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Final Report – Workshop on Experiences and Options for Priority Setting in NARS, August 12-16, 1996, Nairobi, Kenya

edited by

Julie Howard and Eric Crawford

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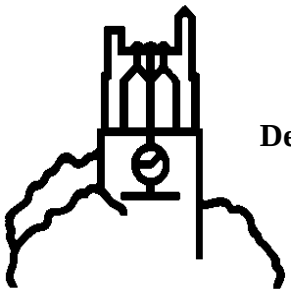

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WORKSHOP ON EXPERIENCES AND OPTIONS FOR PRIORITY SETTING IN NARS, AUGUST 12-16, 1996, NAIROBI, KENYA

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Julie Howard and Eric Crawford

November 1997

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CONTENTS

1. BACKGROUND

The motivation for this workshop came from two sources. First, under a project funded by USAID (AFR/SD/PSGE/TDT Office), Michigan State University (MSU) has been carrying out various activities to assist African national agricultural research systems (NARS) and regional organizations to improve their capacity for strategic agricultural research planning, including technology assessment and priority setting within a commodity sector framework.

Second, recent collaborative work by the International Service for National Agricultural Research (ISNAR) and the Kenya Agricultural Research Institute (KARI) has focused on the development of a process and methods for program-level priority setting. Of key importance is the emphasis on assisting KARI to develop an improved process and practical, user-friendly tools for priority setting and resource allocation in agricultural research. These include a geographic information system to classify research target zones, and computer-based spreadsheet models of alternative priority-setting methods.

Following from these activities, MSU, ISNAR and KARI agreed in early 1996 to jointly plan and facilitate a regional workshop on experiences and options for priority setting and technology assessment in NARS. The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) agreed to sponsor the activity, and in June invited NARS directors in Ethiopia, Kenya, Uganda and Tanzania to nominate up to six persons each to participate in the workshop.

The activity was originally conceived as a pilot program with three phases: (1) *Planning and Assessment*, during which each participating country's experience, and existing and desired capacity for research planning would be assessed, and facilitators would assist country researchers to begin building an institutional structure and information base for research planning in one pilot program area; (2) *Program-level Field Studies*, in which one program-level field study would be carried out in each participating country; and (3) *Dissemination, Validation of Results and Forward Planning*, during which the results of the program-level field studies would be presented to stakeholder groups for validation, and action plans would be formulated for carrying out planning and assessment in other program areas.

The completion of the workshop marks the end of Phase 1 activities. Whether Phases 2 and 3 are implemented depends on the development of proposals by the individual countries in their chosen program areas, approval of the proposals by ASARECA, and the availability of funds from donor agencies.

2. OBJECTIVES

The objectives of the workshop were (1) to provide a forum for ASARECA member NARS to synthesize their experiences with institute and program-level priority setting and technology assessment; (2) to examine the process and methods developed by KARI/ISNAR and other NARS in commodity program planning; and (3) to develop country-specific frameworks and action plans for a priority-setting/technology assessment study in a focus program area, to be carried out beginning in late 1996.

3. IMPLEMENTATION

Funding. Funding for the workshop was provided by USAID/SD/PSGE/TDT, the Rockefeller Foundation, USAID/Tanzania, and USAID/Uganda (through the Investment in Developing Export Agriculture (IDEA) Project).

Workshop Participants. Workshop participants included six researchers each from Tanzania and Uganda (additional funding provided by USAID Missions/projects allowed an extra three researchers to attend the workshop from each country), three from Ethiopia, and eight from Kenya. Most countries sent both biophysical scientists and socioeconomists from their pilot programs, or coordinators from several key research programs. A list of the workshop participants is included as Appendix 2.

Program Development. At initial planning meetings in February and May 1996, KARI, MSU and ISNAR agreed on a tentative workshop program covering both priority-setting and technology assessment issues. Julie Howard (MSU) and Brad Mills (ISNAR) subsequently traveled to Kenya, Uganda and Tanzania to help NARS research managers, program leaders, and socioeconomists to identify pilot programs for the workshop and possible follow-on activity, and to begin compiling a database for the chosen program. Kenya, Uganda and Tanzania chose grain legumes, maize and rice as their pilot programs, respectively.

In June and July, several changes to the workshop program were requested by KARI and accepted by MSU and ISNAR, including (1) a narrowing of the workshop focus to priority setting; (2) more time in the workshop devoted to synthesizing country experiences with priority setting, with countries helping each other to identify gaps in priority setting; (3) less emphasis on teaching priority-setting methods; and (4) a diminution of the roles of MSU and ISNAR facilitators, to ensure that the products of the workshop were "owned" by the participants.

The subsequent program developed by KARI centered around seven sessions: (1) country experiences in priority setting; (2) institutional structures, levels of priority setting, and identifying research objectives; (3) the framework for priority setting (spatial targeting of research zones using geographical information systems (GIS), constraints analysis to identify research themes, assessing the potential for generation and adoption of technologies); (4) existing priority-setting approaches (congruency, benefit-cost analysis, scoring method); (5) participation in the priority-setting process; (6) institutional and resource allocation issues in priority setting; (7) workplan drafting and presentation. A copy of the workshop program is attached as Appendix 1.

The workshop was highly participatory, with sessions built around either presentations and discussions of countries' own experiences with priority setting, or short introductions by KARI economists to concepts underlying different priority-setting tools, e.g., spatial targeting, congruency, and benefit-cost analysis. Participants spent much of the time in mixed-country groups working through exercises (many of which were computer-based) designed to give them an introductory "hands-on" experience with different priority-setting techniques. Most exercises were drawn from a training module on agricultural research priority setting prepared by ISNAR

and previously used by ISNAR/KARI in Kenya.[1] Sessions were chaired and rapporteured by the participating countries in turn. A Steering Committee composed of the facilitators and representatives from each country met nightly to assess the day's activities and suggest needed changes to the remainder of the program.

[1]Requests for copies of the training module *Agricultural Research Priority Setting* should be directed to the International Service for National Agricultural Research (ISNAR), attn. Zenete Franca, P.O. Box 93375, 25009 AJ The Hague, The Netherlands.

4. FINDINGS AND ACHIEVEMENTS OF THE WORKSHOP

Key findings and issues raised in the workshop included:

Diversity of Country Experiences with Priority Setting. The range of experience with research planning and priority setting among the participating countries was great, from Ethiopia, which carried out a one-time national-level (cross-commodity and agroecological zone) planning exercise in the early 1990s, to Kenya, which has devoted considerable resources to training socioeconomists and program scientists in priority setting, and to institutionalizing priority setting at all levels (national, regional, and within-program).

Group Discussions Allowed Participants to Learn from and Openly Critique the Experiences of Other Countries. The discussion sessions were extremely useful, providing an opportunity for countries to compare the strengths and weaknesses of other countries' priority-setting efforts with their own, and to examine the rationale behind the processes used, results obtained and implementation. Some of the issues raised included:

Participation — how best to incorporate smallholder (not just elite) farmer views in the priority-setting process.

Quality of data — good priority setting depends on the availability of good data; participants asked what role NARS scientists and managers should play in improving the quality of agricultural statistics in their countries.

Criteria — every country confronts problems in how to translate general criteria for agricultural sector performance, e.g., food security or import substitution, into meaningful indicators for agricultural research performance at national, regional, program and project levels.

Resources for implementing priority setting, and resource allocation following priority setting — researchers expressed concern about the financial and human resource cost of priority setting, and worried that priority setting and planning sometimes become ends in themselves rather than a means to improve the impact of real research activities. Factors such as human resource fixity, project funding cycles, and political issues affect the translation of priorities into changes in resource allocation.

Decentralization of research systems — implications of the current trend toward decentralization of research organizations for (1) the degree to which research plans need to be disaggregated, e.g., across agroecological zones or political divisions; (2) increased client participation in priority setting and funding; and (3) the balance between basic/strategic and applied research.

The role of socioeconomic research in NARS is still not well understood. Most core research problems identified by NARS continue to be biophysical in nature. Although there is increasing recognition by biophysical researchers of important constraints that impede technology transfer (such as input delivery and product marketing systems), these problems are still not commonly viewed as potentially researchable issues by biophysical researchers even when socioeconomists are available to help address them. For example, during the constraint tree exercise at

the workshop, high cost inputs and low profitability were identified several times as fundamental constraints, yet the research themes chosen by the groups never focused on these socioeconomic issues.

Lack of Consensus on a Correct Method/Process for Priority Setting. Some participants were frustrated by the lack of a recipe for correct priority setting, or by the unwillingness of workshop facilitators to diagnose weaknesses in existing processes and recommend remedial actions. Instead the facilitators stressed that there was no "right" way to set priorities, and that the selection of methods, and even the decision to devote resources to more systematic priority setting, had to be an individual decision for each country, depending on the level of human and financial resources available and the perceived strengths and weaknesses of the priority-setting process already in place. The intent of the workshop was to provide a forum for countries themselves to discuss experiences, and to introduce them to the range of available priority-setting methods that they can consider, should they wish to strengthen their priority-setting efforts.

Development of Proposals for Future Work. One of the objectives of the workshop was to develop country-specific frameworks and action plans for a planning/assessment study in a focus program area, to be carried out beginning in late 1996. The workshop facilitators briefly reviewed the upcoming ASARECA program to strengthen policy analysis capacity within NARS (ECAPAPA), and explained that funding for planning/assessment studies was expected to become available through ECAPAPA, although this was not yet certain. Participants were invited to use workshop time to draft proposals for further work either for strengthening priority-setting processes in their NARS, or for carrying out research on a specific policy-related constraint/opportunity affecting research impact, e.g., input delivery or product marketing systems. However, the participants indicated that they preferred to wait and develop proposals from their home countries, given the uncertainty regarding funding and the need to consult with their research managers before submitting any proposals for future work.

Instead the participants elected to use the workshop time for small group and plenary discussion of main findings from the workshop and general indications of what kinds of planning-related work they are interested in carrying out in the future.

Ethiopia acknowledged concern about the low level of institutionalization of priority setting in Ethiopia relative to the other countries, but indicated that they would first focus on ex post impact assessment for maize and wheat before moving to ex ante approaches.

Kenya had specific plans to begin priority setting in the grain legumes program if funding becomes available. They will use GIS to identify target research zones, apply congruency and scoring to prioritize among the six grain legume crops, identify research themes within the key crops using constraint trees incorporating information from participatory rapid appraisal and expert opinion, and use economic surplus to estimate the potential economic impacts of alternative themes.

Tanzania will focus on the rice program. The team wants to devote more attention to agroecological zoning, prioritizing research themes and projects within themes, studying alternatives for augmenting program resources, increasing the involvement of socioeconomists in ex ante assessment, and improving the participation of small farmers in the planning process.

Uganda's maize program scientists will develop a proposal to make priority setting more effective using some of the techniques explored in the workshop (e.g., economic surplus, spatial targeting, constraints analysis) as well as to deal with several of the larger issues affecting research planning in the country, including resource acquisition and improving participation at all levels.

