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EASTERN AFRICA BEAN RESEARCH NETWORK

QUARTERLY REPORT

For the Period 1 April to 30 June 1993

USAID Grant No. LAG-4111-G-00-2025-0

**GOAL 1: Strengthen National Capacity to Improve Bean Productivity**

**Strategy 1.1: Improve national research planning**

Seven national program researchers and two researchers from non-governmental development organizations, drawn from six countries, were trained in participatory rural appraisal and research techniques (see Appendix Table III). A village in the low-fertility Kagera Region of Tanzania was the venue, and the event was conducted and sponsored jointly with a Tanzania/Netherlands farming systems research project. Participatory research initiated in this location as part of the training exercise will be continued by the researchers from Maruku Research Station.

**Strategy 1.2: Increase national research effectiveness**

The three agronomists sponsored to attend the Crop Management Research Training (CMRT) at Egerton, Kenya continued on this 6-month course (see Appendix Table III). Two CIAT regional scientists contributed several days' classroom and practical teaching in the fields of crop/soil management and farmer-participatory research methods; this has been an annual arrangement designed to complement the specializations of the resident Egerton/KARI/CIMMYT instructors.

Two leaders of regional research sub-projects spent one month each at CIAT Headquarters to acquire specific skills (see Appendix Table II). The anthracnose researcher focussed on laboratory procedures for this pathogen, while the Kenyan researcher on integrated pest management for snapbeans examined the methods that have been successfully employed in developing commercial IPM for this crop in Colombia.

**Strategy 1.3: Accelerate transfer of national research results**

Multiplication, promotion and dissemination of three new varieties continued in Uganda. MCM 5001 is being promoted this season by demonstrations through extension and by selling the seed in experimental packs of 0.5 kg at local trading centers. The different approaches will be compared next year for effectiveness in promoting adoption. This variety and the two others also released in 1991 are also under multiplication (on 2.3 hectares near Kawanda Research Institute on a farm newly cleared for this purpose), prior to more extensive promotion next season.

Two potential new varieties are also under initial seed multiplication in Ethiopia, in preparation for a decision on further on-farm testing or their formal release.

In Tanzania, seed production, promotion and dissemination of the latest released variety, Lyamungu 90, is gaining momentum. Three regions in the north and north-west are disseminating seed, also by several approaches - demonstrations, seed loans and simple farmer-managed tests. Regional staff have continued to facilitate and follow up on these developments.

Preparations for the promotion of *Crotalaria* as a green manure crop in Uganda are well advanced. Trials conducted by extension staff and farmers in 5 districts provided venues for introducing selected (47) and non-selected (70) extension staff to this technology (see previous reports). Seed is being multiplied at Kawanda for future on-farm use.

## **GOAL 2: Strengthen Regional Network Collaboration**

### **Strategy 2.1: Refine regional planning mechanism**

The Network Steering Committee held its annual meeting in Nairobi from 24 to 27 April (see Appendix Table I). All the seven member countries were represented. As usual, the Committee considered reports submitted by each national coordinator (NC) for bean research, by the regional coordinator (RC) and by one pan-African working group that had met since the last Committee meeting.

Innovations included the discussion of reports from three monitoring tours held by network scientists during the year (the Committee decided to require these reports in future), from the first meeting (in June 1992) of national research directors under Network auspices, and from participation by the Committee's chairman and the RC at a subsequent USAID inter-networks meeting of NARS directors (see last Quarterly Report).

The Steering Committee noted several policy-related constraints and opportunities in Network operations, and decided to use their meeting Minutes as a regular medium for communication of matters to which they wish to draw the attention of the Directors Committee. For example, NCs feel that national (especially intra-regional) plant quarantine procedures are still a serious constraint to bean improvement; regional sub-project research is proving a cost-effective mechanism for allocating scarce manpower and financial resources for research, and this mechanism might be used more widely by NARS; and, if EABRN itself is to fully realise the valuable opportunities that currently exist for increasing sub-project research and training activities in the face of declining financial support, NARS directors are seen as being in the best position to seek new sources and donors. A more uniform approach by NARS to their own financial contributions to regional sub-project research was also viewed as being highly desirable.

