

Institutionalising client-oriented participatory agricultural research through regional competitive agricultural technology funds¹

Rees D J, Oryokot J, Okurut-Akol H, Mulhall A, Nangoti N and Okwadi J

Serere Agriculture & Animal Production Research Institute (SAARI), P O Soroti, Soroti, UGANDA. Tel +256 77 221351 Fax +257 77 280351 E-mail: corsu@infocom.co.ug

Abstract

The strengthening and adoption of farmer participatory research methodologies often pose institutional issues and constraints for the various actors and organisations involved. The Uganda National Agricultural Research Organisation (NARO) is committed to improving the effectiveness of technology development and dissemination through increased stakeholder participation in all stages of the research and dissemination process. One of the ways in which NARO is attempting to address institutional constraints to strengthening farmer participatory research is through regional competitive agricultural technology funds, which are being piloted in east and northern Uganda. Application and screening procedures are briefly described, and the applications received in the first two rounds are analysed in terms of partnerships, resources and agricultural themes. The approach appears to be reasonably effective in strengthening stakeholder participation and linkages, and in mobilising skills and resources for participatory research and dissemination. Future challenges include increasing the number of high quality projects submitted by civil society and local government organisations, ensuring meaningful farmer participation, strengthening partnerships and securing sustainable funding.

Introduction

The strengthening and adoption of farmer participatory research methodologies often pose institutional issues and constraints for the various actors and organisations involved (Merrill-Sands et al. 1991; Ashby & Sperling, 1994; Baur & Kradi, 2001). Formal training and participatory research projects often develop scientists' skills in participatory and client-driven research, but may not have much long-term impact on the institutional norms and practises of national agricultural systems (e.g. Merrill-Sands et al. 1991; Hall & Nahdy, 1999; Sutherland et al. 1999). Successful participatory research and development should be client-oriented, so that clients' knowledge, needs, criteria and preferences have weight in decisions about technology innovation. This requires decentralized technology development, and ensuring that clients have an effective vote in setting

research priorities, in allocating resources, and in evaluating performance to ensure accountability (Ashby & Sperling, 1994). The Uganda National Agricultural Research Organisation (NARO) is committed to improving the effectiveness of technology development and dissemination through increased stakeholder participation in all stages of the research and dissemination process (NARO, 2001). One of the ways in which NARO is attempting to address institutional constraints to strengthening farmer participatory research is through regional competitive agricultural technology funds (ATFs), which are being piloted in eastern and northern Uganda. Reviews of competitive agricultural technology funds as *development instruments* indicate their utility in a range of development objectives including organisational change as well as technology development and dissemination (Gill & Carney, 1999; GTZ, 1999, 2001). Typical objectives include:

- Increased sustainability of funding
- Plurality of service providers
- Increased stakeholder involvement at all levels of decision-making, management, implementation
- Increased goal-orientation in projects
- Increased use of merit-based and priority-based criteria for funds award
- Increased competitiveness
- Improved research/ dissemination quality
- Plurality of funders
- Improved mobilisation of resources
- Stronger links between R, E, support services, higher education, private sector
- Increased focus on regional priorities
- Increased transparency in funds award process
- Increased inter-disciplinarity
- Increased accountability of project implementers

This paper outlines early experiences in establishment and operating ATFs in eastern and northern Uganda.

NARO's client-oriented research fund and technology partnership fund.