APPENDIX 1

WORKSHOP PROGRAM

Monday, August 12, 1996

Chair: L. Wambuguh **Rapporteur: D. Kilambya**

8:30 - 9:00	Registration
9:00 - 9:15	Welcome of participants: Dr. A.N. Mbabu, AD, Socio-economics Division, KARI
9:15 - 9:30	Introduction and overview of workshop: Prof. G. Mrema, Exec. Secretary, ASARECA
9:30 - 10:00	Official Opening: Dr. C.G. Ndiritu, Director, KARI, and Vice Chairman, Committee of Directors, ASARECA
10:00 - 10:20	Tea/coffee break

Session I: Country experiences in priority setting

Chair: G. Mrema **Rapporteur: M. Kamau**

10:20 - 11:00	Kenya
11:00 - 11:40	Ethiopia
11:40 - 12:20	Tanzania
12:20 - 1:00	Uganda
1:00 - 2:00	Lunch
2:00 - 3:15	Country working group synthesis of experiences
3:15 - 3:45	Tea/coffee break
3:45 - 5:00	Country working group synthesis of experiences (con't)

Tuesday, August 13, 1996

8:30 - 8:35	Daily synthesis and overview
8:35 - 10:00	Session I (continued) Presentation of working group results
10:00 - 10:15	Tea/coffee

Session II: Institutional structures, levels of priority setting, and identifying research objectives

Chair: Ethiopia **Rapporteur: Tanzania**

10:15 - 10:30	Introduction
10:30 - 11:30	Working group session
11:30 - 12:30	Presentation of working group results and discussion
12:30 - 2:00	Lunch

Session III: Framework for priority setting

Chair: Tanzania **Rapporteur: Uganda**

Part 1: Spatial targeting of research target zones

2:00 - 2:25 Introduction and demonstration
2:25 - 3:00 Working group session

Part 2: Identification of research themes through constraints analysis

3:00 - 3:10 Constraints analysis
3:10 - 4:10 Working group session
4:10 - 4:50 Presentation of working group results and discussion

4:50 - 5:00 Participant Action Planning Approach

Wednesday, August 14, 1996

Part 3: Assessing the potential for generation and adoption of technologies

8:30 - 8:35 Daily synthesis

8:35 - 8:50 Introduction
8:50 - 11:00 Working group session
11:00 - 11:30 Presentation of results

Session IV: Existing priority setting approaches

Chair: Uganda **Rapporteur: Ethiopia**

11:30 - 11:45 Brief overview of priority-setting approaches

Part 1: Congruency methods

11:45 - 12:00 Introduction
12:00 - 1:00 Working group session

1:00 - 2:00 Lunch

Part 2: Economic Benefits and Costs

2:00 - 2:30 Introduction
2:30 - 4:00 Working group session

Part 3: Scoring methods

4:00 - 4:15	Introduction
4:15 - 5:00	Working group session
5:00 - 5:10	PAPA

Thursday, August 15, 1996

8:30 - 8:35	Daily synthesis
8:35 - 9:45	Session IV (continued) Working group critique of methods
9:45 - 10:30	Working group presentations

Session V: Participation in the priority-setting process

Chair: Ethiopia **Rapporteur: Kenya**

10:30 - 10:45	Introduction
10:45 - 12:00	Working group session
12:00 - 12:45	Working group presentations

Field Trip to Naivasha Livestock Research Center - KARI

Friday, August 16, 1996

8:30 - 8:35	Daily synthesis

Session VI: Institutional and resource allocation issues in priority setting

Chair: Kenya **Rapporteur: Tanzania**

8:35 - 8:50	Introduction
8:50 - 10:00	Working group session
10:00 - 10:45	Working group presentation

Session VII: Draft workplan presentation

Chair: Tanzania **Rapporteur: Uganda**

10:45 - 1:00	Working group session
1:00 - 2:00	Lunch
2:00 - 3:30	Working group draft plan presentations and discussion
3:30 - 4:30	Draft plan modification
4:30 - 4:45	Workshop synthesis
5:00	Closing

APPENDIX 2

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APPENDIX 3

Summary of Session I Presentations and Discussion: Country Experiences in Priority Setting

KENYA

Presentation

I. Introduction: why prioritize research?

A. Agricultural research involves investment of scarce resources

B. Scarce resources need to be allocated efficiently to have the maximum impact on agricultural productivity

II. Priority setting in the Kenya Agricultural Research Institute (KARI)

A. History

1. 1986 National Agricultural Research Project (NARP 1) preparations included informal priority setting using a check list and assigning priorities by consensus

2. 1991 institute-level priority setting exercise
   a. Used scoring method with multiple criteria (see Table 1)
   b. Resulted in the document "Priority Setting to the Year 2000"
   c. Concerns raised about the quality of information and validity of scoring method

3. Since 1992 KARI has been implementing program-level priority setting. Early program-level exercises in maize, horticulture, dairy
   a. Featured identification, ranking of constraints
   b. Results were used in the formulation of NARP II
   c. Felt need for more structure, information, standardization of the priority-setting approach across programs

4. Establishment of KARI Priority Setting Working Group
   a. Priority setting is seen as a process, not a one-shot activity
   b. KARI is committed to priority setting using more formal methods
   c. High investments have been made to build capacity in the socioeconomics division
   d. Pilot program-level exercises undertaken in maize, millet, sorghum, wheat

B. Five steps in program-level priority setting

1. Step 1: compile an information base on the commodity
   a. Program socioeconomist leads the effort with assistance from priority setting facilitator

b. Required data
   -District level area and production statistics
   -Variation of commodity prices across districts
   -Supply and demand elasticities
c. Need experts with good knowledge of farmer constraints

2. Step 2: identify program research target zones
   a. Accomplished in a one day meeting of the commodity-level priority setting working group (PSWG) with priority setting facilitator
   b. Identify key environmental determinants of commodity production
   c. Stratify maize production areas into zones within which new technology likely to have a fairly homogeneous biophysical impact
   d. Interactively map target zones using Geographic Information Systems (GIS) databases and mapping software
   e. Impute area and production levels within each target zone

3. Step 3: elicit the potential for technology generation and adoption by major research themes and target zones
   a. Accomplished in a two day meeting of the PSWG with priority setting facilitator
   b. Establish major program research themes
   c. Review available material on constraints (e.g., yield, production) in different regions
   d. Review benchmark data
   e. For each theme and zone:
      -Establish minimum, most likely, and maximum expected net yield gains
      -Establish threshold net yield gains for dissemination of technologies
      -Establish potential adoption profiles: research lag, uptake, max, and disadoption

4. Step 4: ex-ante estimates of research-induced economic benefits
   a. Conducted by program economist and priority setting facilitator
   b. Combine data in research impact simulation model
   c. Write up initial results

5. Step 5: present results to the program stakeholder group. Stakeholder group will
   a. Modify assumptions on the potential for the generation and adoption of technologies
   b. Compare potential impacts with current program resource allocation
   c. Set guidelines for program medium term resource allocation

C. Current and Future Activities

1. Regional and NRM Programs
   a. Pilot exercise with Katumani Research Center to incorporate participatory rapid appraisal information in progress
   b. Pilot exercise with Soil Fertility Plant Nutrition Programme examining constraints within complex systems in progress

2. Future plans
   a. Complete commodity program priority setting in 1997
   b. Conduct and institute-wide commodity exercise in 1997

c. Complete guidelines for regional and natural resource research program priority setting and action plans

D. Issues and areas where support needed

1. Nationally coordinated programs
   a. Linkages to client needs
   b. Linkages to quantitative data sources
   c. Tying priorities to resource allocation decisions
   d. Funding for remaining priority setting exercises

2. Institute-wide priority setting
   a. To be based on complete set of program-level priorities
   b. How to incorporate non-economic criteria
   c. Need to disseminate information on KARI priorities, potential gains from research benefits to government and donors
   d. Funding needed for institute-wide priority setting workshop and to make linkages with government, donors

3. Regional Research Programs
   a. Need for cost effective rural appraisal methods
   b. Need to standardize regional research priority setting methods
   c. Linkage to national program priorities
   d. Need support for institutionalization of participatory rapid appraisal and other steps in priority setting

E. Lessons

1. Priority setting is a dynamic process and continues to evolve at KARI
2. Information, not methods, are the most important input into the process. The information base determines what method can be used.
3. Learning is the most important benefit from carrying out priority setting exercises
4. The development of internal processes to support and implement priority setting (institutional change) takes time

TABLE 1: Criteria Used in KARI's 1991 Priority-Setting Exercise

For Commodities

Value of production
Potential yield improvement
Probability of research success
Technical adoption rate
Potential future area/production
Equity
Employment potential
Foreign exchange savings or earnings
Domestic or external trade potential
Contribution to food security

For Factors

Number and severity of problems
Complementarity with borrowed research
Research cost
Effect of research on labor use
Effect of research on capital
Effect of research on variability of production
Effect of research on sustainability of natural resource base

Questions/Comments on Kenya Presentation

Comment: We have just been through a priority-setting exercise in the Kenyan sorghum program and I want to raise several issues about it. We found it difficult to incorporate the views of average as opposed to elite farmers, which are much better represented. Our group also found that national statistics related to sorghum are not very good, and I wonder what can be done to get better quality information. Also, I believe that the economic surplus criteria used for analysis of investments in sorghum research are not right. These criteria discriminate against crops like sorghum, millet and cassava that have a low value in terms of cash sales but are critically important for food security. These crops always come out with a very low ranking, but are very important for food security. They will become even more important in the next 20 years, as farmers start moving into drier regions.

Response: This is a fair judgment of the weaknesses of KARI's priority setting with respect to information: there is a need to develop a quality information base, and for better incorporating farmer information into the priority setting process. KARI is also struggling with the issue of developing economic criteria for programs. On the question of agricultural statistics, the problem is that KARI is not the one collecting general agricultural data. We don't have a mandate to collect it.

Comment: Researchers have no confidence in the data collection process. KARI can't collect the data itself, but it could influence policymakers and agencies responsible for data collection.

Question: KARI has already established priority-setting teams. How do you intend to do participatory rapid appraisals (PRA)?

Answer: Within KARI a PRA task force has been formed to consider ways to institutionalize participatory approaches. KARI is collaborating with Egerton on PRA training.

The priority setting process already tries to incorporate farmer views. This will be the link between priority setting and PRA — the common objective of getting better information from farmers.

Question: What about input market constraints, e.g., seed and fertilizer availability? Do these get factored in?

Answer: Expected future market conditions are accounted for through the estimated adoption rates for specific types of technology. But knowing future market conditions (in 10 years) is difficult, particularly in Kenya.

Question: Can you give an indication of how much it costs to do priority setting in one program?

Answer: USD 2000-3000 in direct costs per program, not including the cost of staff time.

Question: Are there some steps that can be cut?

Answer: Not yet. In fact there have been some suggestions that we need still more information. We are trying to cut costs by integrating data collection into other program activities and by using one database for multiple purposes. E.g., the maize database was costly to assemble but it is being used for many purposes, not just priority-setting.

Question: What is KARI's program for completing priority setting?

Answer: We took a few commodities at first as pilots (particularly those under funding pressure), and we are expanding gradually as we get the resources to do so. The process will be completed at the program level by the end of this year (1996) so that we can do the institutional-level priority setting next year (1997).

Question: Is it necessary to do priority setting commodity by commodity, or can you collect information on a number of commodities at the same time, e.g., do 2-3 simultaneously?

Answer: It depends on how the research system is organized. In KARI, the national commodity programs are based at one center, and it makes sense for us to do these one at a time. An exception is the case of horticulture, where we are doing priority setting for several commodities at a time. The approach used in the regional program priority setting exercises will be different, however. This will involve a holistic look at a range of commodities and livestock. It will be problem-based rather than commodity- or livestock-based.

Question: How far have you gone in using the priority setting results to change resource allocations? And what have you done in cases when you find some areas or themes are not having a significant impact?

Answer: We are going through a process, and the priority setting results are not the only criteria for allocating resources. Changes in resource allocation will not be instantaneous. There are lags, e.g., we may have some institutional commitments that will take years to wind down. The priority setting results serve as signals that help us plan for the future.

Comment: The process of carrying out priority setting in the sorghum program showed us what areas we had been emphasizing at the expense of others, e.g., we noticed that we have been doing a lot of breeding. Now we feel we have a lot of technology, and perhaps need to assign someone to work on technology transfer.

Question: How long does it take to go through the priority setting exercise?

Answer: It depends on the availability of information and the investment you want to make in data collection. On average priority setting has taken 2-3 months per program.

ETHIOPIA

I. Structure of Ethiopia's National Agricultural Research System

A. Research Organizations

1. Institute of Agricultural Research (IAR)
   a. Crops
   b. Livestock
   c. Natural Resources
   d. Farm implements
   e. Socioeconomics

2. Bio-diversity Institute — collects, characterizes and conserves plant and animal germplasm

3. Regional Research Centers
   a. Centers that were established by IAR but later transferred to regions
   b. Work on problems that are specific to that region

B. Higher Education Institutions

1. Alemaya University of Agriculture — staff devote 25-30% of their time to research on crops, livestock, etc.

2. Faculty of Veterinary Medicine and Awassa Junior College

C. National Agricultural Research Council – coordinates research activities of various institutions

D. Ministry of Agriculture — research on forestry, soil conservation

II. Status and Organization of the NARS and Research Programs

A. Semi-autonomous

B. Supervised by board of directors composed of Ministers

C. Organizational structure of NARS is currently being evaluated and revised by the government

D. Research Programs — 7 commodities and 11 divisions

1. Commodities
   Wheat
   Maize
   Tef
   Sorghum
   Coffee
   Cotton
   Farm implements

2. Research Divisions
   Field crops
   Horticulture
   Agronomy
   Crop protection
   Soil science and water management
   Animal production
   Animal feed and nutrition
   Animal health
   Agricultural economics
   Food science
   Research and extension

