inclusion of early maturity as well as yield in bean variety selection (Swaziland).

5. More emphasis on open-pollinated maize varieties for marginal areas where seed maize availability has been a problem (Zambia).

6. A plow planter developed in an FSR program which is now widely adopted by farmers (Botswana).

7. Flexibility of recommendations on planting date by maize variety use as per agro-ecological region and yield potential of the area (Swaziland).

8. The expansion of herbicide use (Zimbabwe, Swaziland).

9. The inclusion of farmer's criteria in rice and cowpea variety selection (Tanzania).

10. The location during a diagnostic survey of a local sorghum variety which has now been included in the breeding program due to its favorable characteristics (Tanzania).

11. The importance of local vegetables to fill the hunger gap (Zambia).

12. The importance of relay cropping in cotton management (Tanzania).

13. The importance of early-maturing maize varieties in drought prone areas (Kenya).

There have been several instances of adoption, particularly of varieties, due to farmer's involvement in on-farm variety trials prior to official release of the variety. There has been increased but limited adoption of row planting of maize in one area in Kenya by farmers involved in on-farm trials.

Examples of adoption problems include the development of a 'tine' which is to help alleviate draft shortage by making minimum tillage feasible. In this farming system, shortage of draft power causes late planting of maize which in turn causes lower yields. Farmers have been slow to adopt this technology which should be helping them to speed up planting. In another instance, an early maturing maize variety to help provide food during hunger periods has been accepted by farmers; however, availability of seed has been a problem leading to slow adoption. Farmers now have been organized to multiply seed at the village level.

There have been several documented cases where FSR has changed or re-oriented extension recommendations. In Malawi, recommendations have changed from chemical fertilizers to appropriate mixes of inorganic and organic fertilizers. The use of a modified ox planter shoe which places the fertilizer away from the seed has been extended to farmers in Swaziland. This has helped solve the problem of poor plant stands due to incorrect fertilizer placement. The FSR process has encouraged much stronger linkages between research and extension. This is bound to have a positive effect on future technology diffusion. (See section on extension).

Analysis and Recommendations

Generally, there has been little documentation of adoption of new technologies in the region let alone adoption shown to be directly related to the FSR process. Several of the Directors of Research, national farming systems coordinators and others suggest that more emphasis be given to this sort of study in the future. It is therefore recommended that the project give emphasis towards developing a way to document and/or measure farmer adoption as well as the impact of FSR/FSP on the process. It is suggested that this be accomplished using a consultant and/or working directly with interested students, researchers, national FSR coordinators, extensionists.

H. Social Dimensions:

Description of Activities

One of the major justifications for on-farm research is to assure a more equitable outcome for agricultural research. Work encouraged by the project has served to re-orient research towards the needs of small-scale producers. In both Kenya and Tanzania, for instance, researchers make sure that female farmers are well represented as on-farm experiment collaborators. Research on issues of inter-cropping in Kenya and Tanzania, seasonal food shortages in Tanzania, and drought risk in Zimbabwe are all examples of a re-orientation towards the priorities of small-scale producers. In Zambia, efforts are underway to assure that nutrition and consumption issues are always considered by ARPT teams, and several rural sociologists are part of ARPT. The necessity of differentiating recommendations according to household characteristics has

been demonstrated by on-farm weed control research in Swaziland, as well as the project's sponsorship of a networkshop on household characteristics and research priorities.

Analysis and Recommendations

The project should continue its emphasis on the social dimensions of agricultural research, both in its training and networking activities. As more work is done on the adoption of new technologies, social dimensions should be included in any analysis.

I. Policy Issues:

Description of Activities

There is increasing attention given to the place of policies in making agricultural research and its results more effective. The evaluation looked for examples of contributions of on-farm research work to policy formulation. Examples were found in the areas of input supply, credit requirements, and the selection of target farm populations.

With respect to input supply, on-farm research is able to develop information useful for improving the efficiency of input provision. In Kenya, researchers at Embu have discussed the late arrival of fertilizer with the head of the local cooperative society, who is a member of the research committee. They are also initiating research to look at the extent and rationale of the use of seed saved from previous hybrid crops. At the Coast Research Station, shortages of fertilizer and seed supply have been taken up with the district development committee. In Tanzania, on-farm research at Ilonga has led to the development of village level seed production, and in Swaziland on-farm research is contributing to the formation of appropriate herbicide provision policies.

On-farm research has also contributed to the modification of credit requirements for fertilizer in Malawi, and a similar analysis is underway in Zimbabwe. On-farm research on the relay cropping of cotton into maize in Tanzania has led the Cotton Board to modify its stance on restrictions to inter-cropping cotton.

One of the most important areas of potential interaction between agricultural research and national development policy is the issue of the selection of target areas and populations. Evidence from the visits to Kenya, Tanzania and Zambia shows that On-farm research has contributed to a better delineation of research targets, and the formation of the on-farm research and extension committee (COFRE) in Zimbabwe promises to have a positive effect in this regard.

Analysis and Recommendations

There would seem to be more potential for developing these sorts of interactions between on-farm research and policy formulation. Normal FSR diagnostic and analysis activities do delineate production constraints not

under the control of the farmers. Once identified these need to be formally made known to sector policy and planning bodies. This will certainly require more intensive input from project staff, however. National program leaders could be encouraged to identify appropriate themes, and project staff could assist national scientists to collect relevant information, develop high quality presentations, and identify appropriate audiences. This sort of "grass-roots" approach to policy research would contribute to developing much more effective relations between national research programs and policy makers.

III. PROJECT MANAGEMENT

A. Project Coordination

The Grant agreement stipulates that CIMMYT will have full implementing responsibility following the established implementing and operating procedures being used by CIMMYT. While the project will be administered by CIMMYT/Mexico, the Grant Agreement further states that "CIMMYT's regional offices in Eastern and Southern Africa will be responsible for coordination with national research and extension services, AID contractors, and the REDSO/ESA office in Nairobi." This management structure is a continuation of the management structure that was in place for the CIMMYT I project with the major difference being an increase in staff involved in the project as well as basing staff in different countries (see Sec II.B). This arrangement does not formally identify an individual to undertake CIMMYT II project coordination activities in the field.

While this arrangement is working adequately in terms of CIMMYT field staff providing services and undertaking program activities for the individual country research and extension services, and to a limited degree with AID Title XII contractors due in part to their limited requests for assistance, it has not been suitable in addressing issues relative to overall project coordination and planning. As a result, the requirements for AID approval, such as those for annual plans, have not been obtained as specified in the grant agreement.

A description of the CIMMYT organizational structure as it relates to the CIMMYT/FSR project will help to clarify line responsibility between field staff and CIMMYT/Mexico. A practical organizational chart depicting project positions and program and financial reporting appears as Annex 11. The CIMMYT/FSR project has functional reporting responsibilities to both Research (program activities) and the Finance/Administration Divisions in CIMMYT/Mexico. It is not clear as to where the CIMMYT/FSR II project resides within the CIMMYT structure. Although it appears to be an activity under the Director for Economic Programs, half of the staff associated with the project report to the Director for Economic Programs, while the agronomists report to their respective commodity directors (i.e. Director of Maize Programs or Director for Wheat Programs).

This matter is further complicated in that while the Project was originally prepared by CIMMYT and presented to AID as a project having parallel funding from CIDA for three agronomists who would contribute 1.2 person years annually, in reality, these staff members establish their own work schedules and priorities which are not always compatible with the

requirements of the FRS Project for agronomic input. Even in the situation where the project funds 100% of an agronomist position, the reporting responsibility is to the Director of Maize Programs.

Each professional staff member associated with the FSR Project prepares an annual set of objectives which are subject to review and approval by their respective director. This procedure does not encourage integration of activities of the agronomy and economics activities in the FSR project. This applies to both the AID-funded and CIDA-funded agronomists associated with the project. Conflicts of time allocation and prioritization of activities do occur which result in less than optimum project performance. Agronomy input is an essential part of overall project activity.

A discrete project activity, such as the CIMMYT II Project, does entail specific coordination and management activities distinct from the overall CIMMYT program management. While it is desirable on the part of the CIMMYT to utilize as much of their internal management structure as possible in administering the project, CIMMYT/Mexico must be cognizant of USAID's project management responsibilities assigned to the REDSO/ESA office and ensure that the CIMMYT regional offices have the ability response as to to REDSO/ESA project management requirements as well as to RFMC on financial matters.

Project coordination, as currently exists, is a liaison function being provided by a Nairobi-based staff member. The authority and responsibility is mainly that of consolidation of field office information for the semi-annual reports and serving as a field contact for the REDSO/ESA project manager. This arrangement does not provide the level of authority required to address key planning and project implementation matters as required under the Grant Agreement. These issues include among others annual planning (both financial and program), procurement of equipment, coordinating the deployment of technical resources, and integration of assigned staff into overall project activities. The evaluation team did not consider this arrangement to be adequate to meet the requirements of the project. Under this informal arrangement, it would appear that project management and resource allocation lack direction and focus. These management activities are being done mainly on an ad hoc or as needed basis. This arrangement makes it difficult to schedule and efficiently manage resources.

Analysis and Recommendations

The absence of an appointed person responsible for project management and coordination has been a major shortcoming in project management. This has contributed to deficiencies in the following areas: (i) coordination and deployment of project and associated staff; (ii) planning, and, (iii) financial administration and compliance with AID grant regulations.

It is recommended that CIMMYT/Mexico, in consultation with REDSO/ESA, review options that would provide regional coordination and management for the FSR Project. Primary management requirement of the project include the following: (1) project coordination; (2) annual workplan and budget; (3) preparation of reports for AID and CIMMYT; (4) review of monthly financial reports; (5) logistic arrangements for training activities; (6) procurement of capital items for the project; (7) liaison role with REDOS/ESA; and, (8) serve as principal link between the project field activities and CIMMYT/Mexico.

Among the options to be considered are:

1. One of the current senior field positions would take on the responsibility for FSR Project coordinator. This would require formal appointment and communication of such appointment to both REDSO/ESA as well as other senior members in the field. A description of duties and responsibilities would need to be prepared and would relate to planning, reporting, and coordination of personnel input into planned activities. In order to minimize the amount of time that the coordinator would spend on routine administrative matters, an administrative officer should be hired to perform routine duties required for project implementation as well as track administrative activities of the field offices. Financial reports and capital purchases would be subject to approval by the coordinator.

2. The second option is to hire a senior level project administrator to be stationed in the region. Field staff would be consulted with frequently to insure their input into project management and implementation. Duties would be primarily project management and implementation activities including resource allocation.

B. Project Planning

The grant agreement requires that annual work plans be prepared and submitted to USAID for approval. The first workplan (for CY 1986) was submitted in August, 1985, and subsequently approved by REDSO/ESA. Subsequent required annual workplans for CY 1987 and CY 1988 have yet to be submitted. Annual workplans provide an opportunity for the project staff to specify the activities to be undertaken during the plan period and to seek approval from AID should any modification or additional activities require prior approval from AID in order to be in compliance with the grant agreement. Annual plans also provide an opportunity to estimate the financial resources required to carry out proposed activities and provide opportunities to identify areas that may require further negotiations with AID should amendments to the agreement be required. It is recommended that preparation of the 1988 workplan commence and be submitted to AID within 60 days. Future workplans should be submitted to AID no later than the 4th quarter of the preceding year.

The semi-annual reports contain a section of proposed activities for the next six month period. This section contains useful detailed information on planned activities for a shorter period of time and does contribute to the planning process. This activity should continue, but it should not be considered as a substitute, as was allowed in 1987 for the annual work plan and detailed budgets. Furthermore, budget information is not included in as part of these semi-annual reports.

Project Activity Data Collection

Planning activities, evaluations, and future use of project information for other development activities would benefit if the current FSR project maintained a data base on participants trained and staff technical assistance activities. As this is primarily a training project, a data base containing information on the trainees would be useful. CIMMYT should review what

information that should be collected on the trainee profile. This may include information relative to their previous training, employment experience, past research activities, and current or planned research activities.

It is recommended that a data base for the training program start. In addition, it is recommended that the data on training programs collected for this evaluation be put into a computer data base and up-dated during the remainder of this project. The data collection forms should be prepared in consultation with an expert on survey technique to facilitate entry of the information into a data base. One of the CIMMYT/FSR field offices would be assigned responsibility for maintaining this data base.

C. USAID/REDSO Management

Responsibility for AID management of the CIMMYT/FSR project resides with REDSO/ESA and RFMC, both located in Nairobi. The evaluation team makes the following recommendations with respect to AID management.

1. AID management responsibilities should continue to reside with REDSO/ESA. Direct management by AID/Washington is not recommended as most of the assistance required is at the regional level. Furthermore, bilateral AID mission management would result in fragmentation of the project and significantly increase supervision costs.

2. REDSO/ESA should prepare a handbook that provides information to project field staff on matters related to project implementation and standard regulations covering use of project funds.

3. REDSO/ESA should review CIMMYT's policies concerning benefits, allowances and privileges that are receivable by its employees and consultants to verify that they comply with the compensation section of the grant agreement.