In 2000 NARO established two ATFs to enable its staff and development partners to (a) Develop appropriate technologies with farmers, and make appropriate technologies available to farmers; and (b) Test ATFs as a mechanism to strengthen and support client-orientated approaches to technology development and dissemination. The Client-Oriented Research Fund (CORF) is intended to support on farm participatory research that contributes to sustainable improvements in rural livelihoods. The Technology Partnership Fund (TPF) is intended to support capacity development in technology dissemination by funding activities such as the initial multiplication of improved technologies (seed,

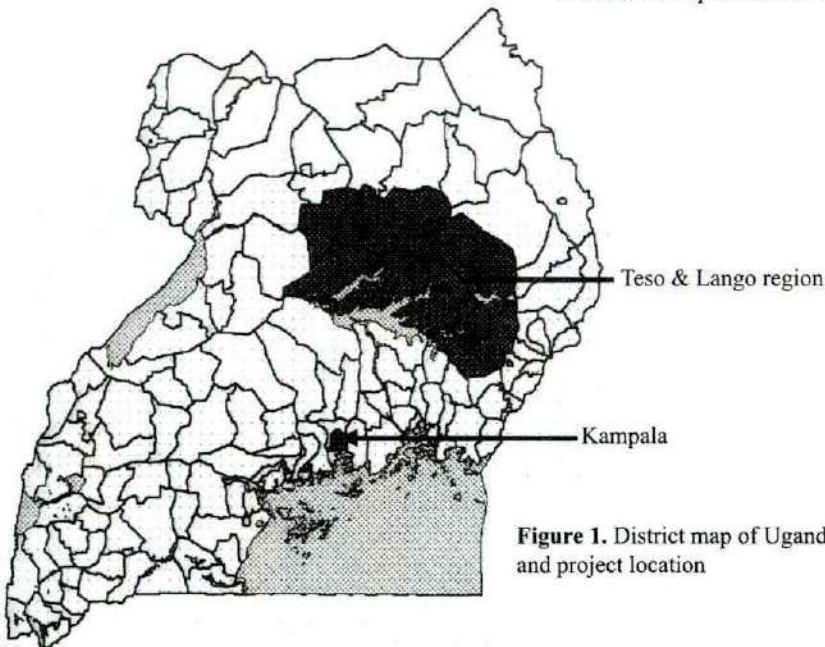


Figure 1. District map of Uganda, showing major lakes and project location

Table 1. Fund Management Committee

Appointed Members	Elected Members
<ul style="list-style-type: none"> • The Director, SAARI (Chair) • The Head, Project Support Unit (Secretary) • The Director, Monitoring, Evaluation and Planning Unit, NARO • Agricultural Research and Development Centre Managers, Teso & Lango (2)[†] • Makerere University • Project Technical Advisers (Adaptive Research, Socio-Economics) 	<ul style="list-style-type: none"> • Public Extension, Teso & Lango (2) • NGOs, Teso & Lango (2) • Farmer Groups, Teso & Lango (2) • Private Sector, Teso & Lango (2)
Total: 8	

[†] Not yet appointed by NARO

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cuttings, improved animals, tools and machinery); development of information materials and learning programs for farmers; and action research on participatory methods and mechanisms for technology dissemination. The funds are managed by the Serere Agricultural and Animal Production Research Institute (SAARI) in Soroti, E Uganda, and are geographically restricted to two farming systems: the Teso system (Soroti, Katakwi, Kumi and Pallisa districts), and the Lango sub-system of the Northern farming system (Lira and Apac districts, figure 1.)

Fund Management Committee

Outline application and screening procedures were developed at SAARI, and reviewed in a series of stakeholder meetings. Membership and selection procedures for the funds management committee were key areas of concern amongst the various development agencies in the region. It was agreed that (a) specific offices, rather than individuals would be appointed from NARO and Makerere University; (b) Other committee members should be elected from an "electoral college" formed of representatives from each district; (c) Amongst elected members there should be equal representation of the Teso and Lango regions; (d) NGOs of each district should elect representatives to the electoral college; (e) Community-based organisations could be best represented by members of the district Farmers Associations; (f) Private sector representatives should be selected by each district's Chamber of Commerce (g) Public extension representatives should be selected from all the Subject Matter Specialists of each district (Table 1).

