

REPORT OF A SEMINAR FOR SENIOR AGRICULTURAL
RESEARCH ADMINISTRATORS FROM EASTERN
AND SOUTHERN AFRICA.

NAIROBI, KENYA. April 18 - 20, 1983,

Content.

- 1.0 Introduction.
- 2.0 Conceptual features of OFR/FSP and some organisational implications.
- 3.0 Implementation issues in OFR/FSP.
- 4.0 Current emphases of CIMMYT's programme.
- 5.0 Conclusions.

NETWORKING WORKSHOPS :- REPORT No. 1

CIMMYT EAST AFRICAN ECONOMICS PROGRAMME.

P.O. BOX 25171,

NAIROBI. KENYA.

1.0 INTRODUCTION.

Dr. Don Winkelmann welcomed participants to Nairobi and outlined briefly the purpose of the meeting; to exchange views on the potential and present status of On Farm Research with a Farming Systems Perspective (OFR/FSP) in the Region. He also outlined the history of the Economics Programme at CIMMYT and the way it saw its role in the Region.

2.0 CONCEPTUAL FEATURES OF ON FARM RESEARCH WITH A FARMING SYSTEMS PERSPECTIVE (OFR/FSP) AND SOME ORGANISATIONAL IMPLICATIONS.

Conceptual features of OFR/FSP were presented to the seminar (Paper 1, Annex II), and emphasised the need to adopt the perspective of the local farmer as a decision maker in order to identify locally appropriate technologies.

The implications of using OFR/FSP in this way for the organisation of research and for the structure and staffing of research institutions were highlighted. Both these conceptual features and their organisational implications were opened to the seminar for discussion.

2.1 Shortcomings of the Classical Research Approach.

Seminar participants felt that most classical research programs do not have an effective mechanism for identifying small farmers problems and priorities. The feed back of small farmers problems through the extension services to the research services has proved ineffective. Many linkage devices have been tried but rarely successfully. As a result directors have had inadequate knowledge about farmers problems in setting national research priorities. This has allowed individual research workers' biases and preferences to dominate the allocation of research resources.

Participants generally agreed that classical research -

- (1) Assumes farmers situations be homogeneous.
- (2) Ignores socio-economic circumstances in the generation and dissemination of new technology.
- (3) Do not explicitly consider the risk elements of new technologies.

These shortcomings inhibit wide spread adoption of the technology generated and lead to the wastage of scarce research resources.

It was generally felt that output per unit area is not an adequate measure in assessing the appropriateness of a technology for farmers, though very clearly it is not the only criteria used in classical research; for example the

pathologist and entomologists often use different criteria. It was generally agreed however that the farmers have multiple objectives and these should be clearly understood before selecting design and evaluation criteria for research programs. Again it was accepted that a 'package' is not had per se, but it was essential to review each component part for compatibility with farmers' priorities and circumstances.

The traditional research approach measures responses to and interactions between a limited number of management components or experimental variables. The non experimental variables are often controlled at 'optimum level'. Resulting technical relationships may not hold under farmers' conditions. The need to test and if necessary adopt the technology under farmers management conditions was considered an essential element before formulating recommendations.

The group endorsed the view that the OFR/FSP performs three roles in the agricultural research and development process; which are complementary to classic component research.

- (1) To identify output from component research immediately relevant to the current priority problems of local specific farming systems. To test this output and, where necessary, adapt it under local farmers conditions.
- (2) To focus component research onto unsolved technical problems which are a priority for the further development of local farming systems.
- (3) To link researchers, farmers and extension staff in the development of locally appropriate technology to the target group.

The group felt that the philosophy of OFR/FSP for near term technology generation is logically sound, and agreed that OFR/FSP had the potential to overcome several inadequacies of the classical research approach. Implementation issues will determine whether OFR/FSP can handle these inadequacies in practice.