4. A more thorough review of project implementation and management issues should have been undertaken by AID when reviewing the CIMMYT proposal. These issues were not adequately addressed by AID, and have resulted in misunderstandings during this phase.

5. AID should consider withholding funding if the grantee does not comply with provision of the grant agreement such as the timely submission of annual workplans.

6. USAID committed U.S.$150,000.00 of project resources to support IGADD activities. This was done without CIMMYT concurrence. AID should have discussed this with CIMMYT and obtained their approval prior to committing project resources.

IV. FINANCIAL MANAGEMENT AND CONTROL

A. Accounting and Financial Records

Field offices have adopted basic accounting procedures from CIMMYT/Mexico which enable accounts to be centrally compiled in CIMMYT's head office. This

appears to be a suitable arrangement given the relatively small staff and expenditure levels of field offices. The Nairobi office accounting procedures were examined as a representative example of the procedure followed by the other CIMMYT offices associated with the project. No review was undertaken of CIMMYT/Mexico accounting documents other than financial reports sent to RFMC requesting funding. Under the present system, field offices are required to maintain basic books to record transactions and compile monthly financial reports that are forwarded to CIMMYT/Mexico for consolidation. Field offices also comply with payroll, tax, and other regulations as required by the laws of the country in which the office is located. In Nairobi, ILRAD provide personnel and payroll services to CIMMYT on a fee basis. With less than 10 locally hired staff, this system is cost effective and should continue.

The accounting and recording system in place is simple and appears to be easy for the locally hired staff to follow. Several recommendations have recently been made following the Nairobi office audit which will improve internal controls and facilitate future audits. Adopting these recommendations will facilitate better accounting and record keeping by field accounting personnel.

CIMMYT/Mexico also makes payments on behalf of the field offices such as salaries and benefits for senior staff, capital purchases, and credit card payments. However, once these transactions are completed, no mechanism exists to pass back to the field office information on these payments.

Analysis and Recommendations

It is recommended that this procedure of consolidating financial reports in CIMMYT/Mexico be continued as it could provide an efficient means for CIMMYT to report to the donors as well as access to in-house professional accounting expertise relative to donor requirements. It also places the responsibility for accuracy and timeliness of reporting in CIMMYT/Mexico the offices that is most cognizant of the requirements of the grant agreement.

Several areas were identified during the 1987 Audit of the Nairobi office where improvements could be made in control and verification for accounting purposes. Some modification of procedures would be required, however, it is unlikely that these recommendations will have any negative effect on the timeliness of field financial report preparation. The evaluation team concurs with these recommendations and suggest that the other field offices consider adopting these measures as well. In addition, we would recommend that all financial reports being sent to CIMMYT/Mexico be reviewed and signed prior to posting by the senior field officer in each field office having responsibility for administration. This would include bank reconciliations, monthly expense reports, and the transmittal letter. It is also recommended that individual expense voucher be reviewed and approved by a second signatory. The current practice of an officer approving his own expense voucher lacks oversight and control. With the exception of Malawi, all field offices have more than one senior staff member which would enable this review to be conducted. Although field staff expressed concern that the amount of international travel would make this difficult, it is still recommended that someone other than the

recipient should authorize payment. Field officers are permitted to maintain sizeable advances which should enable the officer to have adequate funds until the next expense voucher can be reviewed.

All senior staff are signatories to cheques and there are no limits to the amount for a single signature. If CIMMYT has an existing policy requiring a second signature for amounts exceeding a certain level, it is recommended that this policy be adopted by field offices as well.

Monthly field office financial reports are sent to CIMMYT/Mexico. and if there are no queries, CIMMYT/Mexico confirms receipt of the reports. No further information relative to overall expenditures or project finance is sent back to field offices. Field officers do not have information on total program costs. Field management responsibilities for controlling project expenditures would be improved if CIMMYT/Mexico sent monthly financial reports to field offices which showed total project expenditures by each field office. This would include payments made by CIMMYT/Mexico on behalf of the project. It is recommended that copies of the consolidated project expenditure reports be sent to field offices including details of payments made by CIMMYT/Mexico on behalf of field offices.

B. Budgets

It was difficult to assess the adequacy of the current budgets used by the CIMMYT/FSR project as current budget information was not available in the field offices visited. The illustrative budgets of the grant agreement were the only budget documents available. The project should have a consolidated budget showing core funding, CIDA project funding, and AID funding. This is the only way that total projected project costs can be planned and analyzed. Budgeting and financial planning activities for the project are weak. Field officers do not have information that accurately projects available resources relative to planned activities. The most recent financial statements from CIMMYT/Mexico (December 1987) indicates that some line items are nearly exhausted while others appear to be over funded at this stage of the project. In part, the explanation may be that unknowingly there has been mis-allocation of expenses to line items. This is difficult to assess because there is inadequate feedback on expenditures from CIMMYT/Mexico to the field. Guidelines for use of AID funds are stated in the grant agreement. The percentage of funding remaining for each line item as of March 15, 1988 are as follows:

Item	% Remaining	Balance Available
Technical Assistance	82%	U.S. $ 2,129,471.00
Training	76%	U.S. $ 426,930.00
Travel Collaboration (Staff)	16%	U.S. $ 42,819.00
Travel Collaborators	91%	U.S. $ 227,265.00
Networking	56%	U.S. $ 332,546.00
Publications	5%	U.S. $ 1,488.00
Administration	10%	U.S. $ 69,636.00
Evaluation (audit)	100%	U.S. $ 50,000.00
Total	66%	U.S. $ 3,280,155.00

The project is currently at the mid-point of the implementation plan, yet 66% of the AID funds remain. From the information available, the status of

the CIMMYT core funds and CIDA funds cannot be determined, however, this information is required for an overall understanding of the project's financial status. It is recommended that the following steps be taken:

1. That CIMMYT/Mexico prepare a financial statement that indicates total project expenditure to-date and source of funding (i.e. core, CIDA, and AID).

2. CIMMYT/Mexico in consultation with field staff and REDSO/ESA examine past allocation of expenses to line items and re-allocate to appropriate line items when warranted.

3. Prepare a revised financial plan from the present through to the projected project completion data based on current balances (all funding sources).

4. Prepare as part of the annual work plan a detailed annual budget. 1988 budget should be prepared as soon as possible. This budget should include all funding sources and application by line item.

5. Capital purchases line item should be included as well as schedule of proposed capital purchases.

6. Review the current financial status of the project and propose amending the project agreement to accommodate a revised budget should it be warranted.

C. Audits

An audit was recently completed for the Nairobi office for the period ending December 31, 1987. An audit for same period is currently underway in Harare. We concur with CIMMYT's decision to have audits done in field offices. We would recommend that this practice continue and that audits also be conducted in Lilongwe and Addis Ababa if bank accounts and payments are being made from these locations. As the same audit firm conducted both the Nairobi and Harare audits, it would be advisable to engage them to do the Lilongwe and Addis Ababa audits if the firm has representation in those cities. This would facilitate completing consolidated audits of field activities should this be done in the future.

The audit report in Nairobi included several recommendations on procedures that would improve controls on expenditures in the Nairobi office. We would expect that the Harare audit will also include recommendations for that office. It is recommended that CIMMYT/Mexico review these recommendations and encourage the field offices to adopt them. Copies of these audits should be sent to the AID project manager.

D. Other Donor Contributions

Life of the project funding was estimated to be U.S. $10,520,000 from the following sources:

1.	USAID Grant FSR Project	U.S. $ 5,000,000.00
2.	CIMMYT Core funds	U.S. $ 1,646,000.00
3.	CIDA	U.S. $ 1,354,000.00
4.	USAID Missions	U.S. $ 1,800,000.00
5.	Host Country	U.S. $ 720,000.00
	Total Project	U.S. $10,520,000.00

The CIDA contribution funds three agronomists in the region. At the time of the evaluation, two agronomists were stationed in Nairobi and one in Addis Ababa. CIMMYT core contributions are to fund a full time technical assistance person (currently an economist in Addis Ababa) and the local administration and support costs of the East and Southern Africa offices. We could not verify from available documents the amount of local administration and support costs that CIMMYT core funds are covering.

USAID Mission contribution were to be for training activities in support of the Title XII farming systems research projects. The estimate used in the grant agreement was based on the assumption that there would be 12 participating FSR country team's utilizing six 2-week CIMMYT calls. The demand for these training has been considerably less than originally projected, and it is anticipated that USAID mission contributions to the project will be less than originally anticipated.

Host country contributions are also related to training activities at a level similar to that of the USAID missions. While all 12 proposed countries did not contribute or participate in the training activities on an equal basis, there is still likely to be a significant contribution by the host countries to the projects. Quantifying the value would be difficult, however, given the levels of trainee participation, it can be concluded that host countries have contributed significantly as was anticipated in the illustrative budget in the grant agreement.

An analysis of the contributions by the AID/Washington, CIMMYT, and CIDA will be possible following preparation of a comprehensive project financial statement.

PL 480 Funding - three of the USAID missions visited indicated that some local currency funding from PL 480 programs may be available to support FSR follow-on activities. CIMMYT should encourage national research programs to approach USAID missions to determine availability in individual countries and the procedures required to apply for these funds.

E. Financial Management Issues

The major financial management issues relate to administrative and procurement regulations as stipulated in the standard provision sections of the grant agreement. Several minor financial management issues were

identified in the Audit of the Nairobi office for which CIMMYT management has acknowledged their intention to rectify. We would expect a similar situation to be the outcome of the Harare audit that is currently underway. The Addis Ababa and Lilongwe offices should also be audited.

The following issues were noted as a result of the evaluation:

1. It would appear that field offices, and perhaps CIMMYT/Mexico are not aware of AID regulation concerning procurement. It is recommended that a Project Implementation Letter (PIL) be sent by REDSO/ESA reiterating applicable regulations and that CIMMYT/Mexico undertake to ensure that this information is conveyed to senior field officers.

2. The grant agreement specifies that CIMMYT core funds will cover local administration and support costs of the field offices. This needs to be verified.

3. A variance analysis should be prepared monthly by CIMMYT/Mexico comparing the budget with actual expenditure. This should be a two column showing a monthly variance as well as a cumulative variance for the comparison period. This information will assist field officers in planning and managing levels of expenditure. Copies of this document should be sent to field offices and REDSO project manager.

4. The evaluation team noted during the course of the evaluation that CIMMYT field operations were not in all instances following the standard procedures required under the AID grant agreement. This is due in part to insufficient communication from CIMMYT/Mexico to field staff concerning these regulations. Areas noted were procurement of vehicles and computers (no provision in budget for capital purchases) and contacting for services. It is recommended that REDSO and CIMMYT follow up on these issues subsequent to this evaluation with a view toward resolving any outstanding issues relative to complying with regulations as outlined in the grant agreement.

5. Several of the recipients of vehicles from the project expressed concern about their inability fund the running costs of these vehicles. In one situation a new vehicle had missed three routine services and was still on the road. The provision of vehicles will be of limited value unless there is adequate provision for operating costs. It is recommended that any future requests for vehicles be examined to ensure that the recipients commit in writing the amount of funds that they will provide for both fuel and maintenance.

V. LESSONS LEARNED

A. More specific advice needs to be given to regional project managers, and CIMMYT headquarters staff by REDSO/ESA concerning USAID standard regulations for various aspects of project management as outlined in the project management section of the recommendations. If done in the future, much time will be saved by USAID and the regional project administrators.

B. There is a need to develop a detailed 'rest of project' strategy upon which future workplans and detailed budgets can be based. In a regional project such as this one with staff based in several places in the region this period. This information will assist field officers in planning and managing levels of expenditure. Copies of this document should be sent to field offices and REDSO project manager.

To follow this, direct hire REDSO/ESA staff should give greater emphasis on making on-site visits during project implementation in order to see field activities and to advise on management issues.

C. CIMMYT linkages to Title XII have been weak and have negatively influenced project performance in some aspects of assistance. It is recommended that REDSO/ESA work more closely with local missions and ADOs to strengthen the liaison between regional projects and Title XII projects.

D. This project has the case where technical assistance is shared with another donor's project. This aspect has not been implemented successfully due to the lack of a mutual workplan from the other donor's project. It is therefore recommended that in future projects when components are shared with other donors, coordination between the donors and recipient of AID funds be addressed during the design phase of the project.

E. It is recommended that REDSO/ESA remain as manager and technical advisor to regional projects rather than transfer these jobs to either missions or AID/W. Regional projects, such as CIMMYT II, that interact with a large number of host country institutions, bilateral USAID missions, and other IARCs, benefit from supervision and support provided by a regional AID field office that can coordinate AID input. If missions were to take on this aspect, service to the recipient would be too disjointed. If AID/W were to take on the responsibility, service would be less timely and less direct.

F. There should be increased coordination of USAID funded projects both regionally and nationally. REDSO/ESA should catalyze this coordination by calling meetings of project personnel having similar project inputs or focus.

VI. EXPANDED LIST OF RECOMMENDATIONS

A. Project and Financial Management:

(1) A strategy for the remaining length of the project and an annual budget accompanying a workplan should be jointly discussed by CIMMYT II staff and submitted to REDSO/ESA for approval. This should be done within the next 60 days for 1988. Subsequently the annual budget and workplan should be submitted during the 4th quarter of the preceding year for the following 12 months.