Selection criteria agreed in the stakeholder meetings included: Familiarity with participatory approaches to development, Previous experience in monitoring & evaluation, Broad-based experience in agriculture, Ability to present ideas clearly, and Gender balance. During the election proceedings, the Electoral College also decided that each district should also be represented on the committee. Only three of the 24 representatives sent to the Electoral College were women, and none of these were finally elected to the Fund Management Committee.

National and regional priority themes

As part of the Government of Uganda's broader strategy for poverty eradication, the "Plan for Modernisation of Agriculture" (PMA, 2000) sets out principles to guide policy development for agricultural development and growth in Uganda. In accordance with the PMA and

with NARO's mandate, the ATFs can be used in support of agricultural research and in developing improved methods of technology support/dissemination, rather than support to agricultural development/ extension per se. Regional priorities for research and technology dissemination were derived from secondary data and a series of rapid rural appraisals carried out by NARO and development partners in 1998 and 1999 (Akwang et al. 1998, 1999).

Application & screening procedures

The funds are open to all organisations authorised to carry out development activities in the mandate area. Information packs explain overall objectives and organisation, regional priority themes and application procedures. Applications in the form of concept notes are invited, setting out details of the organisations and individuals to implement the project, the main objectives of the application, proposed outputs and indicators, evidence of client demand, and an outline workplan and budget.

The concept notes are pre-screened by the project support unit to ensure that all sections are complete, and that the application is compliant with the Plan for Modernisation of Agriculture directives and project objectives. The concept notes are then scored by the fund management committee using a set of technical and development criteria (Table 2), to ensure transparency and to assist interactions between committee members of differing experience and educational backgrounds. The highest scoring concept notes are reviewed in plenary discussion, until the funding ceiling is reached. Concept notes with an average score of less than 60% are not considered for funding. Successful applicants are asked to submit full project proposals, providing methodological details, logical framework, detailed workplans and budgets, summary CVs and letters of consent from the project implementers. These are again screened, with increased emphasis on technical quality.

The project support unit provides advice and assistance to groups and individuals in preparation of concept notes and proposals, as and when requested, in the form of "concept note clinics" and "proposal clinics". All applicants invited to submit full project proposals are strongly encouraged to request proposal clinics.

Project Preparation Grants are also supported, to enable potential applicants to team-up with partners to develop proposals, and/or to carry out stakeholder workshops, etc., to clarify client-demand for projects.

Table 2. Criteria used by ATFs Management Committee to review proposals

- Are NARO staff involved as Project Leaders or implementers?
- Is the proposed team inter-disciplinary?
- Are facilities needed for the project available?
- Is co-funding available?
- Are the project outputs realistic?
- Is the proposed project cost-effective?
- Is there evidence of client-demand for the project?
- Is the project transferable to other areas/farmers?
- Is the project likely to impact on women?
- Does the project contribute to regional and national priorities?
- Is there strong institutional collaboration?
- Do project implementers have the technical capacity to conduct the project?
- Is the financial and administrative capacity of the organisation adequate?
- Does the project address a significant opportunity/constraint?
- Are the methods for disseminating project outputs realistic?
- Is the project economically viable?
- Are the beneficiaries or end-users of project outputs clearly identified?
- Is the project likely to impact on poor people?
- Is the project environmentally sustainable?
- Does the project contribute to the overall project outputs?

Results from the 1st and 2nd round calls for proposals

The funds management committee considered the possibility of allocating certain percentages of funds to large, medium and small projects, but decided that all projects should be considered together. The committee also decided that funds should be awarded to applications on the basis of development and technical merit alone, regardless of whether the projects focused on technology development or technology dissemination.

407 applications were received in the first round, indicating considerable stakeholder interest and effective publicity about the funds. However, over 300 of these were either incomplete or were not compliant with the PMA – self-help or income-generating projects for farmer groups, rather than participatory research or dissemination projects (Table 3). Seventy six applications were considered by the committee, and 11 of these were selected for potential funding, with an average budget per application of UK£ 23,400. In the second round, announcements stressed the fact that only applications for participatory research or technology dissemination could be considered, and 87 proposals were received. 45 were rejected at pre-screening, and 13 were selected for potential funding, with an average budget per proposal of UK£ 26,600 (Table 3).