Prior to the annual development of a regional Plan of Work and Budget, the Committee endorsed the draft Network Strategy and started to develop indicators. These indicators, to be completed by members during the year, will be used by the Committee (and others?) for internal evaluation of performance in achieving each item in the Planning Framework drawn up last year.

Regional staff participated in the planning workshop for the Eastern Africa Highlands Initiative on natural resources management research. EABRN staff, responsible for organizing the pest management working group, applied the participatory planning techniques used routinely in making bean research priorities.

**Strategy 2.2: Implement regional research**

The SC received annual progress reports from all 25 sub-projects that received funding in 1992-93, and 23 of these submitted new workplans and budgets. After considering also the 3-year technical progress reports presented at the Multidisciplinary Workshop, new budgets for a further year were approved in 20 cases, of which three were made conditional upon revisions of workplans. Approved budgets for renewals averaged US\$ 2100 each.

A total of 11 new proposals were considered. Seven of these were approved, generally with modest initial budgets (average US\$ 1350).

The SC, considering proposals on their merits, was still not entirely satisfied with the balance among topics in the 1993/94 portfolio of sub-projects. Although the proportion that address crop/soil management and socio-economic topics increased, further proposals are to be sought in these underrepresented fields.

**Strategy 2.3: Speed transfer of research results among national institutions**

A Multidisciplinary Workshop on Bean Research in Eastern Africa, the third in a triennial series that started in 1987, was held in Thika, Kenya, from 19 to 24 April. Three-year research reports were required of sub-project leaders; other scientists, selected competitively on the basis of submitted abstracts, brought to 43 the number of NARS participants (see Appendix Table V). Regional scientists also presented results. The standard of research presentations was higher than in previous multidisciplinary workshops. Sub-project leaders evidently now have more scientific data, and are making greater use of visual aids. However, practice presentations among colleagues are needed to further improve style.

An important monitoring tour to Rwanda was organized in June for a group of Eastern African bean scientists (see Appendix Table VI). This group, comprising a mix of several disciplines and three countries, were able to examine all steps followed in Rwanda in achieving the recent dramatic impact of climbing beans. Several candidate areas in the Anglophone region were selected for focussing EABRN efforts at repeating this success.

Regional staff published the following results (in addition to presentations at the Workshop):

Wortmann et al. Foliar testing for diagnosis of nutritional disorders in beans and East African Highland bananas. Presented at the Crop Science Conference for Eastern and Southern Africa. Kampala, 14-18 June, 1993.

Wortmann et al. Participatory research - institutional considerations. Presented at the Crop Science Conference for Eastern and Southern Africa. Kampala, 14-18 June, 1993.

Walker and Wortmann. Why involve farmers in research? Presented at the Crop Science Conference for Eastern and Southern Africa. Kampala, 14-18 June, 1993.

Wortmann et al. Foliar nutrient analyses for bananas of the Eastern Africa Highlands. J. Agron. and Crop Science (accepted).

**GOAL 3: Overcome Principal Constraints to Bean Productivity Through Collaborative and Strategic Research**

**Strategy 3.1: Generate high-yielding varieties**

The Ethiopian national program provides the best regional site for screening for high yield potential under favorable growing conditions. During this period preparations continued for a return to a full-scale, multilocation program in the July/September season, following recovery of seed stocks after the 1991 looting.

Regional breeding and/or initial selection for yield under various conditions of disease stress is concentrated at Kawanda (Uganda), and in several of the sub-projects that reported at the Workshop. As usual, progress is easier with small-seeded types, and Ugandan National Program advanced multilocation yield trials indicate that the three heaviest yielders recorded average increases of 7% to 23% over their first released variety having virus resistance.

In Kenya, 64 families (of  $F_4$  generation) snapbeans are being advanced from custom crosses made upon request at CIAT.

Two methodological studies promise to minimize research costs in vital aspects of varietal improvement. In the first, it has proven possible to store breeders' seed samples safely for six months in airtight, local soft-drink bottles by adding silica gel; results over a longer period are awaited, as an alternative to the ubiquitous refrigerated room that is often out of order. A second study, on the minimum number of research sites needed for selecting varieties for stable performance, was extended to include more trials in Uganda. An immediate implication appears to be that Kawanda and Namulonge stations produce such similar results that only one of the two sites need be used.