(2) A project coordinator/administrator should be appointed who would have a liason role with REDSO/ESA; coordinate financial matters and procurement; coordinate annual workplans and general planning meetings and control deployment of resources.

(3) It is recommended that when CIMMYT/Mexico re-negotiates the CIDA agreement for agronomic support in East Africa, that philosophical differences and time allocation problems be resolved so that technical assistance be better supplied by these technicians to the CIMMYT II project as originally agreed.

(4) It is recommended that a trainee data base, experiment data base, and an update on institutionalization be initiated. Careful thought should be given as to the use (users) and therefore content needed in these data bases.

(5) Audit recommendations on improving internal controls should be adopted in those field offices which have completed external audits. Such audits should also be done in remaining field offices.

(6) CIMMYT/Mexico should provide field office with monthly financial reports indicating levels of expenditure and comparisons with annual budgets.

(7) CIMMYT/Mexico should undertake a funding source/use analysis for the project.

(8) REDSO/ESA should send to CIMMYT a Project Implementation Letter reiterating applicable regulations regarding use of AID funds.

B. Training:

(1) The focus of training and selection of trainees by CIMMYT for the in-country and regional training should remain unbiased in terms of commodity focus.

(2) The 'train the trainers' approach should be used to address sub-professional training requests.

(3) Further development/modification of training materials should support ICT, RTC, extension approaches, report writing, and sub-professional needs with assistance from CIMMYT/Mexico where needed.

(4) There should be an increase in support and advising for OFR studentships for field research activities at regional Universities.

(5) Increased coverage of agronomic aspects is recommended. Additional resources should be drawn from CIMMYT/Mexico, other IARCs, consultants as needed.

(6) ICT should be continued on an as requested basis rather than trying to comply with the original number in the grant agreement. ICTs can be modified to suit the situation. Any changes in output in this regard should be agreed to first by REDSO/ESA.

(7) It is recommended that a greater emphasis be placed on more informal discussions/meetings at a national level to address common, more specific training needs.

(8) It is recommended to continue advisory support to Universities on syllabi adjustment and special student projects. Wherever possible linkages between Universities, national research programs, and extension should be encouraged. REDSO/ESA is encouraged to find the Tanzania OFR proposal, now under consideration.

(9) There should be an increase in scholarships to specialty courses such as the maize production course in CIMMYT/Mexico and courses given at other IARCS.

C. Farming Systems Impact on Technology Development:

(1) The project should give emphasis towards developing a way to document and/or measure farmer adoption as well as the impact of OFR/FSP on the process. Consultants could be used for this purpose.

D. Direct collaboration:

(1) Time devoted to direct collaboration should increase. Joint visits of agronomist/economist is encouraged. Direct collaboration by agronomists to FSR activities in East Africa should receive greater emphasis. Where assistance by CIDA agronomists is not possible, consultancy services should be sought for specific areas defined jointly by the economist and CIDA agronomists.

(2) Direct collaborative efforts should be better focused in terms of where the assistance is given and on specific aspects of the OFR process. More time should be spent on identifying common needs and organizing consultancy assistance to address issues where it is not feasible for CIMMYT II staff to do so.

(3) Specific areas of longer term assistance, for example special studies, should be identified and consultants sought.

(4) Direct collaboration does not entail doing research conceived by project staff. Emphasis should remain as stated in the original grant agreement.

E. Extension:

(1) More specific assistance to extension is encouraged but should be considered on a country by country basis. Emphasis should remain on research/extension linkages and where extensionists are involved in OFE.

(2) Directors of extension should be included in any future administrator workshops.

(3) CIMMYT/Mexico and/or consultancy assistance should be sought to develop/modify farming systems training materials for extension workers. This source of assistance can also be used for formal training or direct collaboration where involvement is judged to be particularly fruitful but beyond the scope and time of project staff.

F. Livestock/Agroforestry:

(1) Project technical assistance should continue to focus on cropping systems for experimental purposes but the whole system for diagnostic purposes. Where important livestock-crop interactions or livestock problems are identified, and where there is a national commitment for working on these problems, IARCs or other consultancy sources should be sought. Agroforestry should be treated in a similar manner.

G. Networking

(1) Networking activities should continue to receive high priority in the project. It should be understood that networking includes both formal meetings and interchanges at both international and national levels.

(2) More concentration on direct collaboration should serve to identify further themes for networking and should contribute to improving the quality of information exchanged in networking activities.

H. Interaction with other IARCs

(1) The project should continue to pursue means of increased collaboration with other IARCs in the region, in order to develop a more coordinated approach to national research program development.

I. Assistance to Title XII programs in the region

(1) It is recommended that the project continue exploring means of collaborating with Title XII projects, but that choice of particular areas of work be dictated by opportunities to strengthen national research systems rather than a blanket obligation to service these projects.

J. Institutionalization of FSR at the national level

(1) In order to further the institutionalization of a farmer focus to research, certain issues deserve particular attention. The project should make sure that there is good communication between farming systems researchers and commodity and disciplinary scientists. This may imply increasing attention to the latter groups.

(2) In addition, emphasis should be placed on seeing that information developed by on-farm research plays an increasing role in research planning mechanisms.

(3) Finally, institutionalization will be furthered if more attention is spent on strengthening research in selected areas or countries where results can be expected. This includes devoting more time to documentation of research results.

(4) It is also recommended that the baseline data summary be updated, by country. The baseline should describe the organization of agricultural research and extension, the organization of on-farm research activities, and brief descriptions of relevant research familiar to project staff.

K. Social dimensions

(1) The project should continue its emphasis on the social dimensions of agricultural research. Social dimensions should be included in any analysis of technology adoption.

L. Policy issues

(1) Interactions between on-farm research and policy shall be pursued. National program leaders should be encouraged to identify appropriate themes, and project staff could assist national scientists to collect relevant information, develop high quality presentations, and identify appropriate audiences.

ANNEX 1 - FORMER EVALUATION RECOMMENDATIONS

A. CIMMYT I. Mid-Term Evaluation, held in 1983

- Extend the project and continue under the current administrative arrangements with CIMMYT;
- Add at least one agronomist to the program and provide a five-year planning horizon for grantee and the national program security;
- Work on integrating extension, livestock and agroforestry into the program;
- Develop a networking strategy that involves administrators and exploits communality of interest in the region;
- CIMMYT and FSSP hold a joint seminar involving all FSR personnel; and,
- 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.

B. CIMMYT/REDSO Final Evaluation, conducted in December 1984

- Agronomic Input - lacking in Phase I, two new agronomists to be posted from maize and wheat program to work part-time with CIMMYT Economic's OFR/FSP program;
- Livestock and Agroforestry Systems - requires continued effort but crop, agroforestry and livestock systems are separate in many countries;
- Extension - CIMMYT's normal contact points are research agencies. Anticipate a more refined methodology developed for the integration of extension personnel into FSR process; including defined change in agent roles, specific tasks with researchers, model linkage agreements, supervisory duties of farmer managed trials. Continue to use extension consultants in regional and national training activities;
- Information and Data Systems - develop data storage, retrieval and analysis systems, describing sites and evaluating investigation results for possible extrapolation activities. Base line survey and data base on FSR activities in the region should be developed to assist in project impact evaluation and networking;
- Coordination and Linkage Development - develop means to include other IARCs and FSR programs as a means to support and enrich CIMMYT II;
- Local Training - development of a local training capacity to carry on in-country FSR training, and,

- o Direct Collaboration - concentrate more on follow-up to training activities at the field level.

C. CIMMYT II In-Country Training Evaluation, Published in 1988 by Rukunii and Whinguiri

- o Staff - strengthen training staff in specialized fields;
- o Curriculum - more emphases needed on planning, evaluation techniques, interpretation, analysis, better agronomic input, livestock and trial design;
- o FSR - offer re-orientation courses in FSR for students returning from post graduate studies;
- o Sub-professionals - more assistance should be given in training TAs and extension personnel;
- o Linkages - more emphasis on strengthening links between OFR, commodity teams and extension programs;
- o Communication - more assistance in report writing and publication of research results;
- o CRTs - strengthen involvement of commodity research input in diagnosis stage of FSR work;
- o Results - develop a formal mechanism for follow-up, monitoring and evaluating OFR by CIMMYT and NRIs; and,
- o Special Studies - formal training support for post graduate work in-country.

D. CIMMYT University of Zimbabwe Regional Training Workshop's Evaluation, External Report published October 1985

- o All categories of research and extension workers should be exposed to OFR processes, suitable courses should be arranged and CIMMYT should assist by training trainers and providing and/or supporting resource people;
- o CIMMYT and the University of Zimbabwe should play an important role in preparing teaching materials for different categories of staff;
- o CIMMYT should identify some past participants for further training in OFR processes for resource persons;
- o The livestock component should be adequately covered including relevant case studies. CIMMYT could solicit assistance from ILCA and livestock production specialists in the region;

- More resource people dealing with agronomic aspects of the experimental phase need included;
- In addition to the maize and wheat agronomists a core of resource persons should be used consistently that have a clear understanding of OFR methodology and procedures;
- The duration of the experimental period should be extended to three weeks;
- Certain aspects of the statistical techniques and economic analysis should be covered in special courses;
- Desk/pocket calculators should be used more, computer use should be as a means of accelerating data analysis and should be covered more under a separate course.
- Potential resource persons in the region should be further trained and if they assist in regional courses paid an honoraria;
- Qualified and experienced CIMMYT staff should be based at the University of Zimbabwe, joint research programs should be started and a number of scholarships form postgraduate training given;
- Special courses should be arranged for advanced OFR training and for in-country training of the trainers;
- Instructional materials need to be developed by the project especially for livestock production systems, agronomy and statistics where the courses have been deficient;
- For participants attending both phases in the right sequence is a requirement that should be adhered to by all parties;
- In selecting participants, organizers should screen applications well to facilitate a fair balance between participants in different disciplines;
- CIMMYT (USAID) should continue playing the leading role in sponsoring participants;
- In-country training programs similar to the RTWs should be established in each country that makes such a request; and,
- There is much need for formal follow-up by CIMMYT staff with graduates of the RTWs through group and individual meetings.

It is interesting to note that several common themes of extension, livestock, agroforestry, data and information systems are present throughout these former evaluations.

60

ANNEX 2 - ISSUES INCLUDED IN SCOPE OF WORK

A. Statement of Work

1. Study Areas

(a) Assess and determine whether direct project inputs such as in-country training, regional training, seminars, workshops, technical assistance and consultancies are being made and thereafter determine and assess the quantity and quality of direct project outputs that are being achieved.

(b) Determine and make an initial assessment of the impact of identified direct project outputs, on the size, quality, organization and management of on-farm research/FSP within the participating national research institutions.

(c) Make a preliminary assessment of the impact of increased OFR/FSP activities on technology generation and dissemination processes by the national agricultural research programs and on technology adoption by small farmers within the participating countries.

(d) Assess and determine the role and extent of direct involvement of CIMMYT on-farm research project with the USAID Missions farming systems projects within the region, focusing on resource allocation and institutionalization of OFR/FSP within the region.

(e) Review the perceived role of CIMMYT in the region with respect to its teaching/research and catalytic activities and also assess the effectiveness of CIMMYT linkages with other regional programs.

(f) Review the effectiveness of REDSO/ESA and CIMMYT project management arrangements with a view to recommending improvements and/or ways to provide it in a less staff intensive way.

2. Additional Specific Project Activities that need to be Evaluated include the following:

(a) Assess the in-country and regional training strategy in terms of quality of services being offered by CIMMYT trained nationals.

(b) ssess the extent of direct participation which the CIMMYT project and CIDA agronomic personnel offer to individual national institutions in the OFR field.

(c) Assess the extent and also need for direct material support that the project provide to the national programs.

(d) Assess and review the strategies for institutionalization of OFR based on experiences from participating countries.

(e) Review and assess the baseline and bench mark data collection and analysis activity of the project.

(f) Review progress made by CIMMYT in implementing recommendations in the 1984 evaluation and in treatment of the implementation and project modification issues raised with respect to National extension programs, livestock and forestry activities.

(g) Identify additional areas of support needed by NARI's as generated by CIMMYT's OFR/FSP activities.

B. Issues from Grant Evaluation Plan

1. How is the national research agenda established? Has this method changed?

2. Is the research being conducted consistent with (A) principal crops grown by small farmers? (B) socio-economic conditions of small farmers?

3. To what extent have FSR units adopted "shelf" technologies that could be used by farmers? Has the networking process resulted in technologies being transferred from country to country?

4. How are FSR efforts being linked to national ministries of agricultural, to extension services, to policy makers (e.g., when price distortions are identified by FSR as a major constraint).

5. If the research currently being conducted results in recommendations for farmers, what would be required in the way of input supplies? What is the probable source of these available and affordable?