E. Process of generation and transfer of technology

1. Within research centers (about 9 major centers)

2. On-farm research

3. Pre-extension demonstration

F. Manpower and Budget

1. Manpower
   27 Ph.D. holders
   100 M.Sc.
   3 D.V.M.
   97 B.Sc.

2. Budget
   (Table 2)

III. Strategic Planning Exercise (1990)

A. Basis for prioritization — national agricultural policy objectives

1. Food self-sufficiency and security

2. Industrial raw materials

3. Export

4. Import substitution

5. Natural resource conservation

B. Criteria and priority-setting results

1. Criteria set by various committees

2. Cereals, food legumes, fiber
   a. Criteria
      i. Dietary importance
         -Calorie contribution
         -Protein contribution
         -Additional: fats/minerals/vitamins
         -Transportability
         -Convertibility
         -Storability
      ii. Importance to the production system
         -Production
         -Value of production
         -Sustainability
         -Multi-purpose use + by-products
         -Area
         -Agroecological adaptability
      iii. Relevance to target groups
         -Employment generation
         -Income generation
         -Security (including stability)
         -Equity (dependence)
         -Relevance (small/large farms & national/local industry)
      iv. Researchability ("Is research needed?")
      v. Research opportunity
         -Diversity available (short-term)
         -Genetic resources (long-term)
         -Time frame
         -Yield: trend and potential for improvement
         -Stability
      vi. Potential for breakthrough
         -Emerging knowledge from basic research
         -Technologies in the pipeline
      vii. Export value and potential
      viii. Import substitution value [food/industrial raw materials demand & value]
      ix. Industrial raw material
   b. Results
      i. Cereals
         -High Priority - wheat, barley, tef, maize, sorghum
         -Medium priority - rice, dagusa
         -Low priority - oats, pearl millet
      ii. Food Legumes
         -High priority - haricot bean, faba bean, lentils, field peas
         -Medium priority - chick pea, soybean, cow pea, guaya
         -Low priority - Fenugreek, lupine, mung bean
      iii. Oil Seeds
         -High priority : Noug, peanut, linseed, sesame, brassica
         -Medium priority - sunflower, safflower, castor, vernonia

-Low priority - oil palm

iv. Fiber crops

-High priority - cotton

-Medium priority - kenaf

-Low priority - sisal

c. Priority crops based on agroecology

i. High altitude (> 2300 m)

-Wheat

-Barley

-Field pea

-Faba bean

-Linseed

-Brassica

ii. Mid altitude (1500-2300 m)

-Wheat

-Tef

-Maize

-Noug

-Faba bean

-Lentil

-Sorghum

-Haricot bean

-Field pea

-Chick pea

-Kenaf

-Safflower

-Sunflower

-Soybean

-Castor

-Grass pea

iii. Low altitude (< 1500 m)

-Cotton

-Sorghum

-Sesame

-Peanut

-Haricot bean

-Maize

3. Livestock species and products

a. Criteria

i. Food self-sufficiency

-Economic value of consumption

-Future supply/demand gap

-Food value (energy & protein)

-Consumer preference

-Storability

-Transportability

ii. Economic value of non-food domestic consumption (draught power, transport, hides, skins, wool, wax, etc.)

iii. Foreign exchange earning and saving
-Current export earnings
-Current cost of imports
-Future potential for export

iv. Importance to the producer
-Number of farmers involved in production
-Subsistence level
-Generation of cash income
-Security value

v. Importance to farming system
-Multipurpose use
-Contribution to sustainable agriculture
-Resource requirement
-Agroecological adaptation

vi. Generation of off-farm employment

vii. Research base and potential for response to research
-Present status; manpower, facility, state of knowledge
-Potential for improvement
-Probability of success
-Adoption by producers
-Time scale for breakthrough

b. Results
i. High priority- cattle milk, cattle meat, sheep
ii. Medium priority - poultry, bees, cattle drought; goats
iii. Low priority - fish, equines, camels, swine

Closing comment: The Ethiopian government has been funding commodities like maize for a number of years with assistance from international organizations and donors such as CIMMYT and GTZ. There is a feeling that we need to do ex post analysis of the impact of these investments first, and from there we may move to ex ante analysis and refinement of the above priorities. These issues are still under discussion.

TABLE 2: Ethiopian NARS Budget 1994-95

	1994	**%**	**1995**	**%**
			'000 Birr	
Institute for Agricultural Research	25070.0	81	27835.6	84
Bio-Diversity Institute	2380.1	8	1886.7	6
Alemaya Agricultural University	2947.7	9	2575.5	8
Awasa Agricultural College	689.4	2	805.2	2
Total	31087.2		33103.0	

Questions/Comments on Ethiopia Presentation

Question: How were weights assigned to the criteria?

Answer: Weights were assigned by IAR. The priority setting exercise was an activity purely undertaken by IAR.

Question: Have the priorities been validated politically?

Answer: IAR has submitted the priority setting report to the government for funding, not for approval or disapproval of the priorities. This is not necessary; priorities are not policy-level decisions.

Question: Ethiopia is in the process of restructuring its NARS. How will national and regional research be coordinated in the future?

Answer: The Ethiopian government wants to come up with a new coordinating mechanism for the NARS. The existing National Agricultural Research Council (NARC) is not in a position to do this. They meet only once every three months. The new organizational structure is currently being developed.

In principle the regional research entities will work on region-specific problems. Regional research programs will be more applied, e.g., farming systems and agronomic research. National-level programs will address problems that cut across different regions. The mandate of the (old) NARC was to avoid duplication of effort, but it did not function well. The new coordinating committee has been charged with coming up with a new system.

Question: To what extent are farmers involved in priority-setting? Does IAR carry out farmer surveys?

Answer: IAR has been involved in Farming Systems Research (FSR) since the late 1970s. Countrywide diagnostic surveys have been carried out in the past. The published results of these surveys were consulted during the priority setting process. Data from the Central Statistical Office were also used.

Question: A new World Bank/IDA loan for agricultural research is being proposed for Ethiopia. If there is a stratified, very politically charged research organization, how will the loan resources be allocated and on what basis will the loan be secured?

Answer: Working these issues out will be part of the task of the new coordinating committee.

TANZANIA

PRIORITY SETTING AND RESEARCH PROGRAM PLANNING: EXPERIENCES FROM TANZANIA[2]

Z.I. Kanyeka, A.J. Ahmed, J.M Mafuru, J. C. Mbapila, E.W. Nzota and A.R.M. Kaliba

I. Introduction

Agriculture is Tanzania's key economic sector. It accounts for about half of the country's GDP, for more than 80% of export earnings and for about 90% of rural employment. The sector is also the nation's main source of food and raw materials for agro-industries. Agricultural production is predominantly subsistence. It is undertaken by approximately 2.25 million farm families each operating an average of two hectares of land (TDRT 1991).

Agricultural research in the country is the responsibility of the Department of Research and Training (DRT) of the Ministry of Agriculture and Cooperatives. It is based on a network of over fifty research institutes, stations and sub-stations spreading over the country. In 1988 the appraisal of the National Agricultural Research System identified that there was no clear research priorities. Individual researchers or research stations suggested research activities which were combined into national research plans without clear priorities. The limited resources (finance, human and physical) were allocated to a multitude of research topics providing too little to too wide field activities. For example, there were about twenty two crop commodity research programs and six special programs being addressed nationally in about fifty research institutes, stations and substations.

In 1989, the National Agricultural and Livestock Research Project (NARLP) was developed. One of its major component was to prepare the National Agricultural and Livestock Research Master plan (NALRM). The main objective of NALRM was to examine in depth the constraints and priorities for agricultural research in Tanzania (Mainland) (TDRT 1991).

II. Priority Setting and Program Planning

The National Agricultural and Livestock Research Master plan (NALRM) was prepared by local research scientists, senior managers with the support of few consultants from International Service for National Agricultural Research (ISNAR). The plan was prepared to assist the country in adhering to the coordinated research in line with the available physical, human and financial resources. The NALRM is therefore a policy instrument for the Ministry of Agriculture as well as a medium term action plan for the DRT. The responsibility for the implementation of the NALRM clearly rests with the DRT.

A. Prioritization at National Level

NARLP employed scoring method and used six criteria, three modifiers and considerations to rank individual commodity research programs (TDRT 1991) as shown below.

[2]Paper presented at the Workshop on Experiences and Options for Priority Setting in NARS, August 12-16, 1996, KARI Headquarters, Nairobi, Kenya.

Criteria

a. Contributions to foreign exchange earnings and savings
b. Contribution to food security and food self sufficiency
c. Enhancement of basic agricultural knowledge
d. Contribution to small holder development
e. Availability of clearly identified and essential research areas and topics
f. Contribution to the improvement of the environment

Modifiers

a. Requirement to support ongoing research projects
b. Availability of sustainable infrastructure or comparative cost advantage of developing such infrastructure
c. Avoidance of research duplication

Considerations

a. Balance of crop versus livestock research
b. Prospects for increasing export earnings
c. Potential for direct crop sub-sector participation in research funding

As a result of priority ranking exercise, the commodity research programs were grouped into three categories, i.e., priority one, two and three.

Priority one commodities scored highest using the above prioritization procedure (Table 1). First priority programs were allocated optimum resource in order to deliver tangible results with impact on farm productivity.

Table 1: National commodity research programs in priority one and two

Priority one (crops/livestock)	Priority one (special programs)	Priority two
Coffee	Soil & water management	Maize
Cotton	Agro-forestry	Roots & tubers
Ruminants/milk production	Agric. economics	Phaseolus beans
Tea	Farming systems	Vegetables
Rice		Oil seeds
Animal health and livestock diseases		

Rice was the only food crop grouped in the top priority together with coffee, tea and cotton. However, research on maize, the country's staple food crop, also ranked very high but was nevertheless not included in the top priority. This is because, there is a very substantial latent potential for maize production expansion on the basis of already existing research findings, which have not been fully utilized. Maize production is thus held back more by external factors, such as input supply, extension,

transportation and marketing constraints rather than by biological and agronomical research problems (TDRT 1991).

Similarly, Agricultural Economics and Farming Systems Research were taken in priority one. They could not be implemented as independent and separate research programs due to the fact that they are both essentially complementing to the crop and livestock research. These programs are now being strengthened under the NARLP and are considered essential for the development of the country's agricultural sector.

Priority research programs are those which were ranked second. Support of this group will be limited to the available government resources. However, those receiving donor support will continue to benefit as long as the donor is willing to support.

The third priority commodity research programs are receiving low rank in order of priority. Research on those commodities will be scaled down until other sources of funding become available.

In order to complement the national priorities and to address specific research programs and problems, prioritization at zonal level was also done.

B. Prioritization at Zonal Level

Several subsequent planning and organization sessions were held by DRT to fine tune the new structural and organization. In each zone two committees; Zonal Technical and Advisory committees were set up to enhance planning. The two fora provide general guidance to the zone concerning the research agenda (DRT 1996).

The zonal planning and priority setting exercise in each zone was preceded by a number of activities/workshops; planning and priority setting workshop, FSR strategy development exercise, strengthening of client-oriented research workshops and monitoring and evaluation workshop. In these exercises, a team of research staff was drawn from each zone. Other participants in these workshops include stakeholders/beneficiaries (NGO's Representatives, Extension officers, farmers). These workshops aimed at establishing few, well focused and cost effective priority research programs and researchable topics, whose results can have immediate impact on farm productivity (DRT 1996).

Comparative advantage of individual crops in each zone has resulted into the zonal commodity prioritization and planning approach. The scoring method with similar criteria, modifiers and considerations employed in the national priority setting were also used in the prioritization of commodity research programs at zonal level.

Tables 2 and 3 below show the priority one and two commodity research programs in each zone. Based on the comparative advantage of individual commodities, there is a marked differences in crops/livestock research programs grouped in category one across the zones.

Table 2: Priority one commodity research programs at zonal level

Eastern	Central	Lake	Northern	Southern Highlands	Southern	Western
Maize	Dairy cattle	Cotton	Coffee	Beans	Cashew	Tobacco
Dairy cattle	Beef cattle	Rice	Phaseolus beans	Maize	Sesame	Rice
Rice	Sorghum/ millets	Dairy cattle	Dairy cattle	Coffee	Groundnuts	Sweet potatoes
Beef cattle	Pastures & forages	Cassava	Wheat	Dairy cattle	Coconuts	Dairy cattle
Grain legumes	Grain legumes	Pastures & forages	Barley	Rice	Goats	Maize
Sisal	Maize	Coffee	Horticulture	Tea	Cassava	Cassava
Coconuts	Cotton	Bananas	Maize	Beef cattle		Beef cattle
Sugar cane		Phaseolus		Horticulture		
		Sweet potatoes				
		Maize				
		Beef cattle				
		Sorghum/ millets				

Table 3. Priority two commodity research programs at zonal level

Eastern	Central	Lake	Northern	Southern highlands	Southern	Western
Cotton	Viticulture	Tea	Bananas	Bananas	Poultry	Sorghum/ millets
Coffee	Rice	Fruit trees	Beef cattle	Non-ruminants	Fruits	Poultry
Poultry	Root & tubers	Goats/sheep	Pastures & forages	Small ruminants	Fruits	Poultry
Sweet potatoes	Small ruminants	Pigeon peas	Oil seeds	Wheat	Vegetables	Cotton
Goats	Oil seeds	Groundnuts	Roots & tubers	Round potatoes	Dairy cattle	Phaseolus beans
	Tobacco		Post harvest technology	Pyrethrum	Pigeon peas	Grain legumes
			Biotech	Oil seeds	Beef cattle	horticulture
			Agric. Climatology	Cotton	Pasture & forages	Oil seeds
					Rice	Oil palms

In order to be more focused and client-oriented the zonal priorities were subjected to a logical framework or ZOPP (*Ziel Orientiele Project Planning)* which is similar to Objective Oriented Project Planning (OOPP).