The ATFs can provide some on-farm research equipment to participants, but cannot be used for staff salaries, and do not provide vehicles. Accordingly, all of the applications represent increased mobilisation of resources, in the form of staff time, vehicles and office facilities. Seven of the successful applications were led by non-NARO organisations, and four of these also provide direct financial co-funding.

Table 4 summarises the characteristics of rejected and successful applications, and Tables 5 and 6 indicate the commodities and themes represented in the applications that passed pre-screening. Table 7 summarises those projects accepted for potential funding, and their proposed partnerships.

Overall there was good agreement across the scores given by the various committee members. The average coefficient of variation of the concept note scores was 23% (Table 3), indicating reasonable agreement amongst the committee members. The scores given to each application by the Directors of SAARI and of NARO's Monitoring, Evaluation and Planning Unit are plotted against the committee averages in Figure 2. The correlation coefficients of 0.79 and 0.67, respectively ($n = 122$ – all the concept notes scored by the committee in rounds 1 and 2), indicates reasonable agreement between those projects that would be preferred by senior NARO management alone, and those of the committee.

Table 3. Proposals received, rejected and accepted

	1 st call	2 nd call
Total number of proposals received	407	87
Number of proposals rejected at pre-screen	325	45
Number of proposals rejected by Fund Management Committee	65	42
Number of proposals recommended for funding	11	13
Coefficient of variation of concept note scores (%)	24	22
Number of project preparation grant requests	2	15
Number of project preparation grants awarded	2	

competitive agricultural technology funds¹**Table 4. Characteristics of accepted and rejected proposals**

General characteristics of proposals not accepted for funding	General characteristics of proposals accepted for funding
• Not PMA-compliant - self-help/income generating project	• Clear evidence of client-demand
• Not clear how activities would produce the outputs	• Strong institutional collaboration
• Project purpose, outputs and indicators were not well formulated	• Priority need in the Lango/Teso farming system
• Sustainability of project outputs, especially seed multiplication and animal breeding projects not taken into account	• Advantageous to disadvantaged sectors of the community
• Not innovative - old topics or routine work institutional collaboration/partnership among key stakeholders not clear	• Clear and achievable project outputs Realistic budget and workplan for proposed activities
• Dissemination activities not described, realistic, properly budgeted or incorporated into workplan	• Strong technical, financial and administrative capacity Interdisciplinary team with strong technical experience

Table 5. Principal commodities included in the proposals

Commodity	%	Commodity	%	Commodity	%
goats	10	cassava	21	cowpea	2
cattle	10	groundnut	9	sesame	2
dairy	15	beans	4	sunflower	2
chicken	5	maize	4	finger millet	2
fish	3	sweet potato	4	pigeonpea	1
pigs	1	cotton	3	safflower	1
bees	1	sorghum	3	greengram	1
		fruit, vegetables	3	rice	1
				coffee	1

Table 6. Research/ dissemination themes of the proposals

Theme	%	Theme	%
Production/dissemination of improved crop varieties	26	Improved crop varieties	4
Production/dissemination of improved animal breeds	11	Draft power implements	3
Agro-forestry	7	Improved dry season feeding	3
Improved animal management practises	6	Aquaculture and fishery management	3
Facilitating rural communities to formulate, implement, monitor and evaluate agricultural projects	6	Improved soil productivity practises	2
Improved practises for management of animal pests and diseases	5	Sustainable cropping systems	2
Crop pests and disease management	5	Marketing studies	2
Post-harvest processing		Tools and machinery	1
Improved information materials/ learning programs	5	Gender and livelihood studies	1
Other	5	Indigenous and local knowledge	1