6. To what extent are farmers involved in setting research priorities and helping to manage on-farm trials?

7. How have established research networks affected research programs in participant countries.

62

C. Letter Detailing CIMMYT Concerns

23 March 1987

Dr. Robert McColaugh
Project Manager
REDSO/USAID
P.O. Box 30261
Nairobi

Dear Bob,

CIMMYT Phase II 1986-1990

At our meeting with Dr. Armstrong and Mr. Masambu in the REDSO office on March 9th we agreed on the need to modify the strategy in CIMMYT Phase II. It was agreed that CIMMYT would summarize the proposed modification in writing.

The CIMMYT Phase II contract has provision for 10 In-Country Training Courses (ICTs) over the 5 year project period to train some 200 research and extension staff in OFR/FSP. To date ICTs have been completed (Phase I and II) in Zambia, Malawi, Ethiopia, Tanzania (reduced version) and Kenya (two). With the completion of these ICT courses, there is relatively little demand for further ICTs in the region. Zimbabwe and Rwanda are the only remaining countries which qualify for ICT and discussion is already underway on possible ICT courses in these two countries. (A minimum commitment of ten professionals to OFR/FSP is considered necessary to mount a complete ICT course).

The CIMMYT Phase II (p.15) contractor also envisages a second round of ICT in some countries. However in following up the ICTs completed to date, it has become evident that a second round of general training in OFR/FSR through the call system is not required. What is needed is more specialized training courses and informal on-the-job training to improve the quality of work and institutionalization of ongoing OFR teams.

The key goal of CIMMYT Phase II is outlined on page 11 of the proposal as follows. "By the end of the project period some five or six countries will have re-organized institutional structures and operating procedures in research and between research and extension to sustain a program of OFR/FSP. These countries will serve as models for other countries of Eastern and Southern Africa wanting to build capacity in OFR/FSP". The countries of the region we will seek to qualify as models by the end of Phase II will be drawn from: Kenya, Zambia, Zimbabwe, Ethiopia, Malawi, Tanzania, Swaziland and Rwanda, where progress has been fastest and opportunities are there. Hence to be able to enhance the institutionalization of OFR/FSP in the above key countries we propose to reduce the number of ICTs based on the formalized call system (described on page 15 of the proposal and elaborated in the Addendum to the PP, page 8) and increase efforts in the following three areas:

(a) Specialized in-service training courses focussed on identified gaps in skills in executing and institutionalizing OFR/FSP. Examples identified to date include short courses in data collection and analysis for social scientists, agronomic analyses and interpretation and report writing for agronomists and trial implementation for field assistants.

(b) Direct participation by CIMMYT staff with OFR teams in the field to provide on-the-job training in implementing OFR activities with the objective of establishing successful models of OFR in most of the key countries in the region. This direct participation is a major thrust of Phase II of the contract but has been reduced by heavy ICT workloads.

In addition it has become apparent that OFR in many countries has become somewhat isolated from commodity researchers on the station and from the broader policy and institutional environment. Because of this the potential benefits of OFR as a feedback of farmer problems to experiment station research and to policy analysis are not being realized. Since this feedback is envisaged as a critical function of OFR/FSP, CIMMYT also proposes through networkshops, specialized training courses and direct participation in country programs to strengthen the linkages between:

(a) OFR teams and commodity and disciplinary research specially the feedback of farmer priorities to on station agronomic and breeding research and;

(b) OFR teams and institutions and policy analysis units, responsible for input distribution and marketing that set the socio-economic environment for technology adoption. The role of OFR feeding back critical information on technical issues and farmer circumstances will be emphasized.

Again the strategy is to establish and document working models of such feedback linkages.

If you require any further clarification of this "modified strategy" please do not hesitate to contact me.

Yours Sincerely,

P. Anandajayasekeram
CIMMYT - Economics

cc: Dr. M. Blackie
Dr. A. Low, S. Waddington
Dr. Robert Armstrong, REDSO
Mr. H. Masambu
Mr. R. Tripp

16.1

ANNEX 3 - ITINERARY FOR EVALUATION TEAM

February 29	Briefing meeting with REDSO/ESA Review of project documents Meeting with P. Anandajayasekeram
March 1	Meeting with J. Ransom and F. Palmer, CIMMYT Maize Program Meetings with W. Wapakala and J. Matata, KARI Headquarters
March 2	Visit to Embu Research Station
March 3-4	Visit to Coast Research Station
March 5	Free day
March 6	Travel to Tanzania, travel by road to Morogoro
March 7	Visit to Ilonga Research Station
Mary 8	Visit to Sokoine Agricultural University Travel to Dar is Salaam Meeting with G. Semeguruka, TARO
March 9	Meeting with USAID/Tanzania Travel to Zimbabwe Meeting with A. Low
March 10	Meetings at University of Zimbabwe Meeting with A. Low and S. Waddington Meeting with AGRITEX Meeting with USAID/Zimbabwe
March 11	Meeting with R. Fenner and E. Whingwiri, RSS headquarters Visit to Manguende, field site of FSRU
March 12	Free day
March 13	Travel to Zambia
March 14	Meetings at University of Zambia, visit to University's Farming Systems Field site Meetings at Mt. Makulu Research Station Meeting with USAID/Zambia Dinner meeting with Dr. B.K. Patel, Director of Research
March 15	Field visit to Southern Province ARPT
March 16	Travel to Lusaka Travel to Nairobi
March 17-22	Write up of report
March 22	Debriefing to CIMMYT and REDSO/ESA Administrative staff

ANNEX 4 - PEOPLE INTERVIEWED

USAID

Ms. Monica Sinding	- Evaluation Officer, REDSO/ESA
Mr. Satish Shah	- Acting Director, REDSO/ESA
Dr. Robert Armstrong	- Chief, Agricultural Division, REDSO/ESA
Dr. Joseph Stepanek	- AID Representative, Tanzania
Ms. Paula Tavrow	- Program Officer, AID Tanzania
Mr. Allen Van Egmond	- Project Development Officer, Zambia
Mr. Levie Simonda	- Agricultural Officer, Zambia
Mr. Eric Whitt	- Agricultural Development Officer, Zimbabwe

CIMMYT

Dr. Joel Ransom	- Maize Program Agronomist (CIDA Funded)
Dr. Fred Palmer	- Maize Program Agronomist (CIDA Funded)
Dr. Anandajayasekeram (Ananda)	- Economics Program (USAID Funded)
Dr. W. Mwangi	- Economics Program (CIMMYT Funded)
Dr. A. Low	- Economics Program (USAID Funded)
Dr. S. Waddington	- Maize Program Agronomist (USAID Funded)

KENYA

Mr. J. B. Matata	- Assistant Director, Planning, Manpower Development and Training, Kenya Agricultural Research Institute (KARI)
Mr. W. W. Wapakala	- Director of Research, KARI
Mr. R. Milikau	- Biometrician, KARI

Embu Regional Research Center

Mr. S. P. Gachanja	- Station Director
Mr. Karanja	- FSR/Outreach, Forage Agronomist
Mr. Murithi	- Agricultural Economist
Mr. Odwor	- Extension Liaison Officer
Mr. Ojim	- Outreach Leader, Agronomist
Mr. Oboye	- Maize Plant Breeder

Mtwapa Regional Research Center

Mr. Asize Abubakar	- Station Director
Mr. Chivadzi	- Maize Breeder
Mr. Kamau	- Maize Agronomist
Ms. Gacheru	- Maize Agronomist
Ms. E. Wakesa	- FSR Agronomist

TANZANIA

Sokoine University of Agriculture

Dr. Muphuru	- Dean Faculty of Agriculture
Dr. Issac Minde	- Economist, Rural Economy Department, FSR Coordinator
Dr. K. P. Sibuga	- Senior Lecturer, Crop Science Department
Mr. Rweymanu	- Agronomist, Plant Physiologist - Crop Science Department
Dr. M. E. Mlambiti	- Head Rural Economy Department
Mr. A. K. Kashuliza	- Lecturer, Rural Economy Department
Dr. Rutachokozibwa	- Lecturer, Extension and Rural Education

TARO

Mr. D. Sungusia	- FSR Coordinator, TARO
Mr. G. Semeguruka	- Acting Director General of TARO

Ilonga Research station

Mrs. Natalie C. Fivowo	- Sunflower Breeder
Mr. Swithun Goodbody	- FAO/TARO Crop Research Project
Mr. Eleuther D. Mvungi	- Rice Agronomist
Mr. Wilfred L. Sumari	- FSR (Storage)
Mr. J. S. Mbwambo	- DADO/Kilosa (Extension)
Mr. I.R.O. Mhando	- Soil Scientist
Ms. Esther Y. Hoya	- FSR Team
Mrs. L.C. Mushi	- FSR Team
Mr. J.A. Mamkwe	- Field Trials Officer, FSR
Mr. J.C.B. Kabissa	- Entomologist
Mr. O.L. Ringia	- Agricultural and Natural Resource Economist
Mr. Frank Mbowe	- Grain Legumes Research Agronomist/Coordinator
Mr. Amos Chilagane	- Agronomist, FSR/E
Dr. G.M. Mitawa	- Sorghum Agronomist, Station Director
Mr. D.M. Mwanjali	- FSR Zonal Coordinator, Agronomist

ZIMBABWE

University of Zimbabwe

Mr. Peter Kunjeku	- Research Assistant, CIMMYT
Dr. I. Mariga	- Agronomist, Crop Science Department, University of Zimbabwe
Mr. Sibanda	- Livestock Specialist, University of Zimbabwe
Mr. Godfrey Medimu	- Chairman, Agricultural Economics and Extension Department, University of Zimbabwe
Dr. M. Rukuni	- Dean, Faculty of Agriculture, University of Zimbabwe

Research and Special Services

Mr. Brighton Mombeshora	- Head, Farming Systems Unit, RSS (Livestock Specialist)
Mr. R. Fenner	- Director of Research and Special Services (RSS)
Dr. E. Whingwiri	- Assistant Director of Crops Research Division, RSS

AGRITEX

Mr. S. Tsimba	- Chief of Training
Mr. P. Johnson	- Chief of Crop Protection
Mr. E. Dengu	- Assistant Director, Technical
Mr. S. Pazvakavantwa	- Assistant Director of Irrigation
Mr. C. M. Matanyaire	- Director
Mr. Roger Mapande	- R.A.E.O, AGRITEX

ZAMBIA

Research

Mr. Charles Chabala	- Agricultural Economist, ARPT, Lusaka Province Coordinator
Dr. Alistair Sutherland	- ARPT Senior Rural Sociologist
Dr. M. Mwala	- Senior Sunflower Breeder, Mt. Makulu, Central Research Station (C.R.S.)
Ms. Nancy Velarde	- ARPT Nutrition Coordinator
Mr. Cassim Masi	- Southern Province, ARPT Coordinator, Agronomist
Mr. Darius Hakayobi	- Provincial Agricultural Officer, Southern Province, Choma
Mr. Charles Mwambula	- Maize Breeder, Mt. Makulu, C.R.S.
Mr. Lingston P. Singogo	- ARPT National Coordinator
Dr. B.K. Patel	- Director of Research
Mr. D. Hamachila	- Block Supervisor, Mbabale
Mr. Clark Ngoma Michelo	- Enumerator, Mbabala

University of Zambia

Dr. Judith C. N. Lungu	- Lecturer, Animal Science, University of Zambia
Mr. M.A. Elghobashy	- Lecturer, Agricultural Engineering, University of Zambia
Dr. Drinah Nyirenda	- Head, Animal Science, University of Zambia
Dr. W.N.M. Mweneya	- Dean, School of Agricultural Science University of Zambia
Dr. O.I.M. Lungu	- Head, Department of Soils (FSR Team Leader), University of Zambia

ANNEX 5 - LIST OF TRAINING AND NETWORK ACTIVITIES

In-Country Training

1. Economic analysis of trials for extension personnel.
   Zimbabwe, Oct. 1986.
   12 participants (agronomists)

2. Interpretation of diagnostic survey results.
   Zambia, 25-27 Jan, 1987
   5 participants

3. On-farm trial planning.
   Zambia, 6-10 April, 1987
   5 participants

4. Farmer and site selection, Development of data collection sheets.
   Zambia, 26-30 Oct., 1987
   12 participants

5. Production specialists - Economic analysis of trials for extension.
   Zimbabwe, Sept. 1987
   8 participants

6. First extension workshop on diagnosis for message development.
   Zimbabwe, 30 Nov- 10 Dec, 1987
   23 participants

7. Second extension workshop on diagnosis for message development.
   Zimbabwe, 11-20 January, 1988
   22 participants

8. OFR- Orientation workshop - Agronomic Survey.
   Uganda, 20-24 April, 1987
   19 participants

9. OFR Orientation and evaluation methods workshop - Mini ICT.
   Tanzania, 4-23 May 1986.
   39 participants

10. OFR Orientation seminar.
    Tanzania, 1985
    38 participants

11. Review workshop - Status of OFR in Tanzania and the need for institutionalization
    Tanzania, 23-26 June 1986
    22 participants

11. OFR Orientation workshop.- Sokoine University.
    Tanzania, June, 1987.
    36 participants

12. Workshop on review of informal survey report.
    Kenya, (West) Jan, 1985
    24 participants

13. Review of informal survey and planning for on-farm trials.
    Kenya, (West) Jan, 1985
    13 participants

14. Planning and implementing experiments,
    Kenya (West), 27 Jan - 8 Feb 1986
    45 participants

15. Training workshop for trial assistants.
    Kenya, Sept 1986
    25 participants

16. Review of OFT, Alupe Research Station
    Kenya (West), 1986
    10 participants

17. Diagnostic phase for research officers.
    Kenya, May 1987
    27 Participants

18. OFR orientation training workshop for extension workers
    Kenya (Coast), May 1985
    32 participants

19. Second call ICT
    Kenya, (in two parts - June, 1984 and mid 1985)
    60 participants (37 research, 23 extension)

18. Third call - ICT
    Kenya, 27 Jan - 8 Feb 1986
    73 participants (53 research, 20 extension)

19. Fourth call - ICT
    Kenya (East), 21-28 Oct 1986
    17 participants

20. Fourth call - ICT
    Kenya (West), 18-25 Jan 1987
    24 participants

21. ICT - OFR Orientation workshop
    Ethiopia, 23-26 Sept 1985
    111 participants

22. First call - ICT
    Ethiopia, 28 Sept - 10 Oct 1985
    32 participants including 12 from extension

70

23. Second Call - Planning, implementation and management of OFE - ICT
    Ethiopia, 12-22 Mar, 1986
    50 participants, including 9 from extension

24. Third call - Evaluation and interpretation of OFE - ICT
    Ethiopia, 10-17 Aug, 1987
    27 participants

25. Fourth call - ICT
    Ethiopia, 4-11 Jan, 1987
    47 participants including 8 from extension

26. On-farm training orientation workshop.
    Rwanda, May 1987
    50 participants including 16 from extension

27. National Orientation workshop on FSR.
    Burundi, 12-15 May 1987
    50 participants including 11 from extension and 1 from the University.