C. Objective-Oriented Project Planning (OOPP)

All the planning sessions held by the ART of the Ministry of Agriculture and Cooperatives noted that there was a need to have stronger links among agricultural researchers and key players which have to begin with integrated planning starting at station level involving other sections as well as extension, the NGOs and representatives of agro-industries. The ART is now moving towards strengthening farmers involvement in research and its system on monitoring and evaluation in an environment where resources are scarce and scattered. It is therefore clear that a logical framework which includes zonal priorities and an implementation mode is necessary to assist the situation (Lema and Ahmed 1996).

As a follow up to that situation research zones have to prioritize their commodity research programs and problems employing logical frame work approach. The most important expected output for each zone is a zonal planning matrix. The elements of planning matrix include main activities to be executed, outputs, verifiable indicators, means of verifying indicators, costs and quantitative inputs necessary to realize activities of the project. Assumptions are also listed indicating the risk which the project faces.

This exercise has been successfully done in six zones except Lake Zone which will do the ZOPP workshop during the first week of October. Examples of ZOPP exercises done in Eastern zone are shown in Appendix 1 to 4.

D. Prioritization at Program Level

Individual commodity research programs are now expected to formulate their research project proposals based on the prioritized research problems of the respective zones. The proposals will then be discussed, reviewed and approved for execution by the commodity research coordinating committees which meets once per year. These projects will finally draw plans for the particular commodity at the national level.

E. Future Plans

In future, participation of our clients in research activities is to be strengthened using Farming System Approach (FSA) and Zonal Advisory Committees.

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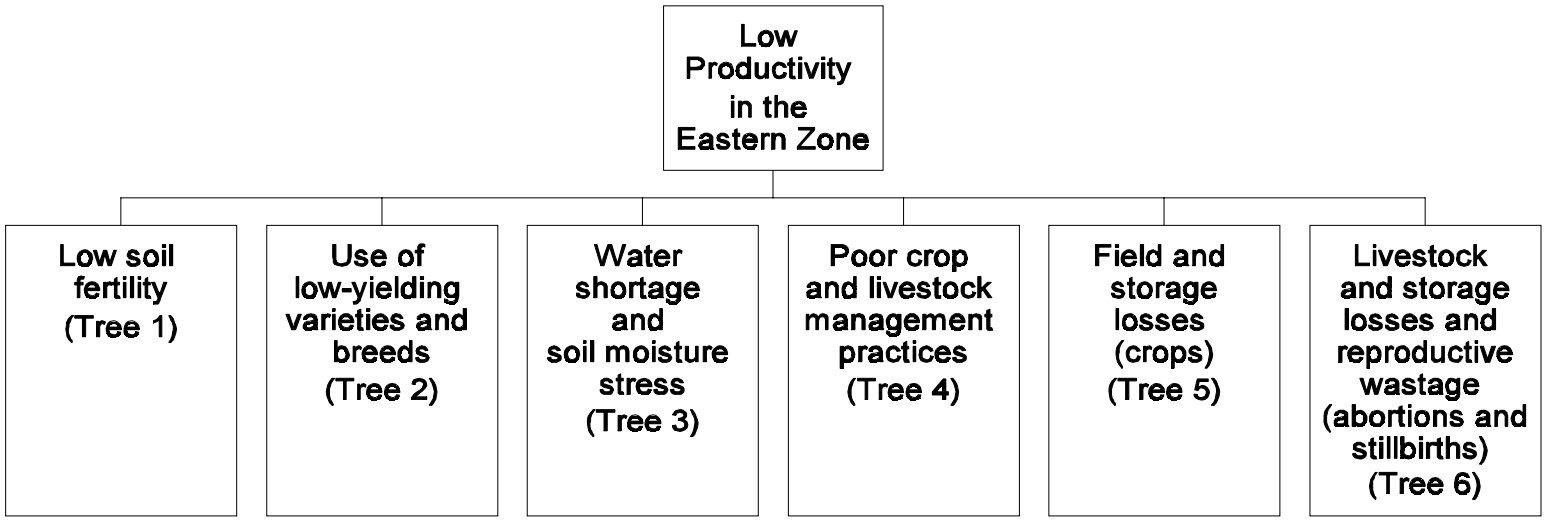
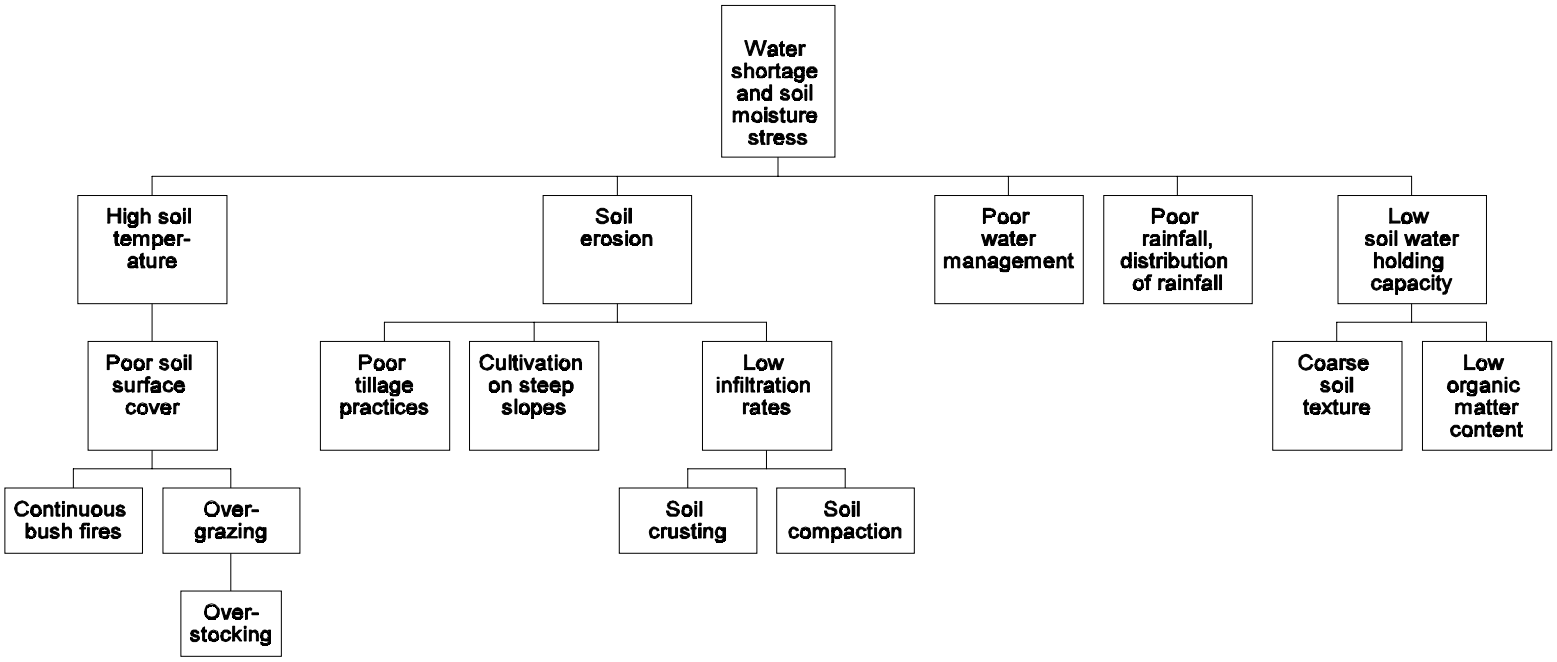
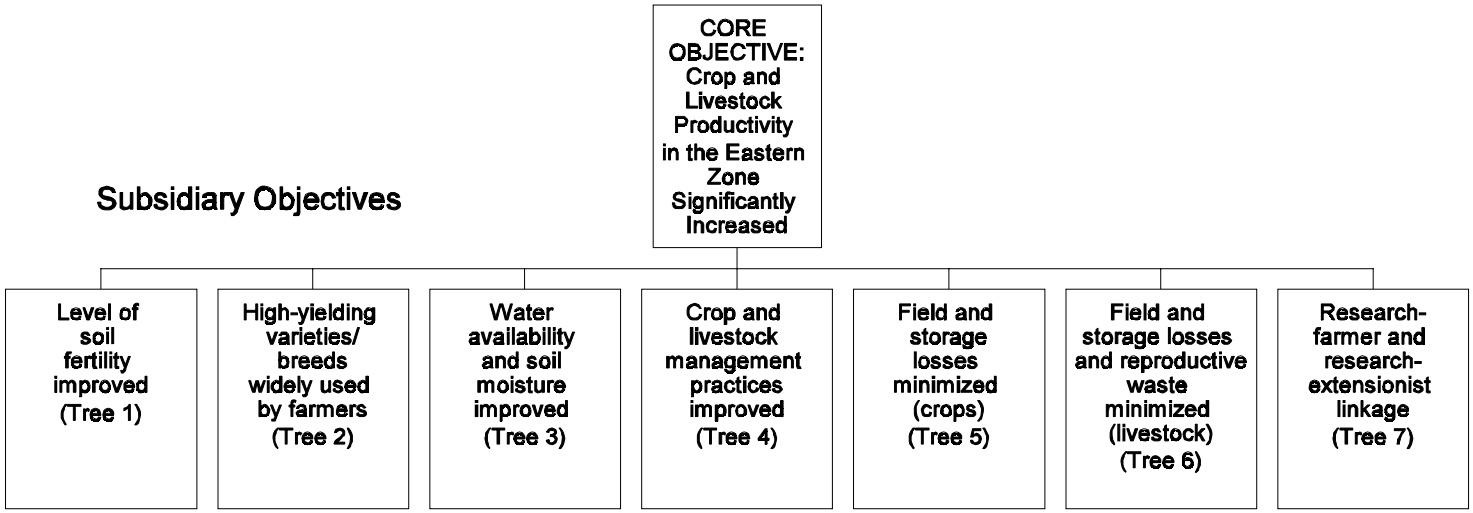
Core Problems and Causes



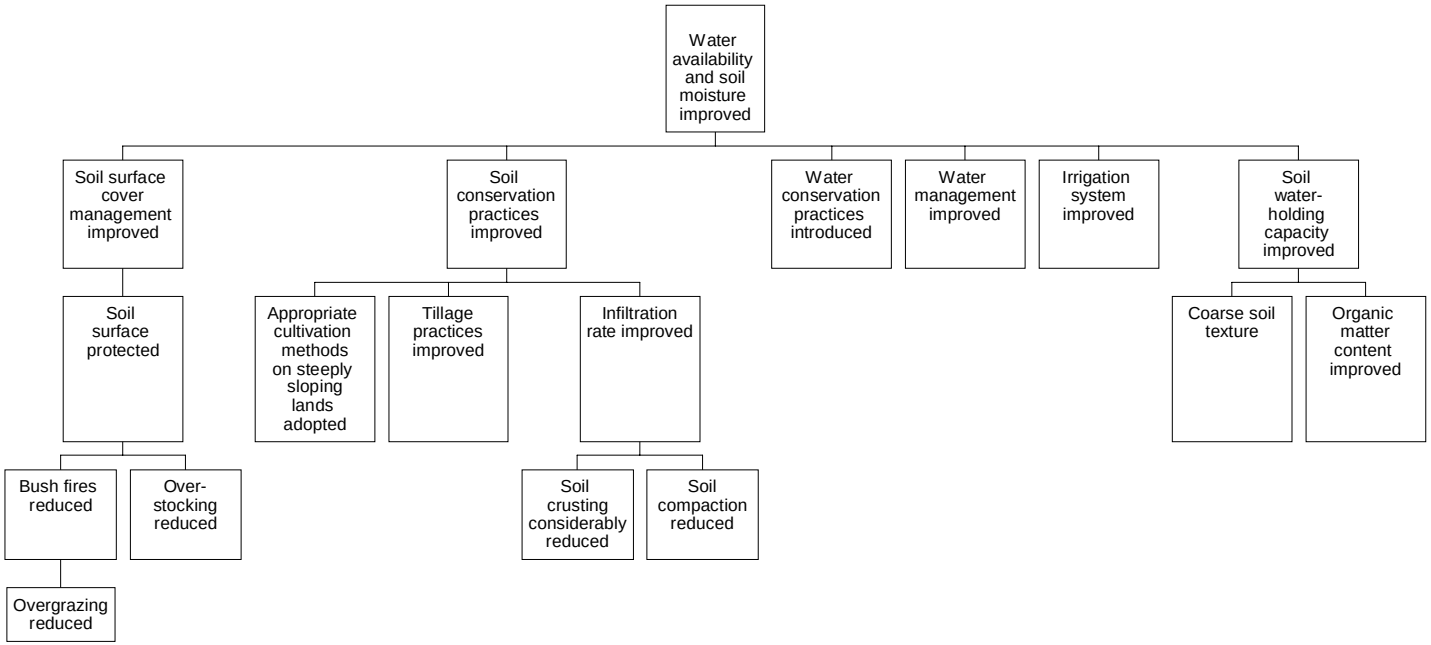
Problem Tree 3



Core and Subsidiary Objectives



Objective Tree 3



Questions/Comments on Tanzania Presentation

Question: In the past the government research agency has moved back and forth, first a semi-autonomous parastatal, then back into the line ministry, and now perhaps it will become a parastatal again. What is the current position on where to locate the research agency?