Table 7. Projects selected for potential funding and their principal (named) implementers

Topic	NARO	MUK	NGO	CBO	PE	FG ¹
1 st -round: Projects approved for funding						
Soil fertility enhancing technologie	√	√	L ²			√
Improvement of indigenous chickens	L	√	√		√	√
Animal traction technology extension	√		L	√	√	√
Groundnut seed production/ dissemination	L			√	√	√
Farmer-farmer seed multiplication/ dissemination -pigeonpea	L				√	√
On-farm testing of new cassava varieties	L		√		√	√
Cowpea aphid management	L			√	√	√
Participatory breeding of pigeonpea, cowpea and green grams	L		√	√	√	√
Rural poultry health management	L	√			√	√
Cowpea storage extension materials	√		√	L	√	
2 nd -round: Concept Notes selected for potential funding						
Improved fish farming dissemination	√			√	L	
Farmer participatory evaluation of coffee production technologies	L			√	√	
Gari technology for cassava producers	√			L	√	
Participatory improvement of indigenous goats	L		√	√	√	
Evaluation of the status, distribution and management of the groundnut leaf miner		L	√		√	
Dissemination of IPM menus for cowpeas and groundnuts	√	L			√	
Evaluation and promotion of integrated Striga management	L		√	√	√	
Agro-forestry technologies	L			√	√	
Participatory evaluation of conservation tillage practices	√		L	√	√	
Dissemination of improved sweet potato varieties	L			√	√	
Integration of tsetse control with farming activities	L			√	√	
Indigenous and exotic insect natural enemies for management of stalk borers	L				√	

¹MUK: University of Makerere; NGO: Non-government Organisation; CBO: Community-Based Organisation; PE: Public Extension; FG: Farmer Group

²L: Lead organisation

Figure 2. Individual CN scores plotted against average scores - rounds 1 and 2

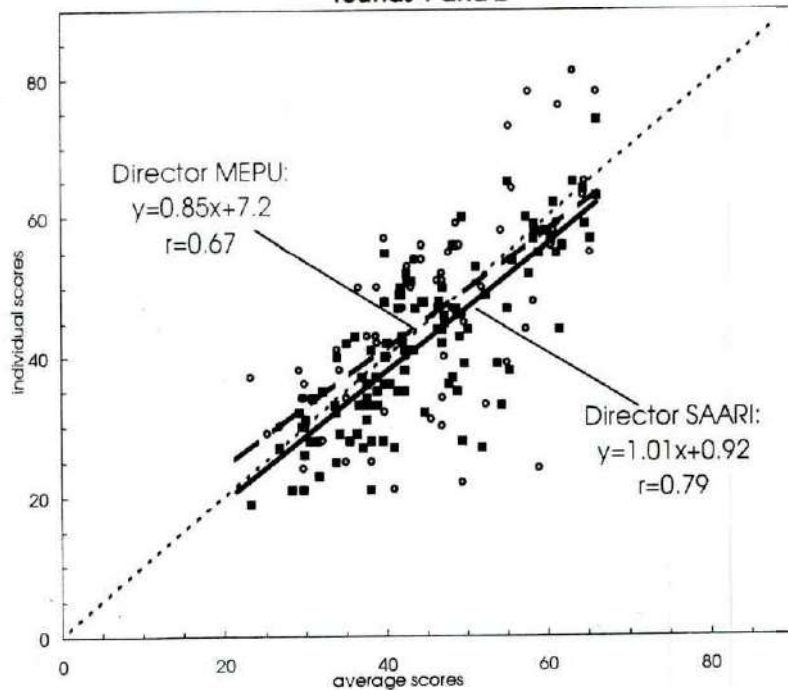


Table 8. Assessment of achievement of ATF objectives

Objective [†]	Outcome
Increased sustainability of funding	Not yet addressed
Plurality of funders	Not yet addressed
Plurality of service providers	Partial
Improved mobilisation of resources	Yes
Increased stakeholder involvement at all levels of decision-making, management, implementation	Partial – implementation just starting
Stronger links between R E, support services, higher	Yes
Strengthened goal-orientation in projects	education, private sector
Strengthened focus on regional priorities	Yes
Increased use of merit-based and priority-based criteria for funds award	Yes
Increased transparency in funds award process	Yes
Increased competitiveness	Yes
Strengthened inter-disciplinarity	Yes
Improved research/ dissemination quality	Yes according to proposals
Increased accountability of project implementers	Implementation just starting