28. ICT Follow-up Review Meeting of ART
    Malawi, 9-13 June 1986
    13 participants

Regional Technical Networkshops

1. Role of Sociology and Anthropology in FSR
   Lusaka, 24-27 Nov., 1984
   27 participants

2. Networkshop in Role of Socio-Economics and Microcomputers in FSR -
   Botswana, July 1985
   31 participants

3. Networkshop on Intra-household Dynamics and Farming Systems
   Zambia, 24-30 April, 1987
   23 participants

4. Regional review of on-farm research
   Ethiopia, 4-8 Aug, 1986
   50 participants

5. On-farm research field review networking workshop
   Swaziland, 12-16 May 1986
   62 participants

6. Regional Networkshop on Linkages between On-farm Research and Technical Component Research.
   Kenya, 21-25 Sept, 1987
   35 participants

7. OFR Program Review Workshop for Rwanda and Zaire.
   Rwanda, 16-22 May 1987
   41 participants

8. FSR Program Review Workshop for Rwanda and Burundi,
   Rwanda, 26-29 Aug 1986
   23 participants

Regional Training Courses

1. Diagnostic Phase, 17 Feb - 7 Mar 1986
   32 participants

2. Diagnostic Phase, 9-27 Feb 1987
   29 participants

3. Experimental Phase, 2-13 Sept 1986
   29 participants

4. FSR training on Diagnostic Phase, 8-26 Feb 1988
   28 participants

5. Data Analysis, interpretation and reporting course for agronomists
   Zimbabwe, 27 April - 8 May 1987
   18 participants

6. On-farm trial data analysis, interpretation, and reporting for agronomists
   Ethiopia, 14-21 Dec 1987
   17 participants

7. Data collection and analytical techniques workshop.
   Ethiopia, 21 Mar - 2 April, 1988
   23 participants

Research Administrators Workshops

1. 3rd Workshop for Agricultural Administrators.
   Lesotho, 24-28 Nov 1985
   46 participants

2. 4th Workshop for Agricultural Administrators.
   Malawi, 5-8 May 1987
   36 participants

Sponsorship of Attendance to International Seminars

1. One person to Statistical and Economic Analysis of Fertilizer Experimental Data, USA

2. One person to Research on Effective Use of Fertilizers, ICARDA

ANNEX 6 - TRAINING MATERIALS

1. Occasional Training Notes No. 15
   "Application of the MSTAT Microcomputer Statistical Program to the Analysis of On-farm Trials" by Dr. C. Seubert

2. Occasional Training Notes No 13
   "On-farm Experimentation - Guidelines for Using OFR Methodology in Crops, Livestock and Agroforestry Experimentation" by Dr A. Stroud

3. Occasional Training Notes No 11
   On-farm Experimentation - Concepts and Principles" by Dr. A. Stroud

4. Occasional Teaching Notes No 12
   Evaluation of On-farm Trials - Statistical Evaluation and Interpretation by Dr A. Stroud

5. Occasional Teaching Notes No 14
   Teaching Notes on the Diagnostic Phase of OFR/FSP Concepts, Principles and Procedure by Dr. Anandajayasekeram

6. CIMMYT/CIAT Training Document
   Planning On-farm Research - Identifying Factors for Experimentation

7. CIMMYT Economics Program.
   From Agronomic Data to Farmer Recommendations: An Economics Training Manual, completely revised edition

8. Many additional training exercises and case studies are handed out to participants.

9. Statistical Procedures for Agricultural Research, 2nd edition by Gomez and Gomez, published by John Wiley and Sons

10. Instructor's Manual for Weed Management, FAO publication

Note: Items 9 and 10 are given to many research station and University libraries with the other CIMMYT materials.

Percentage of time allocated to project activities:

Technical Assistance	Training		Networking		Direct Collaboration		Administration		Other	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
Dr. Ananda	40	35	17	5	20	35	10	20	10	5
Dr. Waddington	27	35	4	10	9	38	15	12	5	5
Dr. Low	55	50	25	15	5	10	15	20	-	5
Dr. Blackie	10	25	23	0	2	38	19	0	39*	37*

*CIMMYT Proposal to SACCAR.

ANNEX 7

Excerpts from: Report of a Diagnostic Training Exercise
Chinamora, Zimbabwe - December 1 - 10 1987.

TABLE 1.1

SUMMARY OF APPROPRIATE MESSAGES/TRIALS FOR MAIZE

PROBLEM	MESSAGE	DEMONSTRATION	ON FARM TRIAL	STATION RESEARCH
APPLICATION OF BASAL FERT AFTER CROP EMERGENCE	only apply D @ planting under good moisture conditions		trials to test application of TSP @ planting & N after emergence	use of jab planter to speed planting & applicn of D @ same time
INEFFICIENT USE OF INORGANIC FERTILISER (basal & top)	improve weed control by using collective labour	poultry keeping to increase manure availability	herbicide x rate of fertiliser trial (+econ analysis on returns to cash) fertiliser rate x time of planting trial (reduced rates for late plantings) Fert rate trial on non-manured vs manured fields	Legume intercropping: species, spacings etc.
REDUCED STANDS DUE TO CUTWORM			casbaryl (sevin) trials overseeding and thinning trials	test effectiveness of dipterex as used by farmers
LATE PLANTING DUE TO CATTLE DAMAGE	group herding	live fencing	solar electric fencing of arable areas	
DELAYED LAND PREPARATION BY NON-CATTLE OWNERS	autumn plow and hole out no plow and hole out	minimum (tine) tillage with herbicides		zero tillage

TABLE 1.1

SUMMARY OF APPROPRIATE MESSAGES/TRIALS FOR MAIZE

PROBLEM	MESSAGE	DEMONSTRATION	ON FARM TRIAL	STATION RESEARCH
APPLICATION OF BASAL FERT AFTER CROP EMERGENCE	only apply D @ planting under good moisture conditions		trials to test application of TSP @ planting & N after emergence	use of jab planter to speed planting ½ applicn of D @ same time
INEFFICIENT USE OF INORGANIC FERTILISER (basal & top)	improve weed control by using collective labour	poultry keeping to increase manure availability	herbicide x rate of fertiliser trial (+econ analysis on returns to cash) fertiliser rate x time of planting trial (reduced rates for late plantings) Fert rate trial on non-manured vs manured fields	Legume intercropping: species, spacings etc.
REDUCED STANDS DUE TO CUTWORM			casbaryl (sevin) trials overseeding and thinning trials	test effectiveness of dipterex as used by farmers
LATE PLANTING DUE TO CATTLE DAMAGE	group herding	live fencing	solar electric fencing of arable areas	
DELAYED LAND PREPARATION BY NON-CATTLE OWNERS	autumn plow and hole out no plow and hole out	minimum (tine) tillage with herbicides		zero tillage

76

TABLE 4.1

LIST OF PROBLEMS FOR MAIZE

PROBLEM	EFFECTS	EVIDENCE AVAILABLE	ADDITIONAL EVIDENCE NEEDED
1 higher seeding rates than recommended for SR52	- reduces yield for SR52 - increases lodging - increases seed costs	fixed spacing used by farmers gives planted population of 55th pl/ha	- measure actual spacings - measure yields - get seeding rates of SR52 - check for any lodging
2 application of basal (cap D) after emergence of maize plants	affects root development and plant growth	interviews and observation confirm practice by at least 26% of farmers	- check for P defficiency - check for differences by soil or farmer type
3 inefficient use of inorganic fertiliser	excessive fertiliser costs	high rates of fertiliser applications for moderate yields	- check pH status - establish current rates of inorganic applicns - % farmers applying kraal manure, levels applied, frequency
4 reduced plant stand due to cutworm infestation	inefficient use of land, fert, seed due to uneven plant stands	- farmer interviews - field observations	- establish extent of uneven stands - farmers coping strategies overseeding, gap filling, replanting
5 late planting due to danger of livestock damage	- shorter season - increased pressure on draft and labour	- reported by farmers - animals observed in fieldsaaa	- frequency and extent of the problem
6 delayed land preparation for non cattle owners	- shortens season - couchgrass problem	- farmer reports - field observations	- establish from N.C.Os extent to which draft access is a problem
7 small producers (<? bags) have difficulty obtaining transport to GMB	- high transport costs - time taken to get transp - reduced sales	farmer reports	establish minimum number of bags transporters require
8 plow pan formation due to continuous ploughing at same depth (sloping lands?)	- poor root development - lodging	- direct observations - waterlogging	establish types of soils where the problem is worse

TABLE 5.1 POTENTIAL MESSAGES - MAIZE

PROBLEM: Application of basal fertiliser (comp. D) after emergence of maize reduces potential root development and plant growth

CAUSE	TARGET FARMERS	CURRENT MESSAGE	POTENTIAL NEW MESSAGE	FURTHER INFORMATION
1. need for rapid planting	with small labour forces and larger land areas	apply D @ planting	use jab planter to speed up planting and apply D at the same time	establish yield benefits of applying compound D at planting versus after emergence
2. fear of wasting fertiliser if poor germination due to: a) moisture stress b) heavy rain & capping	farmers with adequate labour for planting	apply D @ planting	a) only apply D @ planting under good moisture conditions b) apply straight P @ planting and N after emergence	

PROBLEM: Inefficient use of inorganic fertiliser in sandy soils leads to excessive fertiliser cost per unit of production

CAUSE	TARGET FARMERS	CURRENT MESSAGE	POTENTIAL NEW MESSAGE	FURTHER INFORMATION
1. limited use of lime	all	as per soil analysis or 3-400kg lime/ha	- manuring - grass ley	
2. lack of manure and compost	non cattle owners	30-40 tons cattle manure per ha every 3 years	- diversification to poultry production - intercropping with legumes - reduce inorganic fert recommendations for non manure users	check extent of intercropping in the area
3. Staggered plantings giving proportion of late planted fields	all	fixed fertiliser recommendations used	reduce fertiliser levels for late planted fields	establish appropriate rates for late planted crops
4. poor timing and frequency of weeding	labour hirers & those with labour shortages	early control of weeds	-use of collective labour - use cultivators - use herbicides - intercropping with legumes	determine cost effectiveness of herbicides compared with hiring labour

18

TABLE 5.1 POTENTIAL MESSAGES - MAIZE (cont)

PROBLEM: Reduced maize stands due to cutworm damage leaves efficiency of use of land, fertiliser and seed due to uneven plant distribution

CAUSE	TARGET FARMERS	CURRENT MESSAGE	POTENTIAL NEW MESSAGE	FURTHER INFORMATION
1. Lack of knowledge	some farmers	none	use appropriate chemicals	check effectiveness of different chemicals
2. Use of chemicals is uneconomic	all	none	use higher seeding rates and thin	

PROBLEM: Late planting due to danger of livestock damage for those with the capacity to plant early the season and increases pressure on draft and labour resources

CAUSE	TARGET FARMERS	CURRENT MESSAGE	POTENTIAL NEW MESSAGE	FURTHER INFORMATION
1. no early herding of cattle is enforced	cattle owners	develop grazing schemes herd communally	enforce existing by-laws herd cattle in groups	establish reasons why by-laws are not enforced
2. lack of fencing of arable or grazing areas	all farmers with capacity to early plant	use live fencing guard fields after planting	fence after land use plan use solar electric fence	check if loans would be available for purchase of fencing

PROBLEM: Delayed land preparation by non cattle owners due to having to wait for hired draft to be available leads to late planting and increased couch grass problem