2.2 Conceptual issues in OFR/FSP.

Though the process is logically sound it is not complete, because it underplays the following elements :

- (1) OFR/FSP in addition to technology generation should also provide input for policy formulation.
- (2) Another frequent deficiency in the methodology is poor coverage of issues of prices, costs and markets.
- (3) OFR/FSP emphasises the short term response, however it is important to consider such response in the context of long term strategies for development and environmental conservation.

The value of the FSP is not, however confined to research, it may inform many other areas of official action. For example, it could be an input in decisions on rural credit or in prioritising other interventions, such as provision of marketing infrastructure versus provision of inputs. FSR tells what can best be done by researchers within the given external constraints, it can also tell other development agents which are the key servicing constraints to be removed. Hence even the farm policy formulation could be bottom up. However technology being the heart of many programs at the initial stages it is wise to emphasize the research thrust of OFR/FSP. Some of the problems identified cannot be solved by technology alone. They may need some political action. It was felt that if there strong political directives contradictory to farmer priorities it is unlikely that OFR/FSP could influence research orientation.

3.0 IMPLEMENTATION ISSUES.

The group felt that the complementary relationship and structural linkages of OFR/FSP with commodity research groups, extension staff and farmers as identified in Figure 1, conceptually covers the linkage issue.

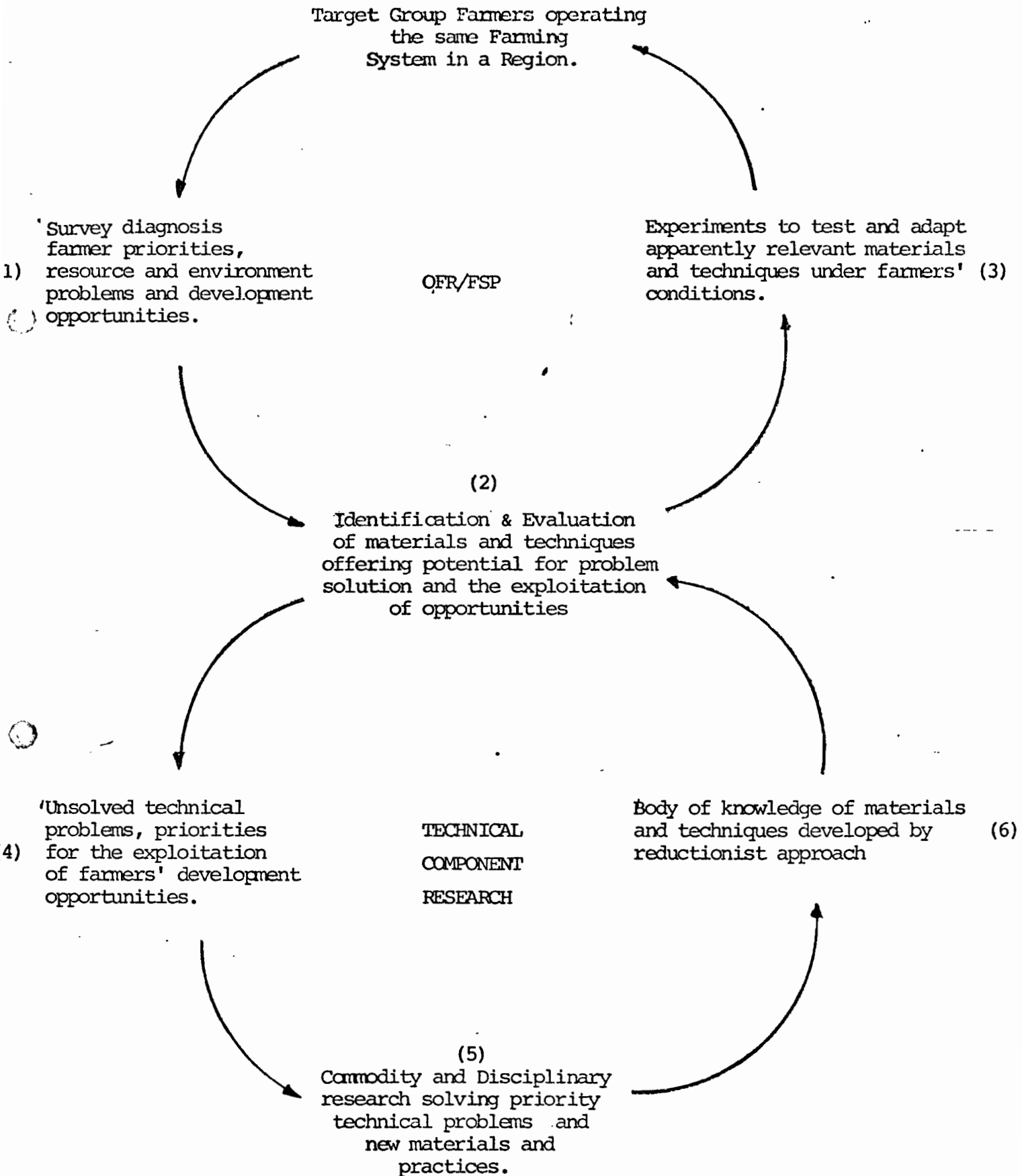
It was generally felt that operationalizing the OFR/FSP concept is still critical and could often lead to frustrations due to lack of supportive infrastructure and administrative commitment. The following major implementation issues were discussed.