Answer: We are not aware of any plans to make the research agency a parastatal. In the second phase of the National Agriculture and Livestock Research Plan (NALRP 2, currently being formulated), the research system will be decentralized to the zones and we want to encourage greater involvement of the private sector, e.g., tea, coffee, sugar sectors. We hope that these sectors will contribute resources to research. We have also set up self-help funds at the research stations.

Question: In the past, funding for research has come mainly from government parastatals. Is any funding coming from independent farmer associations currently? If not, are there are plans to procure funding from these sources?

Answer: Currently there is not much funding from agro-based industries. We expect to get funding from farmer cooperatives, including tea, tobacco, coffee farmers and other farmer associations, when the modalities have been worked out.

Question: How are research funds allocated, e.g., the self-help funds at the zonal level? For example, if cashew is a priority one crop in the Southern Highlands, but not a national priority, can the cashew program still get funds?

Answer: The government provides funding for priority one crops at the national level. Donors also give funds, mostly physical facilities and improving human resources. For other commodities, e.g. sugar, that are important regionally but not nationally, we may try to establish revolving funds with the industry to continue research.

Question: How were farmers involved in priority setting?

Answer: Farmers were involved in the workshops. We are also carrying out surveys, e.g., to determine farmer variety preferences and perceptions of major disease problems.

Question: What were the criteria for selecting farmers who participated in the workshops?

Answer: Most of those selected were advanced farmers — it was not a random selection. They were prominent farmers with whom it is possible to discuss issues. The purpose of involving farmers was to check whether or not they would confirm the constraints that had been identified through FSR.

Question: Were farmers involved in scoring?

Answer: Yes, but they were minimally involved since they were very few, only 1-2 in each zone.

Question: Did it create any political stir when maize was not ranked as a priority one crop?

Answer: Maize has had a lot of funding since 1974. Funding had always been skewed before in favor of maize. It was a management decision to redirect funding to another commodity for which demand is rising.

Question: What will the national programs do? Will they tackle more strategic problems or will they just be the sum of regional constraints?

Answer: Not clear.

Question: It has been seven years since the Master plan was formulated. Does it need to be revised?

Answer: Priorities will be revisited as part of the process of formulating NALRP 2. The emphasis in NALRP 2 will be on problem-solving research, addressing problems that are important to clients. We have taken some steps toward this already, e.g., in the rice program we carried out a (random) variety preference survey throughout the country.

Question: Did donors force some priorities in Tanzania?

Answer: Donors tried to influence the rankings of coconut, cashew, and roots and tubers.

Question/comment: Do you see change in priorities, or are resource allocations changing? After priorities are set policymakers and managers can consciously choose to overlook them. Priority setting is a very important input into the decision-making process, but you may find that research managers/ policymakers consciously deviate from the priorities afterwards. Donor support is a major criterion, both in how priorities are set and how they are adhered to.

Response: The priority one crops at the national level have remained the same. But if a commodity is priority two, and donors are funding it, then research in that area is continued.

Question: Are you sure that some of the maize problems are not research problems but are just technology transfer problems?

Answer: We found that most problems in maize were related to socioeconomics. This is what is hindering technology transfer.

Question: Does this mean that socioeconomics is not a researchable thrust?

Answer: We are not ignoring socioeconomics research. The main problem with maize is input delivery. This research theme has been moved out of the commodity program and into the socioeconomics program (agricultural economics is a priority one special program).

Comment: There is an important lesson to be drawn from the Tanzanian experience, where political will and not economic analysis was used to relegate maize as a secondary crop to rice.

UGANDA

Presentation

I. Structure of NARS

A. National Agricultural Research Organization (NARO) established in 1992. Semi-autonomous parastatal responsible for coordination, management of all agricultural research.

B. NARO is governed by a Board of Directors and a Secretariat. 8 research institutes are planned; 6 currently operational

1. Perennial crops
2. Annual crops
3. Livestock health
4. Forestry
5. Fisheries
6. Livestock
7. Agricultural engineering (planned)
8. Food science and technology (planned)

II. Priority Setting Experiences

A. First priority setting exercise took place in 1990 before NARO was established

1. Prioritization of commodities and constraints
2. Participation limited to research managers and scientists

B. Changing political situation in Uganda and need to broaden participation led to second priority setting exercise in 1993

1. Starting point — national agricultural sector objectives
   a. Food security
   b. Import substitution
   c. Export diversification
   d. Sustaining natural resource base
   e. Raise standard of living of rural poor
2. Criteria developed for each objective
3. Weighted scoring method
4. 250 stakeholders involved — farmers, politicians, scientists

5. Commodities prioritized; constraints identified and prioritized
6. Next step: translation of priorities into action plans
    a. Chose to build research programs based on constraints identified for commodity and factor areas
    b. Project = set of experiments designed to develop technology aimed at solving a constraint

7. Annual review process is very important. Each year priorities are revisited. New problems, results of diagnostic surveys are discussed and programs revised as necessary. E.g., in 1993 grey leaf spot was not a major problem, but identified as a serious threat to maize during 1995 annual review. New research activities designed and implemented as a result.

C. Gaps in priority setting approach used by NARO

1. Approach used is not backed by strong quantitative data

2. Need to address prioritization of research activities within a project. Given a range of options for solving a problem, need a mechanism for deciding which one is best.

D. General observations on priority setting experiences

1. "People" factors. Those involved in priority setting usually have territory to protect. Consensus building is important, and it is important to choose participants carefully. If the diversity of participants is too great, it will be hard to reach a consensus on priorities.

2. "Institutional" factors. We forget sometimes that priority setting and planning are not ends in themselves.
    a. Need to be sensitive to the organization's stage of development, and determine whether the organization is able to absorb a particular intervention at a given time.
    b. Priority setting/planning should be designed so that they do not overload researchers and conflict with research activities. Some researchers define priority setting as "processes that lead to paralysis."

3. Methods and data.
    a. Important to understand the organization's stage of development and use a method that is consistent with the organization's capacity.
    b. Data availability and quality are important, but you have to go ahead with what you have at first and refine priorities as data improves.

E. Areas for investment in priority setting in Uganda

1. Strengthening data collection

2. Developing leadership in priority setting and planning processes

3. Training program leaders to carry out priority setting in a scientific manner

Questions/Comments on Uganda Presentation

Question: Has Uganda been divided into agroecological zones? How are these factored into priorities?

Answer: There are 2 main regions, short grasslands (north) and tall grasslands (south). Further agroecological divisions are made at the level of individual commodity programs.

Question: How does the institutional structure influence priority setting? Has NARO had interference from the top seeking to alter priorities?

Answer: Luckily this has been the exception and not the rule.

Working Group Syntheses of Country Presentations with Priority Setting and Discussion

Kenya Working Group Presentation

I. Definitions

A. Strengths
— Admirable aspects of other countries' priority-setting experiences that were overlooked by KARI the past; lessons learned for future adoption

B. Weaknesses
— Aspects either not fully understood or not applicable under Kenyan conditions

II. Ethiopia

A. Strengths

1. All parts of NARS involved, including universities

2. Biodiversity recognized in the process

3. Agroecological zones taken as the basis for national-level prioritization

B. Weaknesses

1. Prioritization is not regular

2. Identifying local people as scientists to solve problems would introduce problems.

3. Farmers as stakeholders are not consulted very well.

III. Tanzania

A. Strengths

1. A very comprehensive review

2. Bold decisions taken (e.g., maize ranking lower than rice)

B. Weaknesses

1. Prioritization appears to be donor influenced more than in other countries

2. Technology transfer should be considered researchable

3. Prioritization should be by factors within commodities, not separately

4. Agroecological zones do not appear to have been considered important

5. Farmers do not appear to have been truly involved

IV. Uganda

A. Strengths

1. Prioritization within projects

2. Annual reviews

B. Weaknesses

1. No full coordination of the various activities in prioritization

2. Methodology not clear

Questions/Comments

Comment: In Tanzania, priorities were not set by agroecological zones, but they were taken into consideration.

Priority setting in Tanzania was not a donor-driven exercise. The cases where donors tried to influence priorities during the master planning process were exceptions, not the rule, e.g., coconut.

During the process of priority setting in Tanzania we introduced several measures to facilitate technology transfer, including courses and the establishment of a national advisory committee. We also actively collaborate with extension through a bi-monthly workshop chaired by extension.

Comment: Priority setting is needed for both governments and donors. E.g., if KARI does not have ample resources to fund all research activities with its own budget, the government would prefer that donors know and work on the high priority areas.

Question: Is it really feasible to review research programs on an annual basis, as Uganda does?

Response: The objective is not to reset priorities every year through scoring, but to see if the priorities set are still in line. If we hadn't had the annual meeting, we could not have caught the grey spot in maize problem so quickly. We couldn't wait until the next formal meeting in 5 years' time to address this problem. We also have to evaluate whether the priorities are correct in terms of the government's shifting policy emphases. When priorities were set in 1993, food security was the major objective. Now, though, increasing export earnings is a major objective — how are our maize research activities contributing to that?

Comment: Need to distinguish priority setting from annual reviews.

Tanzania Working Group Presentation

I. Tanzania

A. Strengths

1. Levels of priority setting
    a. National — commodity and special program priorities
    b. Program — identification of problems (cause and effect) and activities

2. Participation of research scientists, policymakers and various end users at all levels

B. Weaknesses

1. Quality of data used. Data is collected by the extension service, but it is unclear how well they reach smallholders

2. Direct involvement of smallholder farmers is minimal

II. Kenya

A. Strengths

1. Incorporation of GIS

2. Detailed program data and stressing involvement of socioeconomists

B. Weaknesses

1. Too much emphasis put on economic returns

2. Quality of data

III. Uganda

A. Strength — participation of many people in the second round

B. Weakness — not well focused (e.g., on agroecological zones)

IV. Ethiopia

A. Strengths

1. Separate priority setting for crops and livestock

2. Priorities differentiated according to agroecological zones

B. Weaknesses — none

Questions/Comments

Comment: With regard to quality of data, KARI gets a lot of information from the Ministry of Agriculture, but that is just one source of data. We believe it is unwise to rely on a single source. Within each center we have socioeconomists posted to confirm MOA data, search out additional data from other sources and carry out their own data collection.

Question: Regarding the question about overemphasis on economic rates of return, when countries carry out priority setting, to what extent are different objectives given different weights? How are the weights determined?

Answer: In Kenya the weights differ at different levels. Within programs, the emphasis is on economic returns. When we go to a higher level — the institute-level — the weight given to economic returns is much less.

Question: Are numerical weights used at the institute level? (Yes, in 1991.)

Comment: The problem is not with the concept of economic weights but in the way we assign weights to different objectives. In Kenya more weight has been given to import substitution and exportable commodities, but commodities like sorghum don't score well with these criteria.

Question: If you reach one conclusion through the priority setting process, but informed judgement gives another, how do you decide which one is best?

Response: Believes that it is important to set priorities at the regional level and aggregate up to the national level.

Response: The issue of reconciling priorities is very important. After Uganda's priority setting we had a validation workshop. Local vegetables came up as very important, yet didn't appear in the list of priorities.