CAUSE	TARGET FARMERS	CURRENT MESSAGE	POTENTIAL NEW MESSAGE	FURTHER INFORMATION
1. No zero tillage used	all	plant with first rains	use zero tillage	practicability of zero tillage
2. No use of minimum tillage	ox owners	none	- use of ripper tine & herbicides - autumn plow and direct plant - no plow & direct plant	availability of tine and herbicides
3. Reluctance to hand dig some fields	draft hirers	none	hand dig some fields	can an improved hand till implement be identified
4. Lack, expense and [illegible]	draft hirers	increase tractors		

FIGURE 5.1 SCREENING TECHNICAL MESSAGES

PROBLEM STATEMENT:

PROPOSED MESSAGES	TECHNICAL TRANSFERABILITY (NOT - reject/R&SS) (NOT SURE - R&SS) (THINK SO - Demo)	SYSTEM COMPATIBILITY (NOT - reject) (NOT SURE - OFT) (THINK SO - Demo)	ECONOMIC RETURNS (NOT SURE - OFT) (LOW) (HIGH)	ACTION - R&SS - OFT - Demo - Reject

Annex 8 - Time allocations of project staff:

Name: Mr. P. Anandajayasekeram (Ananda) Year: 1985

Country	Jan. 1985	Feb. 1985	March 1985	April 1985	May 1985	June 1985	July 1985	Aug. 1985	Sept. 1985	Oct. 1985	Nov. 1985	Dec. 1985
Kenya	23	12	31	24	25	20	16	1	8	11	21	27
Uganda												
Tanzania	8				6						2	
Zambia												
Zimbabwe		9				4		1	12			
Malawi		7				6						
Ethiopia				6					10	4		
Rwanda							4			3	7	3
Burundi							3					
Mexico										13		
Botswana							4					

Name: Mr. P. Anandajayasekeram (Ananda) Year: 1986

Country	Jan. 1986	Feb. 1986	March 1986	April 1986	May 1986	June 1986	July 1986	Aug. 1986	Sept. 1986	Oct. 1986	Nov. 1986	Dec. 1986
Kenya	27	15	19	20	16	12	-	15	12	29	18	20
Uganda												
Tanzania					15	4					5	
Zambia												
Zimbabwe	4	13				2			7			3
Malawi						6						
Ethiopia			12					8			7	
Rwanda						3		3				4
Burundi				10								4
Mexico									11	2		

Name: Mr. P. Anandajayasekeram (Ananda) Year: 1987

Country	Jan. 1987	Feb. 1987	March 1987	April 1987	May 1987	June 1987	July 1987	Aug. 1987	Sept. 1987	Oct. 1987	Nov. 1987	Dec. 1987
Kenya	19	14	29	22	19	20	10			22	25	21
Uganda				4					2	2		
Tanzania				4		6	4				5	
Zambia												
Zimbabwe		11	2			2			10			2
Malawi					2							
Ethiopia	7							6				5
Rwanda												
Burundi					10							3
Somalia										3		
India	5	1										
Djibouti										4		

Name: Mr. A. F. E. Palmer Year: 1985

Country	Jan. 1985	Feb. 1985	March 1985	April 1985	May 1985	June 1985	July 1985	Aug. 1985	Sept. 1985	Oct. 1985	Nov. 1985	Dec. 1985
Kenya									5	9	15	18
Uganda												
Tanzania											7	
Zambia												
Zimbabwe												
Malawi												
Ethiopia									8	12		3
Rwanda												
Burundi												
Somalia										5		

Name: Mr. A. F. E. Palmer Year: 1986

Country	Jan. 1986	Feb. 1986	March 1986	April 1986	May 1986	June 1986	July 1986	Aug. 1986	Sept. 1986	Oct. 1986	Nov. 1986	Dec. 1986
Kenya	19	19	10	13	16	10	20	1	11	20	18	6
Uganda							3					
Tanzania	4	3			6	10					4	
Zambia												
Zimbabwe												
Malawi												
Ethiopia			12	12								6
Rwanda												
Burundi												6
New Orleans												6
London								1	5		2	
Somalia						2	2					4
Mexico									8	4		1

Name: Mr. A. F. E. Palmer Year: 1987

Country	Jan. 1987	Feb. 1987	March 1987	April 1987	May 1987	June 1987	July 1987	Aug. 1987	Sept. 1987	Oct. 1987	Nov. 1987	Dec. 1987
Kenya	17	16	12	13	8	Vacation	10	18	14	13	16	10
Uganda						"		3				
Tanzania					4	"			6		6	
Zambia						"						
Zimbabwe			7			"						
Malawi						"						
Ethiopia	8	8	5	5		"	8		6			10
Rwanda					8	"						
Burundi						"						
London					1	"	5					
Somalia				4		"				4		
Manila						"				9		

Name: Mr. Joel K. Ransom

Year: 1985

Country	Jan. 1985	Feb. 1985	March 1985	April 1985	May 1985	June 1985	July 1985	Aug. 1985	Sept. 1985	Oct. 1985	Nov. 1985	Dec. 1985
Kenya							22	30	24	27	21	19
Uganda												
Tanzania											4	
Zambia												
Zimbabwe								1	6			
Malawi												
Ethiopia												
Rwanda							4					4
Burundi							3			4	5	
Chicago												8
U.S.A.							1					
London							1					

Name: Mr. Joel K. Ransom Year: 1986

Country	Jan. 1986	Feb. 1986	March 1986	April 1986	May 1986	June 1986	July 1986	Aug. 1986	Sept. 1986	Oct. 1986	Nov. 1986	Dec. 1986
Kenya	26	25	31	24	25	16	3	19	16	27	30	21
Uganda												
Tanzania	5	3		2	6							2
Zambia												
Zimbabwe												
Malawi												
Ethiopia								12				
Rwanda						4						4
Burundi				4						4		
Mexico									14			
Somalia												4
U.S.A.						2						

Name: Mr. Joel K. Ransom **Year:** 198'

Country	Jan. 1987	Feb. 1987	March 1987	April 1987	May 1987	June 1987	July 1987	Aug. 1987	Sept. 1987	Oct. 1987	Nov. 1987	Dec. 1987
Kenya	24	15	20	22	17	-	4	31	26	19	26	27
Uganda	4			8					1	2		
Tanzania					4				3		4	
Zambia												
Zimbabwe			11									
Malawi												
Ethiopia		8										4
Rwanda					8					4		
Burundi												
U.S.A.	3	5				4						
France					2	26						

ANNEX 8 - Cont.

Technical Assistance (CIMMYT Regional) - Harare Office
April 1986 - January 1988

Name	Country/Location	Task/Work/Output	Contact Organisation	Period
M. J. Blackie	Ngamiland West, Botswana	Follow-up on training component of the FSR project		23 February - March 1, 1987
A. Low	Gaborone, Botswana	Visit to Agricultural Technology Improvement Project and USAID	USAID ATIP	June 1987
Low & S Waddington	Lesotho	Discussed future direction of Lesotho-OFR with national program staff	USAID & LAPIS	7-10 December 1986
Waddington	Swaziland	Participant in (Swaziland Cropping Systems Research Extension Training) project MSTAT training workshop	SCSRET	2-6 June 1986
Low	Swaziland	Worked with SCSRET project to develop case studies for CIMMYT sponsored data collection and analysis workshop at ILCA	ILCA and	22-25 July 1986
Low & Waddington	Mbabane & Malkerns, Swaziland	Discussed consolidation of OFR set up and planned on-farm Data Analysis Workshop	SCSCRET USAID	11-14 December, 1986
Low	Mangochi, Malawi	Attend National Research Extension Workshop	ART Ministry of Agriculture	16-22 March 1986
Low	Zomba, Malawi	Resource Person in Training Course on the Diagnosis and Design of Conservation Strategies for the Smallholder Farmer	Commonwealth Secretariat	6-8 May, 1986

Low, Ananda, Blackie, Waddington	Mangochi, Malawi	Review meeting of ART 1986 to assess status of OFR in Malawi and future training needs	9-13 June 1986	
Low & Waddington	Lilongwe and Blantire, Malawi	Worked with Lilongwe, Kasungu and Blantire ART's on statistical and economic analysis	ART	28 July - 6 August, 1986
Blackie	Malawi, Lilongwe	Local maize collection trip	Maize Team Ministry of Agriculture	22-29 October 1986
Waddington	Lilongwe, Malawi	Visited Adaptive Research Coordination Unit at Ministry of Agriculture Training Unit. Visited Maize Commodity Team to discuss CIMMYT assistance to their Agronomy work.	Ministry of Agriculture	2-5 February 1987
Waddington & Lafitte	Malawi - Chitala, Lilongwe, Ntcheu, Dedza	Visited maize commodity team/CIMMYT highland maize trials and on and off station agronomy trials	Maize Team Ministry of Agriculture	22-27 March 1987
Waddington & Blackie	Malawi, Chitedze Research Station Lilongwe	Review breeding & agronomy work done during he previous year & to present and discuss the research program for the 1987/88 season	Ministry of Agriculture Research	4-7 October 1987
Waddington	Malawi, Lilongwe and Kasungu, Lilongwe	Discuss OFR trial programs for 1987/88 season and orientated socio-economist on basics of experimental design, trial objectives and implementation	Lilongwe and Kasungu ART's Department Agriculture	8-9 October 1987

Waddington & Low	Malawi, Mangochi	Review the range of activities undertaken by ART's and to discuss the appropriateness of these activities and methodologies employed	ART Department of Agriculture	18-21 July, 1987
Low	Masvingo, Zimbabwe	Attend 4th Annual Extension & Research Conference & present a paper on "Designing Research Programs for Small-scale Farmers	AGRITEX	23-26 June, 1986
Low & Waddington	Zimbabwe	Tour of Mashonaland Midlands Provinces to visit provincial extension staff at work and to hear their ideas on research extension linkages	AGRITEX	14-17, July 1986
Waddington & Low	Zimbabwe Mangwende & Chivi Communal Areas	Staff assisted R&SS agronomists, mainly from Farming Systems Research Unit, in trial site selection, planting and early evaluation of trials	DR&SS	October/December 1986
Waddington	Mangwende, Zimbabwe	Assisted in planting on-farm trials with R&SS Farming Systems Research Unit		11-12 November, 1986
Waddington	Matopos, Zimbabwe	Visited SADCC/ICRISAT Sorghum & Millet Improvement Program, to discuss future collaborative work on production agronomy, diagnostic survey work and on-farm experimentation	ICRISAT	13-14 November, 1986
Waddington	Siabuwa and Northern Manjolo, Zimbabwe	Tour of OFR trials on sorghum run by UZ/Ford Foundation OFR project	UZ	12-16 January, 1987

Waddington	Chivi, Zimbabwe	Toured on-farm trials carried out by FSRM	DR&SS	19-20 January 1987
Waddington	Southern Masvingo, Southern Municaland Province Zimbabwe	Toured on-station and on-farm water harvesting trials with maize, sorghum and cotton managed from Chiredzi research station	DR&SS	23-26 February 1987
Low & Waddington	Mashonaland East, Zimbabwe	Visit AGRITEX demonstrations and trials to evaluate appropriateness and effectiveness of demonstrations	AGRITEX	9-11 March 1987
Waddington & Ransom, Palmer, Low, Waddington Blackie, Ananda & CIMMYT staff from Mexico	Harare, Zimbabwe	Attended 2nd East, Central & Southern African Regional Workshop sponsored by Government of Zimbabwe and CIMMYT	15-21 March, 1987	
Waddington plus Lafitte	Chivi, Zimbabwe	'Post-mortem' tour of FSRU on-farm trials	DR&SS	26-27 March 1987
Low	Kadoma, Zimbabwe	CIMMYT staff participated in the Commonwealth Secretariat Regional workshop on support to small farmers in Eastern & Southern Africa	Commonwealth Secretariat	30 March - April 10 1987
Low	Matopos, Zimbabwe	Meeting with R&SS and AGRITEX to discuss ways of improving on-farm trials	DR&SS AGRITEX	May 1987
Waddington	Harare, Zimbabwe	Orientate AGRITEX Training Branch Training Specialists on Informal Diagnostic Procedures	AGRITEX	19-21 August 1987

Annex 9 - Assistance to Title XII Programs

Following discussions with Title XII Projects opportunities presented by Title XII Programs for CIMMYT participation have been few

Name	Activity	Organization	Period
Low	Visit to ATIP and USAID to discuss 3 year extension proposal for ATIP project	Agricultural Technology Improvement Project	June 1987
Low & Waddington	Discuss CIMMYT assistance to LAPIS project with LAPIS and USAID personnel	Lesotho Agricultural Production and Institutional Support Project	7-10 Dec. 1986
Low	CIMMYT sponsored review of SCSRETP	SCSRETP	9-19 May 1986
Waddington	Participant in SCSRETP project MSTAT training Workshop	Swaziland Cropping Systems Research and Extension Training Project	2-6 June
Low & Waddington	Discussed Swaziland OFR set-up with USAID & SCSRETP	Swaziland Cropping Systems	11-14 Dec. 1986
Low	CIMMYT sponsored final review of SCSRETP	SCSRETP	29 Feb. March 1988
Waddington & Blackie	Discussed possible areas where CIMMYT could assist in direct participation and training of ART with Adaptive Research Coordination Unit	Oregon State University	2-5 Feb. 1987