3.1 Organizational issues.

Some of the organizational issues are how should a national research service be organized to combine on farm and on station research most effectively? Who controls whom? Who determines research priorities? What is the acceptable composition of the adaptive research team etc. The participants agreed that the key issues of institutionalizing OFR/FSP is adequately covered in the introductory paper : Appendix II .1. Various models developed by different countries were discussed and agreed that there is no standard model for all countries. There is a need to identify the important components the research system of a country should have for effective incorporation of OFR/FSP into its research organisation. These components must ensure adequate linkages between the four groups of actors in the process of technology generation; Technical Researchers, On Farm Researchers, Extension Staff and Farmers.

It was agreed that the shortage of manpower trained in the concepts is a major constraint for effective implementation of OFR/FSP. Various methods were suggested to minimize the effects of the manpower shortage. One method to solve the problem is to provide a quick training for the available staff. It was also suggested that the Directors of Research should consider both reallocating professional staff from TCR as well as training young professionals in OFR making sure that

FIGURE 1. INTERACTIONS BETWEEN TECHNICAL COMPONENT RESEARCH AND OFR/FSP PROCESSES.



there is a balance between the two groups. Given time some countries may reach the required number of OFR trained personnel. Those countries with very few (say less than 30) professionals to do both TCR and OFR should consider using results from neighbouring countries and from the International Research Centres and concentrate heavily on the adaptation of findings from other countries. Networking across countries with similar climate and ecological environment should facilitate this.

Countries also will have to decide the critical number of adaptive researchers, level of intelligence, initiative and training required to run an effective OFR/FSP program. As examples Zambia and Malawi were seeking to establish 8 or 9 teams, some 20 professionals to give initial coverage of the country.

3.2 Budgetary Constraints.

It was agreed that because of the location specific nature and significant logistical requirements the OFR/FSP approach is relatively expensive to use. In the light of the current financial squeeze the budgeting constraint is an important consideration in implementing OFR/FSP. The research services of most countries in the region suffer chronically from shortage of recurrent finance and logistical support resources. Although relatively expensive in terms of fuel, travel and vehicles there is of course no station maintenance expense in OFR/FSP. Some countries in the region have found station maintenance absorbing up to 40% of all recurrent expenditure compared to 30% on salaries leaving only 30% for actual research.

In order to handle this problem it was suggested that the positions in FSR should be established and filled gradually. Since there is a strong donor interest in this area, it was suggested that the donor inputs can meet some of the financial needs in establishing the OFR/FSP teams. A cautionary note was sounded on the dangers of an OFR/FSP capacity too dependent on technical assistance, and the need for national professional involvement to ensure sustainable trained capacity.