Uganda Working Group Presentation

Component	Strengths	Weaknesses
KENYA		
Data	-Better data acquisition -Wider data base	-Data collection not coordinated (single source)
Method (scoring, cost-benefit, agroecological zones)	-Identified priority commodities & constraints -GIS	-No prioritization of operations at program level
Participation (Priority Setting Working Group)	-Faster	-Not enough participation from stakeholders
Procedure (5 steps)	-Ownership of outcome -Consensus	-Expensive (time, cost)
UGANDA		
Data	--	-Narrow base
Method (scoring)	-Commodity & constraints	-As in Kenya, Tanzania, Ethiopia
Participation (broad)	-Better client orientation -Broad participation	-Slow in reaching consensus
Procedure (very long, > 6 steps)	-Ownership of outcome -Annual reviews	-Expensive (time, cost)
Level of prioritization (commodity constraint)	-Addresses constraints; commodities	-Not focused within constraints
ETHIOPIA		
Data		-Narrow base
Method (scoring)	-Prioritization of commodity & constraints	-As in Uganda, Tanzania, Kenya
Participation (researchers)	-Discipline research areas	-Client not adequately catered for
Procedure	--	--
Level of prioritization (commodities, constraints)	-Address commodities, constraints	-Not focused

Component	Strengths	Weakness
TANZANIA		
Data	--	-Insufficient data? -Quality?
Method (scoring, ZOPP)	-Good for planning	-No prioritization of operations at program level
Participation (MOA, farmers, donors)	-Technical considerations comprehensively covered	-Donor influence -Incorporation of social-economic concerns lacking
Procedure	--	--
Level of prioritization (commodity constraints)	Addresses commodities, constraints	As in Kenya, Tanzania, Uganda

Questions/Comments

Question: The data quality seems to be a regional problem. How can we as a region solicit for funds (perhaps through ASARECA) to do a project for data base creation?

Responses: In Uganda and Ethiopia there are already funding and plans to improve agricultural data collection by central statistical agencies. The question is how can NARS be more proactive in influencing decisions about what data is collected, how it is collected, and who gets access to the data?

Should we be influencing the collection of quality data by those with mandates to do so, or should we be collecting data directly, as socioeconomists?

Comment: It is important to get politicians involved in priority setting and planning so that they subscribe to the process, believe that it is credible.

Comment: We may find that the real gains will come when we move from priority setting to program formulation. At this stage we pit one scientific approach against another. Given a disease problem, what is the best way to solve it? How can we evaluate these approaches?

Comment: Three main issues are emerging. (1) data — how to influence data collection; (2) participation — how to elicit better participation from politicians and farmers; and (3) objectives — how to translate national agricultural development objectives into agricultural research objectives and policies.

Comment: An additional issue is the degree to which the research planner needs to disaggregate across zones.

Question: Is there a consensus on methods? What are the prospects for combining the methods explored here?

Answer: In essence there is no right or wrong method.

Workshop Synthesis of Country Experiences with Priority Setting (PS)

Factors	Kenya	Ethiopia	Tanzania	Uganda
Priority Setting Experiences	1986-- PS by consensus	1989-- Need for PS identified	1988-- Need for PS identified	1990--Institute-level PS
	1991-- Institute-level PS	1990-- Institute-level PS	1989--Institute-level PS in conjunction with master plan	1993 --2nd institute-level PS carried out by NARO; development of action plans at program level
	1992-97 Program-level PS		1996 Zonal-level PS	
Level of Prioritization	National Regional Program Agro-Ecological	National Agro-Ecological	National Zonal Program (ongoing)	National Program (informal)
Methods	Check list Scoring GIS (to identify target zones) Economic surplus	Check list Scoring	Check list Scoring OOPP	Check list Scoring
Source of Information	CSA MOA PRA GIS	CSA MOA	CSA MOA	CSA MOA
Policy obj.	Yes	Yes	Yes	Yes
Steps Followed	5	2 ½	3	2 ½ - 3
Stakeholder Participation	Yes	No	Yes	Yes

APPENDIX 4
Synthesis of Discussion for Sessions II to VII

SESSION II

Exercise 2: Institutional Structures, Levels of Priority Setting and Identifying Research Objectives

Phase 1. Working in pairs (35 minutes)

1. Pair up with a partner from your country and choose a rapporteur.

2. Read and discuss the main ideas presented.

3. Briefly respond to the following questions. You can write your responses on the attached worksheet.
   a. Identify the key levels for research allocation decisions in your institute.
   b. What institutional structures exist for making resource allocation decisions?
   c. At what levels should priorities be set?
   d. What groups should be involved at each level?
   e. What are the objectives of your research system?
   f. How did the system arrive at these objectives?
   g. Can the objectives be restated as efficiency, equity, sustainability, or security research objectives?

4. Prepare a summary of your responses on a flip chart. Do not forget to write the name of your country on top of the page.

Phase 2. Reporting and discussion (30 minutes)

5. The rapporteurs present the groups' responses to the audience. Each rapporteur has three minutes to present. Time is limited, so be concise.

6. You will be invited to compare the results with your own experience, to discuss strengths and weaknesses, and to state lessons learned from this exercise.

7. The trainer provides feedback to enrich the results of this session.

Working Group Presentations

Uganda

1. Research allocation:
   Parliament → Ministry of Finance → DG/NARO → Director of Institute → Program Leaders

2. Institutional structure:
   Parliament → Finance → NARO HQ (institutional management communication at each level)

3. Priorities should be set where? At all levels, from grassroots.
   What groups should be involved?
   -ag policy committee; sets of ag development objectives
   -NARO board assisted by ad hoc committee
   -institute level: standing program planning and research committees (yearly)

-program level: program staff assisted by stakeholders
-project and experiment level: project scientists, in conjunction with farmers

4. Objectives of research: food security, increased welfare, import substitution, export diversification, maintenance of natural resource base

5. How did system arrive at objectives? Set by APC through series of working groups

Ethiopia

1. Resource allocation: MEDAC → IAR → centres

2. Levels: MEDAC → IAR → centres

3. Priorities set at national, program and regional level.

4. National: politicians, researchers, Min. of Ag., stakeholders (seed producers, farmers, millers, etc.)

5. Objectives: increased production and productivity

6 Source of policy objectives: institutional mandates; client interest

Tanzania

1. Resource allocation: Parliament → Min. of Finance → Min. of Ag → ART → National programs → research institutes → projects at zone level. In future, resources will go directly to zones and will bypass national programs.

2. At what level should priorities be set? National and zonal levels.

3. How did system arrive at objectives? National policies.

Kenya

1. Key levels of resource allocation:
   a. Human resources: Min. of Ag, KARI HQ, Center, program, project
   b. Physical resources: same
   c. Financial resources

2. Institutional structures for resource allocation:
   -HQ: Donor Coordination Committee; KARI management; ag. research funds.
   -CRAC (Center Research Advisory Committee). If project is approved by CRAC, KARI allows scientists to look for funds anywhere.
   -PRAC (Program Research Advisory Committee)
   -REAC (Research/Extension Advisory Committee)

3. Levels for setting priorities: stakeholders, program, institute management.

4. Groups involved: stakeholders, scientists, KARI management.

5. Objectives: impact of research, distribution of benefits, balance of trade, self-sufficiency, food security, maintenance of natural resources.

SESSION III

Framework for Priority Setting

Exercise 3: Identifying Research Target Zones

Phase 1. Forming groups (5 minutes)

1. Form four groups. These groups will work together in a number of sessions throughout the workshop through complete sample priority-setting exercises.

2. Elect a rapporteur.

Phase 2. Developing a new table of research target zones (1 hour 30 minutes)

3. Read handouts 3.1.1., 3.1.2., and 3.1.3.

4. Respond to the following questions:
   -Choose a commodity widely grown in your countries.
   -Identify two zones for production in Kenya.
   -Fill out the attached chart based on elevation, rainfall, and temperature criteria.

5. The trainer collects the new tables and uses one group's results to demonstrate how the data will be processed in the computer.

Exercise 4: Defining a List of Program Research Themes

1. Form the same four groups as in earlier sessions. Elect a rapporteur.

Phase 1. Group work (1 hour)

2. Read handout 3.2.3.

3. Develop two research themes for each target zone using constraint tree analysis.

Phase 2. Reporting (40 minutes)

4. Rapporteurs prepare a flip chart and present the results of the groups' discussions to the audience.

Exercise 5: Identifying Potential Generation and Adoption of Technologies

Phase 1. Group preparation and discussion (20 minutes)

1. Form the same four groups as in earlier sessions and elect a rapporteur.

2. Read and discuss handout 3.3.2.

Phase 2. Responding to the questionnaire (40 minutes)

3. Read, discuss and respond to the questionnaire.
4. Enter data on your spreadsheet.

5. The rapporteur will summarize the group responses.

Phase 3. Reporting and discussion (30 minutes)

6. The rapporteur will report the group results to the audience, emphasizing the area(s) of difficulties that the group members faced while carrying out this exercise.

7. The trainer will synthesize the major issues and provide feedback.

Discussion

Question: How is geographically referenced data obtained?
Answer: Such data are available; for instance, data on soils can be utilized by first using another program called REVIEW, and then importing it to GIS.

Question: What are the fundamental steps one should consider before going in for GIS?
Answer: The first step, and probably most important, is to take note of what data are available for instance on rainfall, temperature, elevation.

Question: What can be done for countries whose data compilation and storage are poor? Some of the weather stations are no longer functional.
Answer: The colonists during their time in this region did establish good weather stations, and the information collected for many years back is available. It is a matter of searching for it in the sister countries like Kenya. This applies for East African countries. At least there is a point to start from. The data go back several years.

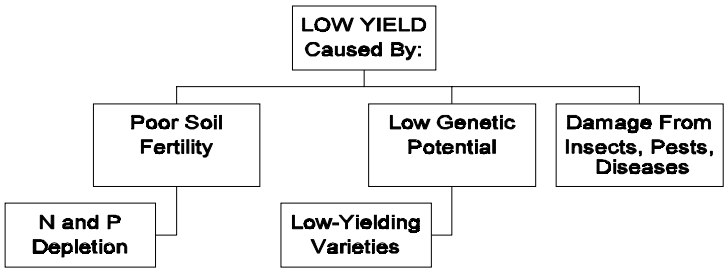
Question: It looks like during the course of data collection a lot of data is collected and it would appear like most of the data would not be useful.
Answer: Expert opinion has to be used in the classification and utilization of the data.

Remarks on the Presentation on Workshop Objectives

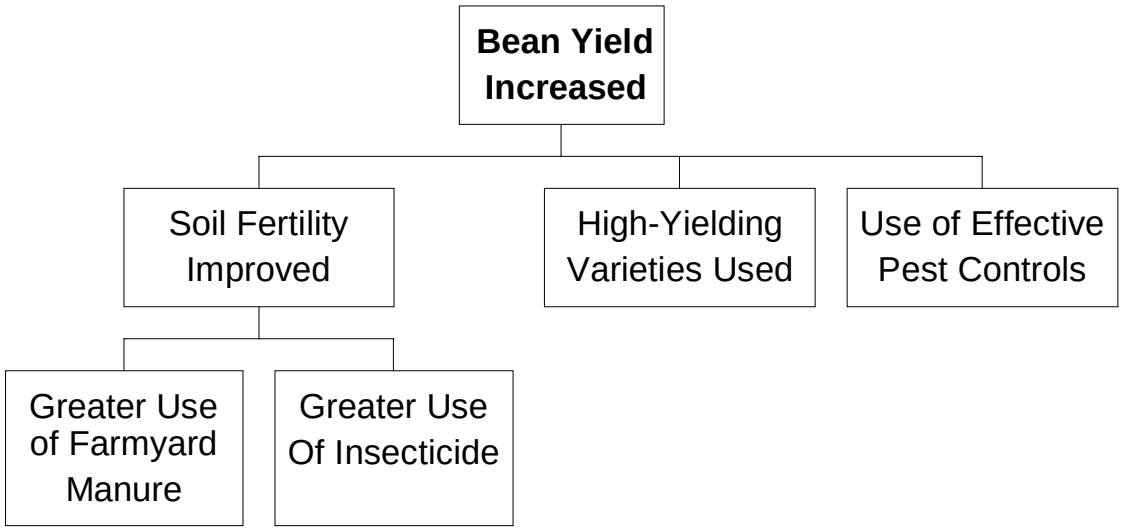
Conference organizers were asked to provide copies of the country presentations on priority setting, since the proceedings might take a bit of time to be published.

Problem and Objective Tree Analysis: The problem trees and objective trees developed by the different country groups are shown on the following pages.