Low & Waddington	Participate in ART review workshop largely organized by technical assistance personnel: Dick Tindsley & Tom Gillard-Byers	Oregon State University ART, Malawi	18-24 July 1987
Waddington	Discussed possible assistance from CIMMYT to ZAMARE project especially the agronomic aspects of maize program activities	Zambian Agricultural Research & Exten. Proj.	15-21 March 1987 10 April 1987 & 5-6 Nov. 1987
Waddington & Blackie	Discussed possible areas where CIMMYT could assist in direct participation and training of ART with Adaptive Research Coordination Unit	Oregon State University	2-5 Feb. 1987
Low & Waddington	Participate in ART review workshop largely organized by technical assistance personnel: Dick Tindsley & Tom Gillard-Byers	Oregon State University ART, Malawi	18-24 July 1987
Waddington	Discussed possible assistance from CIMMYT to ZAMARE project especially the agronomic aspects of maize program activities	Zambia Agricultural Research & Ext. Proj.	15-21 March 1987 10 April 1987 & 5-6 Nov. 1987
Ananda	In-country training course, Moshi, Tanzania	In collaboration with Oregon State FSR project	May 4-23 1986

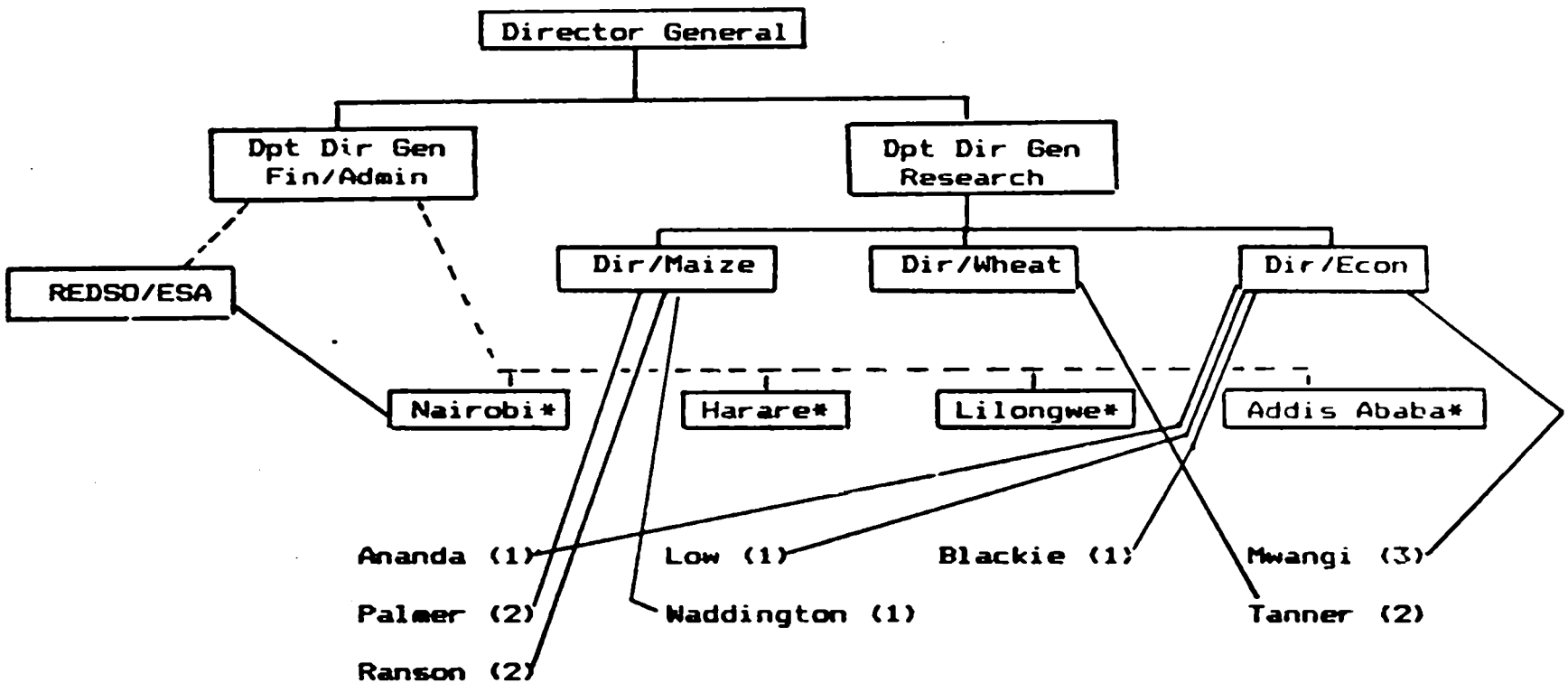
FSR Program Review workshop, Butare Rwanda (for Rwanda and Burundi)	In collaboration with University of Arkansas FSR projects	August 26-29 1986
National Orientation Workshop, Burundi	University of Arkansas FSR Project, Burundi	May 16-16, 1987
OFR Program Review Workshop, Rwanda	University of Arkansas FSR Project, Rwanda	May 16-22, 1987
Training Workshop in diagnostic techniques Uganda	In collaboration with Ohio State Agricultural Research and Extension Project	May 1987

ANNEX 10 - LIST OF ACRONYMS

ARPT	Adaptive Research Planning Teams
CIDA	Canadian International Development Authority
CIMMYT	Centro International de Mejoramiento de Maiz y Trigo
IARC	International Agricultural Research Center
FSR	Farming Sytems Research
IGADD	Intergovernmental Authority for Drought and Development
ICT	In-country Training
OFR/FSP	On-farm Research/Farming Systems Perspective
REDSO/ESA	Regional Economic Development Services Office/East and Southern Africa
RTC	Regional Training Course
RTW	Regional Training Workshops
USAID	United States Agency for International Development

ANNEX 11

ORGANIZATIONAL CHART FOR THE CIMMYT/FSR II PROJECT



(1) USAID Funded
(2) CIDA Funded
(3) CORE Funded
* CIMMYT field offices

Program Reporting Responsibilities ————————

Financial Reporting Responsibilities - - - - - -

ANNEX 12

CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO
INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER
P.O. Box 25171
NAIROBI, KENYA

MAY 17 1988

16 May, 1988

Dr. Robert McColough
Project Manager
REDSO/USAID
P.O. Box 30261
NAIROBI

Dear Bob,

Re: MID TERM EVALUATION REPORT CIMMYT/REDSO FSR PROJECT

I acknowledge with thanks the receipt of the draft Evaluation Report and your memo of 31 March on the same subject.

I circulated the document to all project staffs and the directing staffs. Enclosed please find our views on this document. I hope that we might be able to sort out all the outstanding issues as early as possible so that the proposed project activities could be implemented smoothly without much delay and interruption.

Thanking you in advance for your assistance, co-operation and prompt action on this matter.

Yours sincerely,

P. ANANDAJAYASEKERAM
Project Co-ordinator
CIMMYT

c.c.
Dr. D. Byerlee, Director, CIMMYT Economics
Ms. K. Hart, Financial Officer, CIMMYT Mexico
All Project Staffs - CIMMYT/REDSO, FSR Project

REDSO	Action	Info
DIR		✓
D/DIR		
AGR	✓	
ANA		✓
RCMO		
RCO		
ENGR		
FFPO		
PRJ		✓
RLA		✓
LIBRARY		
KAGAI		
RFMC		✓
EXO/PER		
ADMIN		
CHRON		✓
REPLY DUE	05/24	
ACTION TAKEN	N.A.N.	

CIMMYT'S VIEWS - MID TERM EVALUATION
CIMMYT/REDSO FSR PROJECT - GRANT NO. 623-0435-G00-5008-00

GENERAL COMMENTS

In general the report is fair, comprehensive and well written. As indicated in the report the project met its objectives and goals with respect to the technical support it is expected to provide but there were some management problems. We feel that the report exaggerates some of these management issues, thus under-estimating the technical achievements of the project. As you are aware some of them are purely an oversight and not intentional. Some of the management responsibilities were not clearly spelled out. We feel that some fairly simple changes and improved interaction between CIMMYT project administrators and REDSO management can sort out these administrative and management issues. If the report can have separate overall analysis of the technical and administrative aspect, this could have boosted the morale of the project staff. We request in all fairness this suggestion should be given due consideration to give a real evaluation and impact of this project.

A. TECHNICAL ISSUES RAISED IN THE EVALUATION

1. Commodity Neutral/Livestock/Forestry issue

This was raised in phase I evaluation and again mentioned in the current evaluation. It is evident that the project tried its best to involve resource people from the appropriate organizations to assist the NARS in this aspect. Since these institutions have their own mandate there is no authority either by CIMMYT or by the project staff for insisting their continuous support and assistance which is needed to develop recommendations. The general methodology imparted by CIMMYT staff can be applied to other cropping systems. In all our activities (both training and networking) we have considered livestock and agroforestry to the extent that they interact with crops. Our methodology is not particularly useful for designing on-farm experimentation in livestock and forestry. Accordingly we invite participants from ICRAF and ILCA to cover these aspects. Since CIMMYT

have comparative advantage in providing direct technical assistance with our mandated crops, we believe that our direct participation should focus on maize and wheat based production system, but the trainees can come from other systems. We should try to encourage other CG and non CG centers to assist in developing recommendations to these enterprises where they have their mandate as well as the technical expertise. Since the maize based production system being the predominant system for increasing food production in Eastern and Southern Africa we can still play a very critical role in imparting the system oriented research methodology at the same time assisting in increasing the food production.

2. <u>The CIDA Project participation</u>

This is often mentioned in the report. The evaluation states that the agronomic input to formal training courses (the key activity of this project) has been adequate in terms of time (top of p. 11). However the reference to this in the executive summary is [A (1) p. (VI)] far too negative and needs to be rewarded. The same is true of (a) p. IV and p 16 para 2. It is important to recognize that the project has received considerable amount of assistance but not adequate enough to meet the needs. The basic problem is that there is not sufficient agronomic input available within the CIMMYT system in the region at the moment to meet the growing demand for these services (in some cases about 7-8 stations within a country). It is also important to realize that the country coverage of the two projects are also not the same. While we agree that some help may be obtained in the form of consultancy services (recommendation page V 2.6) the project cannot heavily depend on this. Most of the people who believe in our approach, who are good, that CIMMYT would like to consider for providing this much needed input are pretty busy and often not available at the time we may need them. Under such circumstances planning will become much more difficult and administration unmanageable. If we bring outsiders (all do not believe in the concepts and philosophy to the same degree) then CIMMYT may not have much of the control in their teaching and guiding the NARS.

CIMMYT agrees with the evaluation team that objectives/ workplans should be drawn up jointly between this project and CIDA agronomists. CIMMYT has already undertaken the necessary steps to make sure this is

done. We hope to accomplish this by 1989. After the strategic planning process and External management review, CIMMYT will definitely have a more defined mechanism for jointly planning our regional activities.

3. Training

We are pleased to note that the evaluation recognized the need for changing our original projection and accordingly endorsed the flexibility in number and type of ICT courses. However, the recommendation (p. 38, item 6) still requires agreement by US AID/REDSO on changes in number of ICTs. This last sentence (of p. 38, item 6) should be deleted as it is inconsistent with the rest. The annual workplan should specify the number of ICTs. Once this annual workplan is approved by REDSO this should be sufficient. With regard to selection of trainees (p. 11, 3rd para from top and p. 37, B.1) first of all it is acknowledged that we are unbiased in our selection of researchers/extensionists to attend training courses. It then says that we should not select people who work only on maize and wheat based systems. In the very next sentence it says commodity or disciplinary researchers should be included in training. In view of the direct follow up and technical support needed, the project gives priority for Research and Extension workers working in OFR and/or maize and wheat based production systems. The NARS can include others but the project may not be able to provide the follow up assistance (lack of skill) needed.

4. Extension

Though the report recognizes that attempts have been made to include the extension staff, the report still suggests that not enough has been done to train extension (e.g., last sentence para 2, p 18). In the recent strategic planning meeting of CIMMYT it was recommended that extension staff should be included as one of our collaborators. In the last Administrators workshop (May 1987) extension administrators also participated. In order to provide more participation of extension administrators and the academic institution representatives, it was decided to divide the Research-Extension administrators workshop into two. One for the Eastern African Region and the other one for the Southern African Region. In future this will provide more opportunity

for Extension staffs and the Academic Institutions to participate in the Research-Extension Administrators workshop.

When we talk about extension involvement in technology generation and dissemination there are two elements. One is the participation of the appropriate extension staff in the research process i.e. generating the recommendation and the other is the wider dissemination of the recommendation itself. CIMMYT can contribute to the first aspect where the project staff have the comparative advantage but we do not have the required skills to accomplish the second aspect mentioned. Hence we feel that the project should include the appropriate extension workers in the training courses and direct field work to familiarize them with the technology generation process and look for ways to enhance R/E linkages. Dissemination of the message itself should be the responsibility of the national extension system and the project cannot provide this skill. There should be some realistic assessment on the expectation of the extension involvement and participation in the Project and it should be viewed within the context of the institutional arrangement that are existing within these countries.