3.3 Motivational issues.

Participants agreed that the motivation of the research scientists is vital in implementing OFR/FSP programs. It proved difficult to get well trained national and expatriate scientists to live in remote areas away from more active centres for any length of time.

It was suggested that the research administrators should make some special efforts to encourage scientists to participate in OFR/FSP. This could be done by providing attractive terms, hardship allowances, outlining promotional prospects, organizing regional workshops, better

housing conditions, training opportunities etc.

4.0 CURRENT EMPHASES OF CIMMYT'S ECONOMICS PROGRAM.

The major activities of the CIMMYT's Economics programme were presented, discussed in Paper 2, Annex II, and are summarized in the table. These activities were considered as important in building National capacity for OFR/FSP.

The following section briefly summarizes the discussions on the major needs for the effective incorporation of FSP as a tool in Agricultural research.

4.1 Planning OFR/FSP Programs.

It was suggested that research directors should inform policy makers and establish research scientists of the value and need to incorporate FSP into research programs in order to improve the agricultural productivity of the country.

It is very important to make sure that the component researchers OFR research teams and the extension services are properly integrated operationally. The necessary changes should be made in the structure of the existing system. In any restructuring of research, extension administrators must be involved in all stages, and extension workers should feel that they are a part of the OFR process.

It was also agreed that as programs are redirected a balance must be established between on station research and on farm experimentation. In addition a balance needs to be struck between research dealing with crops, livestock and forestry. This balance may vary from country to country; but as countries gain experience, these ratios need to be documented so that the future administrators will have guidelines to develop tested staffing patterns. The importance of including livestock and forestry in the planning process was emphasized. It was also suggested that workshops should seek assistance from institutions such as ILCA and ICRAF.

TABLE 1 : MAJOR ACTIVITIES OF CIMMYT'S REGIONAL ECONOMICS PROGRAM IN PROMOTING OFR/FSP.

1. TRAINING IN PARTICIPATING COUNTRIES.

- (a) Regional Workshops on diagnostic and on farm experimentation phases.
- (b) National orientation workshops on the OFR/FSP process.
- (c) Nation in-country training programmes.

2. NETWORKING AMONG CO-OPERATING NATIONAL ACTIVITIES.

- (a) Publications, including newsletters.

- (b) Technical workshops for OFR/FSP workers.
(deal with technology and methodological issues).
- (c) Regular Meetings of Research Administrators.
(deal with organizational and policy issues).
- (d) Staff exchange visits.
- (e) Annual Program Review Workshops.

3. DIRECT CO-OPERATION WITH NATIONAL PROGRAMS IN IMPLEMENTING OFR/FSP PROCESS.

- (a) Cooperative efforts in planning and implementation of diagnostic survey work.
- (b) Cooperative efforts in the design, supervision and interpretation of On Farm Experiments.

4. ADVICE AND SUPPORT IN INSTITUTIONALIZING THE ON FARM RESEARCH PROCESS.

5. TRAINING MATERIAL.

Assisting higher learning institutions to develop courses and generate local practical system oriented training materials.

Regular meetings of Station researchers, On Farm researchers and Extension staff will facilitate the development of linkages in technology generation. All these parties should have access to guidelines for the incorporation of OFR/FSP into the research extension process which cover their own roles in the process as well as the linkages between parties. Such guidelines will need revision and modification as the programme develops.

Some participants felt that the introduction of OFR/FSP required a central coordinator with a clear understanding of the needs of the process, but also of the needs of station research and extension. They felt coordination at the national level is considered vital for the effective introduction of OFR/FSP. Other participants, where OFR/FSP is being added to station responsibilities, felt that the Station Director would be responsible for coordination.

4.2 Training.

The training of manpower was accepted as central to the successful integration of the OFR/FSP process in national programmes.