**Strategy 3.2: Increase efficiency of nutrient utilization on low-fertility soils**

With results not yet available from the March/June season in bimodal rainfall areas of the region, or from collaborators in the recently despatched ANSES trials (see previous report), there is little new to report. Earlier research on *Crotalaria* as a low-cost green manure intercrop is now entering the promotion phase (see Section 1.3). Participatory research on soil fertility management at selected sites in Kenya, Madagascar,

Tanzania and Uganda should receive a boost from the practical training case study referred to above (Section 1.1).

**Strategy 3.3: Control losses to bean diseases**

This season root rots again caused serious yield losses in the bean crop of western Kenya. A new sub-project at Kakamega Research Station has become the regional focus for research aimed at developing integrated management for this problem. The Kenyan team were assisted with a technical visit by the regional agronomist and the pathologist (the latter being responsible for a longer-established research project on root rots management in Rwanda). The team was encouraged to initiate much of its research in direct collaboration with some of the women's groups active in this area.

## DATABASE OF ACTIVITIES, APRIL-JUNE 1993

### I MEETINGS OF STEERING COMMITTEE

Date	Location	Participant	Representing
<u>Annual Meeting of Steering Committee</u>			
24-27/4/93	Nairobi	Teshome Girma S. T. Kanyagia Lea Rampanana Noel Govinden Salih Salih Clemence Mushi Sophie Musaana Roger Kirkby George Weber	Ethiopia (outgoing Chairman) Kenya Madagascar Mauritius Sudan (Chairman, 1993-94) Tanzania Uganda Regional Coordinator CIDA, Canada

### II TRAINING AT CIAT

Candidate	Gender	Country	Time frame	Course Title
Tesfaye Beshir	M	Ethiopia	22/4-21/5/93	Specialized training for anthracnose subproject
John Nderitu	M	Kenya	" "	Specialized training for snapbean IPM subproject

### III IN COUNTRY AND REGIONAL TRAINING COURSES

Course Title	Country Benefiting	Location	Candidate	Gender	Time Frame	Remarks
Crop Management Research Training (CMRT)	Ethiopia	Egerton, Kenya	H. Admassa	M	1/3-29/8/93	Organized by Egerton/KARI/CIMMYT CIAT resources persons: CW & LS
	Kenya		Alice Ndegwa	F		
	Uganda		C. Niringiye	M		
Farm Management	Ethiopia	Bulawayo, Zimbabwe	S. Lulseged	M	15/5-15/8/93	Half sponsorship to training by SADC/ICRISAT
Farmer-Participatory Methods for Soil Fertility Research	Ethiopia	Bukoba, Tanzania	Feyera Abdi	M	26/4-7/5/93	Organised by CIAT. Resource persons: CW (CIAT), C.Farley (Makerere), C.Bosch (Tanzania/Netherlands Project). Co-sponsored with: -Farm-Africa (Ethiopia) -Action Aid (Uganda) -Tanz/Netherlands FSR (Tanzania).
	Kenya		Mercy Wanjiru	F		
	Madagascar		Bodo. Rabary	F		
	Tanzania		Sentosi	M		
	"		L. Mukandala	M		
	"		Nkuba	M		
	Uganda		M. Ndelia	M		
Zaire	G. Rutwaare	M				
		Lunze Lubaga	M			

### V REGIONAL WORKSHOPS

Candidate	Country	Gender	Location	Subject	Time Frame	Remarks
1. H. Admassu	Ethiopia	M	Thika,	Third Regional	19-22/4/93	CIAT resource persons: K. Ampofo (Arusha) R. Buruchara (Rubona) H. Gridley (Kawanda) L. Sperling (Rubona)
2. Melaku Ayele	"	M	Kenya	Multidisciplinary		
3. Tesfaye Beshir	"	M		Workshop on Bean		
4. Aberra Deressa	"	M		Research & Development		
5. Teshome Girma	"	M				

REGIONAL WORKSHOPS (continued)