[†] Gill & Carney (1999), GTZ (1999, 2001)

Challenges

The ATFs have become fully operational and two rounds have been completed. The number of applications received indicate good interest and awareness amongst stakeholders, and there have been enough good proposals to select from. The ratio of the number of concept notes to the number of projects selected for funding indicates strong selection and hence contribution to the objectives of increased competitiveness and fostering excellence. Most other objectives have also been at least partially met (Table 8).

All of the projects selected for funding demonstrate collaboration between organisations, and some increase in plurality of service providers. However only 7 of the 24 projects selected for potential funding so far are led by non-NARO organisations. Reasons for this include:

- Relative capacity of partner organisations to prepare proposals for research/ dissemination projects;
- Difficulty for partner organisations to identify scientists with whom to work;
- The ATFs do not support salary payments (NGOs) or post-graduate study fees (University of Makerere).

The project is attempting to address the 1st two constraints through a limited amount of training, and through "Project Preparation Grants". Training workshops on project design (including preparation of logical frameworks, stakeholder analysis and team-building) will be held, but given available resources, these can only support about 100 participants in total.

The Information Pack and both calls for applications have indicated the availability of Project Preparation Grants, which can be used to arrange meetings with potential project collaborators, and/or to carry out limited stakeholder meetings to clarify client-demand, but these have been very under-subscribed to date. Increased emphasis on these in future announcements may encourage non-NARO organisations to attempt to team up with NARO and University staff, to ensure that proposed implementation teams have a full complement of necessary skills.

The project is clearly increasing linkages between stakeholders, and increasing local stakeholder involvement in decision-making on funding for projects. However, the fact that the ATFs are administered by NARO has caused some stakeholders to question whether the ATFs are equally available to all applicants. This question could be avoided, and stakeholder linkages further strengthened if the ATFs were administered by an independent support unit. Gill & Carney (1999) have noted similar concerns about ATFs operating elsewhere in the world, and have suggested that such independence may increase the chances of funding from other sources.

One of the guiding principles behind the establishment of ATFs is to provide a funding vehicle for multiple donor sources to contribute to, including private sector agencies (Gill & Carney, 1999).

Independence from any one source of funding is seen as a way to establish improved sustainability and continuity of funding. NARO's ATFs are currently supported only by the Government of Uganda (salaries and "in-kind" support) and the UK Department for International Development. As the project matures and demonstrates successful implementation of participatory, client-oriented research and dissemination, NARO needs to consider ways to secure a plurality of funding sources to provide increased sustainability/funding continuity.

The majority of applications received, and the projects selected for funding, indicate a commitment to farmer participation in technology development and dissemination. Similarly, the applications indicate a commitment to partnerships between scientists, government and non-government extensionists and farmers. The extent and quality of farmer participation, and of partnerships between different development actors and organisations varies considerably between projects, however. The principal challenge now facing NARO is to monitor both participation and partnerships, and to encourage increased degrees of partnership and participation in project implementation, and in monitoring and evaluation of technologies and project outputs as necessary.

NARO's ATFs represent an important move towards institutionalising client-oriented, participatory research and dissemination in eastern and northern Uganda. Initial responses indicate enthusiasm and capacity for client-oriented approaches in the region, but considerable challenges remain to fully institutionalise ATFs as a vehicle to support and ensure client-orientation.

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