Problem Tree: Beans, Zone 1 (Kenya), Group 1



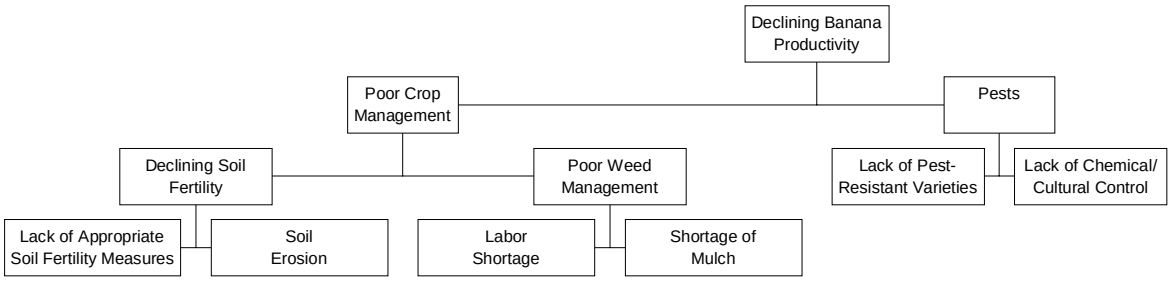
Objective Tree: Beans, Zone 1 (Kenya), Group 1



Research Themes:

1. Variety improvement
2. Soil management

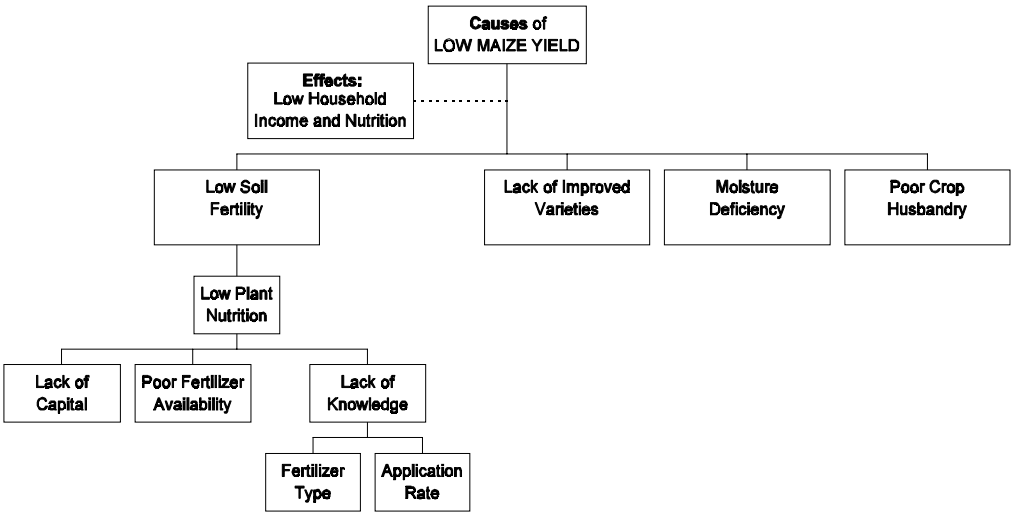
Problem Tree: Banana (Group 2)



Research Themes:

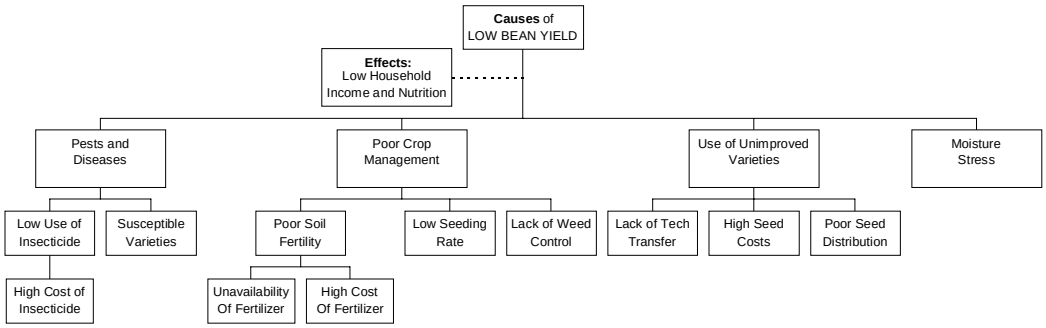
1. Crop management
2. Variety improvement

Problem Tree: Maize (Coastal and Highlands), Group 3

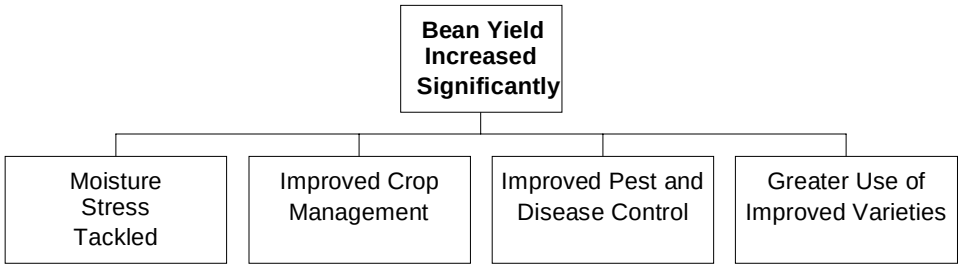


Research Theme: Soil fertility improvement

Problem Tree: Beans (Low/High Altitude), Group 4



Objective Tree: Beans (Low/High Altitude), Group 4



Research Themes:

1. Screen for drought-resistant varieties
2. Screen for high-yielding and disease-resistant varieties

Questions/Comments on Presentations on Problem Tree Analysis:

The group had considered diseases as causes of low yield but it was remarked that the cause of low yield should be lack of control.

It was remarked whether by increasing yield one would end up increasing income. The answer was yes for most of the cases, and no in some instances. This is because there can be overproduction or mere lack of markets.

It was pointed out that when developing problem tree analysis, we should consider socio-economic factors and not only varietal or management factors.

There was a big argument on the core problem developed by the group working on beans. The group had focused the core problem as low yield but the audience opted to call it low productivity. If yield is increased, will income increase? Not necessarily. Discussion on this point:

- Biophysical scientists: We emphasize yield because this is what we can control. After varieties have been developed other constraints come up, related to technology transfer.
- Social scientists: Why ignore economics? We can do something, e.g., to address marketing problems.
- Biophysical scientists: We are focusing on specific research projects within our areas of competence.
- Social scientists: Need to consider constraints that could be tackled by social scientists.

A remark was made that the presentations were biased as one could easily tell the discipline which dominated in the construction of the problem tree.

SESSION IV

Methods for Defining Research Priorities

Exercise 6: A Congruency Analysis of Target AEZ Zones (1,000 ha)

Instructions (5 minutes)

1. Form your exercise groups

2. Based on your program example, use the table on the following page to complete this exercise.

Phase 1. Group work (60 minutes)

3. Change the production allocation based on your map results.

4. Rank your zones in the following way:
   a. Set up a spreadsheet
   b. Calculate a new area and production level within your target zones

Discussion

- A question was raised why consensus (expert opinions) is recommended.

- The Kenyan group indicated that they initially used the scoring method and later switched to the economic surplus model.

- Uganda: which method is the best, resource wise?

- Kenya: learning is one advantage of using different methods. Using methods requires inputs (costly) but it is better than countries which used subjective methods.

- Trainer: A method which can put together available information (data) would be the best.

- Cost is to be considered as an important criterion in priority setting.

Session 4.1: Application of Congruency Method

The workshop broke into 3 groups to do **Exercise 6** with a computer (a congruency analysis of target AEZ (1,000 ha)). Production allocation was based on groups' map results then production zones were ranked by entering data in the spreadsheet and calculating new area and production level in the target zones.

By the congruency method the 3 groups determined high and low production areas. In the case of group 4, which used beans production in Kenya, the result indicated that 91% of the production was in high altitude areas and 9% in low altitude areas.

Exercise 7: Estimating Economic Surplus Benefits

Phase 1. Group preparation (20 minutes)

1. Form the same groups as in earlier sessions and elect a rapporteur.

2. Read handout 4.3.2.

Phase 2. Group work (90 minutes)

3. Based on the attached exercise of your spreadsheet, calculate economic surplus benefits in an open and closed economy.

4. Remember that the information for this exercise comes from the previous exercises.

Discussion

- Can stakeholders participate in the process?

- Yes, they can participate, agree or disagree and suggest modification. But I cannot see participation at the stage of information plugging and analysis. Participation may work during the information extraction process.

- Kenya: How do you explain open market and closed economy situations in priority setting?

- Reply: Open market and closed economy represent different models and scenarios.

- Trainer: For unstable crops like maize and horticultural crops, a multiple criteria method must be used to account for the changing demand and supply and fluctuating price.

- There are complexities in evaluating natural resource areas - difficult to quantify soil loss.

- The lesson from ex. 7 is that in a closed economy, the benefit is distributed between producers and consumers, but in an open economy the benefit is only to the producer.

Exercise 8: Using Score Model to Identify Criteria (Computer-Based Exercise in Small Groups)

Phase 1. Group preparation (5 minutes)

1. Form the same four groups as in earlier sessions and elect a rapporteur.

Phase 2. Group work (45 minutes)

2. Use the scoring model on your spreadsheet.

3. Identify criteria additional to efficiency objectives measured by the economic surplus model in the previous exercise.

4. Provide relative weight to each of the criteria.

5. Standardize the rank of all criteria in a scale of 0 to 5.

6. Provide subjective assessment of non-efficiency criteria to be used in a scoring model.

7. Identify priority research themes and compare those rankings to the ranking from the economic surplus exercise.

Discussion

- Scoring method chooses projects on basis of their contribution to efficiency and other criteria such as equity and sustainability.

Working Group Presentations

After a brief introduction about a scoring method, 3 groups were formed to work out ex. 8 which dealt with using a scoring model to identify criteria for priority setting. The groups compared the benefits from varietal development (theme 1) and improved cultural practices (theme 2). The 3rd group working on beans found that more benefit comes from theme 2 since it has greater potential to provide employment opportunity in addition to giving food security. The first group arrived at the same conclusion in that agronomic practices have more priority than breeding (varietal improvement).

Exercise 9: Evaluation of Methods

1. Elect a rapporteur and synthesize the results from the congruency, economic surplus, and scoring exercises.

2. Identify the strengths and weaknesses of each approach.
3. Identify the information needed for each approach and its availability within each country represented in the group.

4. Prepare a five-minute presentation for the larger group.

Working Group Presentations

The three groups independently synthesized the results from congruency, economic surplus and scoring exercise. Group II reported on the strengths and weaknesses of the three methods and in conclusion suggested that supplementing one method with another method would be advantageous depending on conditions in the countries exercising priority setting. For example, KARI currently uses the economic surplus method; there are some flaws in their method and the group suggested that supplementing this method with surveys would improve the priority setting.

Group III evaluated the three methods using six criteria: Data requirements, theoretical basis, participation, transparency, cost and time, and expertise.

Criterion	Congruency	Economic surplus	Scoring
data	✓	×	✓
theory	×	strong	intermediate
participation	×	✓	✓
transparency	✓	✓	✓
cost/time	✓	×costly	✓
expertise	✓	×	✓

Note: ✓ = strength or low requirements
× = weakness or high requirements

The group then filled out a 5-part questionnaire on the availability and need of information for the three methods and presented it as a transparency (see next page). The audience argued that some information was not categorized properly under the three methods.

Summary by Group III of Results of Checklist from Session 4.5

Data and Information Needed for Research Priority Setting

	Congruency	Economic surplus	Scoring	Available in country
From Research Directors and Policy Makers				
1.1 Commodities	✓	✓	✓	✓
1.2 Res. Programs	✓	✓	✓	✓
1.3 Res. Objectives	✓	✓	✓	✓
1.4 Wts. on Objs.	✓	✓	✓	✓
1.5 Res. Expend.	✓	✓	✓	✓
Published Data				
2.1 Production	✓	✓	✓	✓
2.2 Prices	✓	✓	✓	✓
2.3 Small-farm prod.	×	×	×	×
From Scientists and Extension Workers				
3.1 Yield Increase	✓	✓	✓	✓
3.2 Min. Yld. Gain	×	×	×	×
3.1 Res/Dev Lag				
3.2 Adoption Period	×	×	×	×
3.3 Peak Adoption %				
3.4 Disadoption Per.				
Economic Data				
4.1 Elasticities	✓	✓	✓	✓
4.2 Discount Rates	✓	✓	✓	✓
4.3 Pop. Growth Rate	✓	✓	✓	✓
Information on Client Needs				
5.1 Informal Surveys	✓	✓	✓	✓
5.2 Formal Surveys	✓	✓	✓	✓

Note: ✓ = data needed (cols. 1-3); data available (col. 4)
× = data not needed (cols. 1-3); data unavailable (col. 4)

Group IV considered variety improvement and crop management as theme 1 and theme 2, respectively. The congruency method apportioned 91% of the resources to theme 1 and 9% to theme 2. The economic surplus method indicated a benefit of about 6 million dollars from theme 1 as compared to 4 million dollars from theme 2. The scoring method, which considered efficiency, food security and employment as criteria, gave higher priority to theme 2.