Participants stressed the importance of higher degree training in OFR/FSP. While degrees in OFR/FSP were not thought to be practical or desirable candidates should have access to relevant options in course work towards M.Sc. or Ph.D. degrees. Some universities, particularly in the USA, now include FSP

in their course options. These include Cornell, Michigan State, Florida Gainesville and Kansas State. One limitation on the proliferation and perhaps the quality of such courses is the lack of experience among Faculty staff of FSP methods. In the long run countries which are to develop national capacity for OFR/FSP should have national higher education institutions which are adequately funded and assisted to mount appropriate training programs. An aid to building teaching capacity was seen to be the involvement of the staff of institutes of learning in the OFR/FSP national programme, in actual field research, and in order to provide locally based teaching materials.

It was felt to be a problem that Title XII contractors for USAID programs tend to insist that nationals are trained within their own institutions, not always the best for the purpose. CIMMYT was requested to assist national programmes in identifying appropriate universities for FSR training. The type of In Country Training Programme and Regional Training workshop being mounted by CIMMYT were seen as particularly useful at this stage of the development OFR/FSP. It was also suggested that CIMMYT could develop a training format to train future national trainers within country programmes, and provide training materials for such nationals to make use of. National Coordinators might be clients for a similar type of training, together with senior research administrators. The objectives, goals and approaches of OFR/FSP should be clearly seen by national research administrators to allow effective evaluation of success or failure of OFR/FSP programmes.

Finally a need was seen for specialised training courses. For example many countries are currently trying to use micro-computors and to seek out suitable software. It would be very useful to provide guidance and the opportunity for interaction in this context, as well as a start towards standardisation of data processing to facilitate information exchange.

4.3 Networking.

The group unanimously agreed the need for networking and discussed workshops, the exchange of scientists and publications as networking devices. Workshops were seen as high priority activities, and several types were identified.

- (1) Research Administrators workshops should encourage feed back and critique from administrators on philosophy, methodology and implications for organisation and funding. It was felt these should be held annually for a maximum of two days.
- (2) Program Review Workshops, in which countries reported the details of programs currently underway was a second line of activity. These might usefully include reviews of methodologies being used by different countries within their programs.
- (3) Technical workshops should focus on specific issues

in methodology, in the inventorying of cross country problems and solutions, and on specific technology issues.

The exchange of scientists and project staff was also seen as an important activity in networking. Moving professionals to a programme which has features probably of value to their own work has valuable spin off in terms of their own programmes. If small groups could be brought in to the same situation the interaction of discussion adds to the value of the exchange.

It was agreed that there is a strong need for setting up an arrangement for publication of research results by scientists with a view of building up their reporting capabilities and exchange of information. It was observed that the circulation of the Farming Systems Newsletter released by the CIMMYT East African Economics Program is not wide enough and request was made to send more copies to the National Programs and Project Co-ordinators. Suggestion was also made on the possibility of publishing a document regarding the OFR/FSP approaches followed by various countries and institutions (such as CIMMYT, ILCA, ICRAF) in order to effectively design national projects. It was pointed out that CIMMYT Economics Program has already taken the initiative to document the experiences of individual countries and two such reports covering the experiences of Ecuador and Panama have been already published. These reports will be circulated to the participants as soon as possible.

Specific requests were also made to CIMMYT to start a documentation copying service so that the OFR/FSP practitioners in many countries in the region would have access to up to date information. It was advised that ILCA is already running a documentation service for the region. Forms can be obtain from the Documentation Service, ILCA, P.O. Box 5689, ADDIS ABABA.

5.0 CONCLUSIONS.

Participants felt that the meeting had been useful, particularly as an exposure of ideas from different countries with an interest, and in some cases pilot programmes, in OFR/FSP. The discussion will be edited and compiled into a draft report which will be circulated, revised on the basis of comment received, then re-circulated to participants. With the concurrence of participants it will be the intention of CIMMYT's Eastern African Economics Programme to invite Directors or their representatives, to meet at intervals of between 15 - 18 months. Suggestions for agendas will be requested some six months in advance of July 1984 as a tentative time for the next meeting.