6. Getachew Kassaye	"	M
7. Mitiku Haile	"	M
8. Alelign Kefyale	"	M
9. Senait Regassa	"	F
10. Tenaw Workayehu	"	M
11. S. Yetneberk	"	F
12. Paul Kimani	Kenya	M
13. Sammy Ajanga	"	M
14. J.J. Anyango	"	M
15. Joseph Kamau	"	M
16. Wilson Songa	"	M
17. Robin Otsyula	"	M
18. Ngari Macharia	"	M
19. Felister Makini	"	F
20. Isaac Mulagoli	"	M
21. John Muthamia	"	M
22. S.T. Kanyagia	"	M
23. Agnes Ndegwa	"	F
24. John Nderitu	"	M
25. Susan Munene	"	F
26. David Michieka	"	M
27. Mercy Wanjiru	"	F
28. Agnes Mwang'ombe	"	F
29. Isanda Omwenga	"	M
30. Gedion Rachier	"	M
31. Wilson Rono	"	M
32. R.T. Jasdanwala	"	F
33. A. Rabakoarihanta	Mad'scar	F
34. L. Randriambolanora	"	F
35. Bodo. Rabary	"	F
36. G. Rakotomalala	"	M
37. Noel Govinden	Mauritius	M
38. Clemence Mushi	Tanzania	M
39. Victor Ochwoh	Uganda	M
40. Theresa Sengooba	"	F
41. Fina Opio	"	F
42. Patrick Jjemba	"	M
43. Michael Ugen	"	M

R. Kirkby (Dar es Salaam)  
W. Youngquist (Arusha)  
C. Wortmann (Kawanda)  
U. Scheidegger (Rubona)  
M. Fischler (SDC-Kawanda)

Participants and observers  
also from CIMMYT/CMRT,  
CIDA and USAID.

## VI MONITORING TOURS

Participants	From	Gender	Visiting	Purpose	Time Frame	Remarks
1. Abel Okoko	Kenya	M	Rwanda	Climbing Bean	14-17/6/93	CIAT resource persons: R.Buruchara/L.Sperling
2. Robin Otsyula	"	M		Research & Development		
3. L.Randriambolanora	Madagascar	F				
4. F.Massawe	Tanzania	M				

## XIV REGIONAL STAFF TRAVEL

Period	Staff Member	Country	Purpose
25 Mar- 11 Apr 93	C. Wortmann	Tanzania/ N. Zambia	Technical support in soil fertility research.
18-23 Apr 93	C. Wortmann	Kenya	Participate in 3rd Multidisciplinary Regional Workshop Regional Workshop; Annual Meeting of Steering Committee.
17-28 Apr 93	R. Kirkby	"	
18-24 Apr 93	H. Gridley	"	" " and check on plant quarantine facilities.
27 Apr-7 May	C. Wortmann	Tanzania	Training and initiation of participatory research in Bukoba.
29 Apr 93	R. Kirkby	Tanzania	Sokoine University of Agriculture for collaborative research.
26 May-11 Jun	C. Wortmann	Kenya	Support to research at Kakamega; teaching at CMRT Egerton; regional workshop on Highlands Initiative; and CIAT staff meeting.
28 May-2 Jun	R. Kirkby	"	CIAT Africa staff annual meeting.
28 May-2 Jun	H. Gridley	"	" " " " " "
2-4 Jun 93	R. Kirkby	Malawi	Discussions with Bunda College, MOA and ODA; also Action Aid on seeds.
6-12 Jun 93	"	Kenya	Participate in Highlands Initiative workshop.
11-19 Jun 93	H. Gridley	Rwanda	Monitoring tour on climbing bean research and development.

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**REGIONAL STAFF VISITS TO CIAT HEADQUARTERS**

Period	Staff Member	Country	Purpose
NONE			

**TRAVEL TO EASTERN AFRICA BY CIAT OTHER STAFF**

Period	Staff Member	Country	Purpose
15 Mar-11 Apr 93	C. Moreno (HQ)	Uganda	Install computerized accounting and train staff.
18-23 Apr 93	K. Ampofo (Ar)	Kenya	Contribute to Third Multidisciplinary Workshop
" "	R. Buruchara (Rb)	"	" " "
" "	L. Sperling (Rb)	"	" " "
" "	U. Scheidegger (Rb)	"	" " "
" "	W. Youngquist (Ar)	"	" " "
29 May-2 Jun 93	D. Pachico (HQ)	Kenya	CIAT Africa Staff Meeting.