Group IV presented the following assessment of the strengths and weaknesses of the different priority-setting methods:

Method	**Strengths**	**Weaknesses**
Congruency	- identifies high potential areas - good for planning	- depends on quality of data - subjective
Economic Surplus	- incorporates many factors - final results easy for decision-makers to understand - attributes value	- demands a lot of data - skill-intensive
Scoring	- simple, clear - cheap, quick - considers policy issues	- subjective - based on consensus

SESSION V

Participation in the Priority-Setting Process

The objectives of the session were to define modes of participation and to explore options for increasing participation. These objectives were addressed by the country working groups.

Exercise 10: Managing Participation in Priority Setting

1. Read handout 5.1.2.

2. Return to your country groups, elect a rapporteur, and discuss the following issues:
   a. What groups have participated in priority setting exercises?
   b. How would you characterize their participation on the information and decision making continuum?
   c. What could or should be done to increase the level of participation in the priority setting process?

3. Prepare a 5-minute presentation.

Group Presentations

1. <u>Ethiopia</u>

   - They noted that participation of various players has been low. They intend to increase this in order to improve the process.

- Their overhead transparency, shown below, summarized the types of participants in both the information-collecting and decision-making stages of priority setting.

a. Researchers and research managers
b. Information extraction and compilation, joint learning, joint decision-making between researchers and research managers.
c. Involve as many stakeholders as possible

Participants	**Information**	**Decision**
Farmers	✓	✓
Extension	✓	✓
Consumers	✓	✓
Researchers	✓	✓
Res. Managers	✓	✓
Policy Makers	✓	✓
Input Prod. & Supplies	✓	✓

Level of information extraction varies from group to group, as does involvement in decision making.

2. Tanzania. Discussion following their presentation included these points:

Question: Shouldn't donors be involved after the priorities have been set and not during the process?
Answer: Their participation was minimal as observers.

Question: How are farmers involved in making decisions?
Comment: It is important to decide on how possible/feasible it is to involve various participants at either the information or decision-making levels.

Question: How representative are farmers who we've used in prioritizing? Are there cheaper ways of getting representative farmers/information for this purpose, keeping in mind that participatory rural appraisal is very expensive?

3. Uganda. Discussion

They involved researchers both from universities and other institutions.

Question: Are government objectives research objectives? No, this is the starting point (information on government policies).
Answer: No, although many people were involved, it was later realized that some were not necessary.

4. Kenya. The overhead transparency presented by the group is shown below.

a. Groups that have participated in priority setting:
- -farmers
- -other clients (agro-processors, input suppliers)
- -extension staff/NGOs
- -researchers
- -research managers/administration
- -policy makers
- -donors

b. Participation of:
- -farmers/clients/extension/NGOs
- -information on constraints; possible solutions
- -influence priority setting
- -learn in the process
- -involvement in decision making is low

[Role of] Researchers:
- -information
- -learn
- -[involvement in] decision making is higher but low

[Role of] Research manager/administrator:
- -learning
- -[involvement in] decision making high

[Role of] Policy makers/donors:
- -mainly decision making
- -some learning

c. Ways to increase level of participation:
- -increase awareness of the value of priority setting through education of stakeholder
- -workshops, seminars, Barazas (community meetings)
- -improve on methods of extracting relevant information (participatory rural appraisal, farming systems analysis, etc.)

SESSION VI

Institutional and Resource Allocation Issues in Priority Setting

Exercise 11: From Priority-Setting to Resource Allocation and Acquisition: Process and Issues

Instructions (15 minutes)

1. Form the same groups of participants as in earlier sessions of computer-based sessions and elect a rapporteur.

2. Read handouts 6.2 and 6.3.

Phase 1. Group work (45 minutes)

3. Identify key steps and obstacles in moving from program-level priority setting to resource allocation and acquisition.

4. Outline strategies for overcoming some of these obstacles, and identify the roles of different groups in implementing the strategies.

5. Briefly outline measures that would reduce the cost of research, and identify the roles of different groups in implementing these measures.

Phase 2. Reporting and discussion (45 minutes)

6. The rapporteurs will summarize the results of the group exercise on flip charts for the workshop participants.

7. The session leader will facilitate a discussion of the results among participants.

Questions/Comments:

Question: How does KARI cope with the fact that different programs may have different inherent costs, i.e., breeding projects are more costly than agronomy projects or beans and cattle programs have different inherent costs?
Answer: Resource allocation is linked more to the value attached to the program (project) by the clients rather than to its costs.

Question: In institutionalizing priority setting, what constraints did KARI face? Has it been successful?
Answer: In the past the concept of institutionalizing priority setting was not considered important. Due to the lack of high quality data, ad hoc planning was done by some programs. The need to have good data and a systematic approach made it important to integrate priority setting in the system, so that priority activities can be better managed. Priority setting has been institutionalized. At headquarters, there are committees responsible for priority-setting; programs have their own working groups, and there are three coordinators to support the process.

Question: What does institutionalization of priority setting mean? Can't we use planning and monitoring and evaluation units (PM & E) to carry out priority setting?
Answer: Institutionalization of priority setting means to make it an integral part of program

management: have a system that makes the necessary arrangements such that priority setting is done on a regular basis. PM & E units can't handle the same function. Priority setting should be program oriented, starting from higher to low level, and should be implemented as integral part.

Question: Is there any need to establish a socio-economic unit in order to carry out priority setting?
Answer: Institutionalization of socio-economic units is not just for purposes of carrying out priority setting, but also to work with bio-physical scientists as partners in research.

Working Group Presentations

Shown below is the text of the overhead transparencies presented by the various groups as a result of their deliberations.

GROUP 2

a. Key steps moving from program level to resource allocation

-allocation of resources between and within programs
-allocation between themes
-allocation between projects

b. Obstacles

-inherited differences in overhead and operational costs at all levels
-cross program complementarity
-handling of new areas with potential but not on priority list
-existing activities

c. Strategies to overcome obstacles

-allocate percentages according to the required investment
-use system approach
-change resource allocation in steps

d. Roles of different groups in overcoming obstacles

-involve farmers in the research process at earlier stages

GROUP 3

a. Key steps moving from program level to resource allocation

i. matching research supply and demand
ii. improving communication and linkage at several levels

b. Obstacles

i. conflicting interest to arrive at the consensus
ii. lack of communication and linkages
iii. lack of resources [funds]

c. Strategies to overcome obstacles

i. need assessment and goal identification
ii. concentration on guidelines of program activities
iii. financial assessment
iv. institutional assessment (marketing and industry structure)

d. Roles of different groups in overcoming obstacles

i. clients play low and researchers play high roles
ii. researchers
iii. research managers
iv. clients and research managers

e. Roles of different groups in identification of constraints

Effective management of client participation by clear definition of roles for:

i. Research, extension and clients
ii. Research managers
iii. Extension and research managers
iv. All extension, research, clients, farmers and donors

GROUP 4

a. Key steps moving from program level to resource allocation

Program → institute → national (themes & projects)

b. Obstacles

i. program level:
   -conflict of interest among stakeholders
   -discipline conflict (plant breeding vs. agronomy)

ii. institute level:
   -conflict between commodities (cotton vs. beans)
   -manpower allocation
   -facilities
   -funds

iii. national level:
   -less emphasis on research themes
   -more emphasis on national issues vs. food security, etc.

c. Strategies to overcome obstacles

i. program level:
   -participation should be encouraged
   -focus on target problems
   -needs assessment

ii. institute level:
   -involve all discipline
   -establish priority-setting committees

iii. national level:
   -priority setting should focus on national priorities

d. Ways to reduce research costs

i. involve many participants
ii. avoid duplication
iii. team approach

SESSION VII

Rapporteur's Summary of Introductory Discussion

The purpose of this session was for the country groups to draft proposals and future workplans related to research priority setting and program planning. The proposals are to deal with strengthening priority setting and program planning, or with removing constraints affecting technology generation and transfer. It is anticipated that funding for these research proposals will be made available in the future through the ECAPAPA program of ASARECA. However, the funding is not yet secured and the criteria for research awards have not been clearly defined.

Given these uncertainties, the participants suggested instead that each country synthesize what they have learned during the workshop rather than prepare proposals country by country. A plenary session would then be held to review the results from the country discussion groups and decide on steps to be taken as a follow-up to the workshop.

It was decided that country discussion groups should focus on:

-strengths
-weaknesses
-considerations for concern

The groups would also each focus on a particular crop, as follows:

-Uganda: maize
-Kenya: grain legumes
-Tanzania: rice
-Ethiopia: no specific crop; agricultural research in general

The groups met with this agenda in mind. Afterwards, each group presented a tentative action plan, as summarized below.

Country Action Plans

Tanzania

1. Things to be done:
   a. Prioritization of (1) research themes, and (2) research projects.
   b. Identification of research agroecological zones.
   c. Resource acquisition needs more attention.

2. Methodology
   a. Scoring model
   b. Economic surplus
   c. Involvement of farmers through PRA (participatory rural appraisal)
   d. Socio-economists will be fully involved in the process

3. Methods and procedures to adopt
   a. GIS: has been adopted already; training is being provided at HQ for people to work at the regional level.

b. More involvement of socio-economists, especially in ex ante assessment of improved technology. Socio-economic teams have been formed in each zone.
c. Agroecological zonation and priority setting: in three zones, various farming systems zones have been identified; prioritization by agroecological zone will follow. The key crop is rice; more detailed zoning is needed for rice.
d. More involvement of small farmers through PRA and Farming Systems Research.

Kenya

Note: Kenya has done priority setting on 17 programs. This plan focuses on grain legumes, for which priority setting has not yet been done. Proposed actions include the following.

1. Review the literature and compile a database on area, production and prices at district level, i.e., representing various regions; obtain supply and demand elasticities from secondary information.

2. Zonation scheme: define and describe criteria important for various grain legumes (using GIS).

3. Establish priorities among the six grain legume types, using scoring and congruency methods, based on the GIS zoning exercise.

4. Identify research priorities for each of the grain legume crops. Steps would include:
   a. Constraint analysis (problem tree), using information from:
      i. regional programs (PRA, Rapid Rural Appraisals);
      ii. expert opinion.

      This leads to identification of possible themes

   b. Prioritize themes based on potential impact of research (economic surplus method).

Ethiopia

Comments by the team:
a. Priority setting across commodities was done only in 1991, followed by preparation of strategic plans for each commodity.
b. They have learned from other's experiences shared at the workshop.
c. Their back-to-the-office report will include the following three issues:
   i. institutionalization of priority setting
   ii. need to undertake priority-setting activities regularly
   iii. need to develop proposals for maize and wheat research, including ex post research impact assessment

Uganda
- The group's general focus was on how to make priority setting more effective.

- The team expressed the following areas of concern:
a. Data may be lacking or of inadequate quality to be used in economic surplus studies.
b. Use GIS for regional priority setting.
c. Need for systematic priority setting, e.g., using problem tree analysis.
d. Priority setting at the disciplinary level is lacking.
e. Resources are lacking, including the human capacity to conduct priority setting.

f. Need to define role of all participants and have better representation.
g. The maize program is to develop a workplan to address the above concerns.

Discussion of Country Presentations:

Ethiopia
- A committee will be appointed to institutionalize priority setting.
- The maize and wheat programs were launched way back using government and donor funds, hence the need to assess the impact of the research investment in wheat and maize. Who has benefitted, research or consumers? We shall use economic benefit analysis.

Kenya
- We are now setting priorities within each program. It started with a pilot study on wheat, millet, maize and sorghum and thereafter we have been taking the crops one by one. After this, we shall do this institute by institute on a cycle of competition among programs for allocation of resources.
- This year ranking is being done within the grain legumes program.
- Research themes make sense only within zones.

Tanzania
- A question was raised about the method Tanzania is to use for her priority setting. Answer: scoring and economic surplus where possible.
- Tanzania has sent out three people to train in GIS. They should be operational in the near future.

Other Questions and Comments
Question: Why is Ethiopia planning to do ex post impact studies in its maize and wheat programs as part of its priority setting program?
Answer: The maize and wheat programs have been in existence for a long time and these research investments should be evaluated using cost-benefit analysis.

Observation: No one spent much time on the organizational structure within which priority setting occurs.
Reply: (Tanzania) Our people have been trained and incorporated into priority setting.

Question: Considering the scarce resources, is there a way of incorporating the costs of conducting research and how this relates to the output of the theme?
Answer: The economic benefit and cost analysis would provide this information.

Observation: In Kenya, priority setting was done for 17 programs. How many programs do you have? Are you doing priority setting among programs or within programs? Why do you not do priority setting first among programs and once the program is selected do within-program priority setting?
Reply: (Kenya) We will do priority setting within all programs. Next year we will set priorities across each program. How many programs will receive funding depends on how much money is available.

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