(The views recorded in this report are not necessarily those of CIMMYT)

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ANNEX II.

LIST OF PAPERS PRESENTED.

1. An outline of a role for a Farming Systems Perspective in Agricultural Research and its organisational implications. M.P.Collinson.
2. Current emphasis in CIMMYT's present Eastern African Economics Programme. P.Anandajayasekeram.
3. Some problems in the implementation of Agricultural Research Projects with a Farming Systems Perspective. D.W.Norman.
4. Change in the structure of Agricultural Research Services to make use of a Farming Systems Perspective. S.Kean.
5. Ford Foundation work on FSR. David B.Jones.
6. Farming Systems Perspective and IDRC in Eastern and Southern Africa. R.A.Kirkby.
7. How USAID sees FSR as a tool in Agricultural Research and how it might assist in Agricultural Research Development. Cal Martin.
8. The following participants presented their respective country reviews.

KENYA	-	Mr.J.K.Gitau.
TANZANIA	-	Dr.J.N.R.Kasembe.
BOTSWANA	-	Dr. David Gollifer.
LESOTHO	-	Mr. Musi Tebolo Matli.
ETHIOPIA	-	Mr. Mulugetta A.Mekuria.
SUDAN (South)	-	Dr. Rubena Wani.
SUDAN (West)	-	Dr. Dafalla Ahmed Dafalla.
BURUNDI	-	Mr. David Barampama.
ZIMBABWE	-	Prof. Malcolm Blackie.
SWAZILAND	-	Mr.F.M.Buckham.
MALAWI	-	Dr. H.K.Mwandamere.

ANNEX III.

WORKSHOP PROGRAMME.

MONDAY. APRIL 18TH.

- 2.00 p.m. - Welcome : Dr. Don Winkelmann.
Director, CIMMYT Economics Programme.
- 2.15 p.m. - An outline of a role for Farming Systems
Perspective in Agricultural Research and
its organisational implications.
- 2.45 p.m. - Group discussions on this role and its
organisational implications vis-a-vis
classic agricultural research.
- (1) Conceptual issues.
 - (2) Organisational and structural issues.
 - (3) Linkage issues.
- 4.00 p.m. - Presentation and discussion of issues.

TUESDAY. APRIL 19TH.

- 9.00 a.m. - ZAMBIA. Changes in the structure of
Agricultural research services to make use
of a Farming Systems Perspective.
- 9.30 a.m. - MALAWI. Considerations in bringing a
Farming Systems Perspective into
agricultural research.
- 10.00 a.m. - BOTSWANA. Some problems in the initial
implementation of agricultural research
projects with a Farming Systems Perspective.
- 11.00 a.m. - COUNTRY REVIEWS.
- (1) Interest in the use of a Farming
Systems Perspective in agricultural
research.
 - (2) Status of FSP at present.
 - (3) Dominant need for the development of
the FSP in agricultural research.
- 2.00 p.m. - Donor interest in and possible assistance
for, the development of FSP in agricultural
research.
- 3.30 p.m. - The emphasis in CIMMYT's present programme
in Eastern, Central and Southern Africa.

- 4.00 p.m. - Group discussions; major needs for the effective incorporation of FSP as a tool in agricultural research.
- (1) In planning programmes.
 - (2) In training manpower.
 - (3) In coordinating networking of experiences.
 - (4) In implementing changes in research organisation.

WEDNESDAY. APRIL 20TH.

- 9.00 a.m. - Presentations : discussions of needs for development of FSP in agricultural research.
- Possible priorities for donors and for CIMMYT.
- 12.00 noon - Other IARC Nairobi based Regional Programmes.
- 13.00 p.m. - CLOSING LUNCH.