5. Collaborative research with NARS

On page 16 the last paragraph is misleading. As far as we are aware none of the project staff are doing their "own research and enlisting the involvement of the National staff". CIMMYT Harare work on agronomic monitoring in Mangwende may be the closest to this. It is work that is a follow up from previous FSRU activities and the idea came from them; but because of the manpower and transport problems the FSRU could not take lead and hence CIMMYT had to do it in the best interest of continuity of activity. We use this work to:

a) foster linkages between the University of Zimbabwe and DR&SS and CIMMYT

b) develop and prove agronomic monitoring techniques in OFR before producing a guide on this type of activity

c) get more information on an important and neglected research area (communal area).

CIMMYT totally agrees that the project staff should ensure that all research is done in collaboration with NARS. However, in some cases depending on the local situation this research will be initiated by CIMMYT staff. As senior scientists, CIMMYT staff is often expected to play this leadership role and in some instances this has been an explicit request of the NARS director. Therefore we believe that (CIMMYT) Project staffs should have this responsibility and flexibility and accordingly we request that last para on page 16 and p 38 D4 should be deleted from the document.

B. MANAGEMENT ISSUES

1. Project co-ordinator

CIMMYT agrees with the evaluation team that the project management should be strengthened and a co-ordinator named. CIMMYT also agrees on the need for an administrative officer in the Nairobi office. Until April last year Dr. Collinson, one of the pioneers of this project agreement, acted as a co-ordinator. In response to the suggestion of the mission with immediate effect Dr. Ananda has been asked to take over the co-ordination role of this project at least through September 1988 with the following additional responsibilities:

a) Liaison with REDSO on all aspects of the project

b) Co-ordination of capital procurement, including REDSO approval

c) Familiarity with the project requirements in terms of financial and technical reporting

d) Co-ordinating and preparing a consolidated workplan and semi annual reports as required with the inputs from project staff. Also preparation of LOP strategy

e) Preparation of consolidated financial budget (with inputs from Mexico and from project staff) and obtaining approvals from REDSO for projected work plans and budgets.

101

The co-ordinating mechanism and responsibilities will be formalized in September depending on the recommendation of the External Management Review.

2. USAID Regulation

Since Dr. Collinson was one of the individuals who drafted the agreement and signed on behalf of CIMMYT, and then co-ordinated activities of the project we believed that all USAID regulations were covered adequately in our day to day operations. Now we gather that some of the ground rules are not observed. This is purely an issue of oversight. No major capital items were purchased since Dr. Collinson left CIMMYT and often verbal endorsements were sought from the REDSO project staff. Under the circumstances we request REDSO to take some corrective measures to handle this problem and we assure you that from now onwards we will follow the USAID regulations as stipulated in the Standard Provisions.

3. Annual Work Plan

We do not see any problems with this. Until 1987 we used to submit a list of activities to be completed in the given year. Since accurate planning of activities a year ahead had paused a lot of difficulties last year we agreed to use the proposed activities section of the biannual report as an indication for the planned activities. Detailed planning of activities beyond 3 months is getting very difficult in this region because of the national involvement in implementation.

Submitting an Annual Work Plan has some difficulties:

- often request comes very late
- countries do not meet the agreed requirements for implementing activity
- clearance issue - becoming a serious constraint

we do not want to miss opportunities when we see them

CIMMYT will try to provide as much as possible the detailed projection of activities (I have already submitted this for the year 1988). However, it is important to see that the project staff needs to have some flexibility for changing some of these projected activities if the need arises with the approval of the REDSO project management staff; i.e. the annual work plan should have some build in flexibility. The annual work plan should be viewed as a guide and not as a mandatory activities of the project staff.

The evaluation now recommends that this annual work plan should be accompanied by a budget. We will try to give some best estimates if it can serve the purpose but once again we should be able to discuss this with the REDSO Project staff and provisions should be made for changes with mutual agreement.

4. Data base

The evaluation mission recommends compiling several data bases. CIMMYT agrees to update the baseline data as recommended by the evaluation mission. This could be done by the project staffs themselves or by hiring consultants. Regarding information about trainees i.e. trainees profile we do not think that we need an elaborate data base system. Agree that some basic information is required and CIMMYT will develop a simple precoded questionnaire and collect a uniform set of data in the future. I do not think that we need a consultant for this. CIMMYT staffs can handle this.

5. CIMMYT Allowance Policies

Revised version of the CIMMYT staff policies on allowances and benefits are submitted to your office. Schedule attachment No. 1 of the agreement item G 3 states that "the direct compensation of personnel will be reimbursable in accordance with established policies, procedures and practices of CIMMYT". CIMMYT follows a uniform policy for all international staffs irrespective of the source of fund (core funded as well as special project funds). Hence it is difficult to understand recommendation C 3 on page 30. Therefore this should be deleted.

ppb

6. Budgets

The original agreement calls for annual work plan only but not an estimated budget. However, if it is required the project can submit an estimate based on our past expenditure pattern. As mentioned earlier provisions should be established to modify/change this proposed budget if necessary, with the mutual agreement of both parties concerned.

7. Strategies for LOP and revised budget

We agree with the evaluation team that this should be given due consideration and special line items should be added and more clear specification needed for each line item in the budget. At the moment the line items are very vague and we are not sure about the items that could be included under each category. However, CIMMYT needs more time. Our program director and financial officer are visiting this region in June, and also the project staff should get together before developing a LOP. We also need some input and guidance from REDSO project managers on this.

Project can meet the deadline given for the submission of annual budget but developing a strategy for LOP needs more time. We are requesting that the deadline for this be extended. Amendments are also needed to change the amounts by line items.

8. Audit

CIMMYT has already taken measures to implement the recommendation of the Auditors. Both Nairobi office and Harare office accounts have been audited by Price Water House. Since the Malawi office is very small with one staff it may not be cost effective to hire an audit firm. If agreed this could be included with the Mexico audit. At the moment for any expense claim over $200.00, receipts are attached to the vouchers and forwarded to Mexico (Malawi Office). Thus Mexico can see, and query any expense item. In addition all expenditure claims are checked and approved by the program director. Regarding the second signature recommended (p. 31. para 5) the program directors are already doing this as they approve all monthly financial reports when they

107

arrive in Mexico. A second signature within the office is not possible due to the heavy travel commitments and at times all staff members are travelling. However, controls and checks are included in our local management procedure based on the recommendation of the Auditors.

9. Office support

This is a vaguely understood item in the budget. Originally it was anticipated that CIMMYT will cover the cost of one office, the Nairobi office see attachment No. 3 Budget table 2 Foot Note 1. As you are aware activities expanded and there was a need to start new offices in Malawi, Zimbabwe and Ethiopia. Except the Malawi office which was entirely established for the project, only portion of the administrative costs are charged to the project e.g. in Nairobi only 1/4th of the administrative cost of their office is charged to the project. The Ethiopian office provides economic input for Sudan, Somalia and Ethiopia and Agronomic input for all CIDA project countries. The project also specifically includes a line item for administration. CIMMYT core budget does not have funds to support all four offices, the establishment of these offices are the direct results of the expanded activities of the project. Therefore, we would like to get this issue clarified and amended. It is suggested that:

1. CIMMYT core will pay the rent and support costs of the Addis Ababa office,

2. CIMMYT will pay the rent for the Nairobi office but request the project pay the direct support cost associated with the project,

3. All office costs associated with Lilongwe and Harare to be paid by the project.

I hope that you will consider this request favourably and make the necessary changes/clarification in the line item.

103

C. ADDITIONAL COMMENTS/CLARIFICATIONS

Page (ii)

According to attachment 3 of the agreement the participating countries are:

Botswana, Burundi, Lesotho, Malawi, Swaziland, Tanzania, Zimbabwe, Rwanda, Zambia, Kenya, Somalia and Sudan. However, at present CIMMYT II offers services to the following countries; Kenya, Mozambique, Djibouti, (Limited input as per special amendment), Zimbabwe, Zambia, Malawi, Swaziland, Lesotho, Uganda, Rwanda, Burundi, Somalia, Sudan, Botswana and Tanzania as well as Ethiopia (with CIDA and core funding).

Page (i) Last 3 lines.

CIMMYT II will encourage the National Agricultural Research Systems (NARS) to institutionalize (permanently integrating it in research and extension organizations) the OFR/FSP process.

Page IV

1 (a) To develop a strategy for LOP needs more time

1 (b) An interim co-ordinator named and action will be taken in September 1988 after the External Management Review.

1 (c) There are no philosophical differences. CIMMYT agrees that objectives and work plans should be drawn up jointly between this project and CIDA agronomists. Action has been initiated.

Page V

2 (b) 'increased support and advising for OFR studentships' - needs further clarification. See also page 11 last para - can we offer assistantship? M.Sc fellowships for OFR workers?

109

2 (c) workability of this recommendation is questionable. Good suggestion but project cannot depend on this type of 'adhoc' arrangement, often less dependable.

Page VI

9. Good suggestion but CIMMYT cannot do this. The project can only demonstrate the utility of the micro level data in planning and policy making but a decision on this recommendation will have to come from the National Program. Project will spend more resources and establish more collaborative work with NARS to demonstrate and document evidences to spell out the need for developing a mechanism to input OFR/FSP generated information data into National Policy and Planning bodies.

Page 9

3. support to staff (starting date)

Dr. W. Mwangi Nov 1987
Dr. S. Waddington May 1986

Page 10

3. University of Zimbabwe (addition)
Project staff based in Harare spend time supervising higher degree University of Zimbabwe research students working in OFR.

Page 11, 2nd para

"Projections should be made by the project staff in this regard and approval sought from REDSO/ESA". Annual work plan is sufficient and there is no need for special approval. Hence delete it.

Page 11, 3rd para

It is recommended that the focus of the in-country and regional training sessions remain unbiased in terms of the types of researchers/extensionists. Commodity or disciplinary researchers should continue to be included as the FSR approach is now being more widely used than in the past when only OFR teams were involved.

Priority will be given to OFR researchers and/or those who are working in maize/wheat based system but the NARS can include others also.

Page 12

Analysis and recommendation should receive a very high priority.

Regarding Newsletter, surprised to note the team did not make any specific recommendations on the proposed plan. Planning to separate news/techniques etc from reports on finished OFR work in the Newsletter. Does the review team think CIMMYT II should help provide a forum for publishing papers on OFR in Eastern and Southern Africa. i.e. the proposed plan of supporting "Eastern Africa Journal of Rural Development" to include OFR articles from this region.

Page 13 E. 1. para 3

Assistance to OFR is more than occasional. They have a mandate for wheat and maize, but this project has a mandate for promoting OFR. Both projects consider OFR as a vehicle to develop sound recommendations. However, in many countries the maize and wheat researchers are institutionally separated from on-farm researchers. Thus it is becoming impossible to provide the same degree of attention to both groups.

Page 15 & 16 (p 38 B.5, p 38 D.1 & 2)

Direct collaboration

It would have been helpful if the report were most explicit on the range of activities to be included in 'direct collaboration' giving examples. This is very important since the report asks that the project give more emphasis to this activity.

Page 16 para 2

As far as we are concerned there is no dichotomy between commodity based and system based research. What we believe is in commodity oriented system based research. On-farm research is one approach to generate relevant recommendation, again for priority enterprises while recognizing that the small farmers in Eastern and Southern Africa in fact operate a system and are interested in improving the overall production of the system while maintaining the priority objectives and goals of farming.

Page 16 last para should be deleted (see details provided earlier)

Page 25 (h) page 40 (K) Social Dimensions

To us this is apart of the system and is adequately taken into consideration while reviewing the farmer circumstances. Does this warrant a separate treatment? I think that we are trying to over emphasize this aspect which is already receiving considerable attention. Household dynamics, detailed resource use studies may be M.Sc. topics but certainly not a priority while discussing cost effective ways of generating relevant recommendations, which are site specific and target group specific.

Page 35 A 4.

There were no line items for purchase of capital items. Since most of these items were purchased to support the NARS training capacity, they were covered under training. Agree with the suggestion we should amicably try to solve the outstanding issue

112

and in future we will make sure that the Standard Provisions are strictly adhered to.

Page 35 A. 5.

Agree that "running and maintenance" of the vehicles should be responsibility of the recipient, but some time despite written commitment they do not fulfil this commitment; however the work should continue. Under these circumstances what can the project do? Without mobility it is difficult to carry out OFR effectively.

Page 34 A. 1.

Workplan is OK. An estimated budget for year 1988 could be provided but developing a strategy for the LOP will need more time. It is difficult to cancel planned activities to prepare this document. Requesting separate deadline for these two activities.

Some of the annexes are incomplete
Annex 8 details time allocations - Drs. Low and Waddington is missing.

Annex 3
Dr. R.K. Patel - Director of Research and not Assistant Director

Annex 4 p. 1
Mr. Aziz Abubakar

Annex 4 p. 2
Dr. Mariga
Mr. Godfrey Mudimu

Annex 4 p. 3
Mr. Brighton Mombeshora
Dr. B.K. Patel - Director of Research