Annex 3.4 Financial management: Sub-national competitive agricultural technology development funds

Establishment of a Zonal (Sub-National) Agricultural Research Fund in Tanzania

Objective
To strengthen the demand drivenness of agricultural research by enhancing stakeholder control over research funding as well as introduce the element of competitiveness in the technology supply.

What is a sub-national agricultural research fund (SNARF[2])?
An agricultural research fund is a form of Consolidated Funding Mechanism (CFM) which through competition and client stakeholder control will contribute to more efficient use of scarce financial resources.
The fund is independent, not affiliated to an area-based research institute, and managed by representatives of the stakeholders. A SNARF sponsors research services requested by, mainly, resource poor clients on a competitive basis. Donors of the fund may include international agencies, international partners (such as research networks), national partners, produce boards, private sector and individual (endowed) clients.

Each SNARF must be registered as a foundation (e.g. as a trust fund) and have a constitution, defining the conditions for funding and management of the fund. Issues to be defined, include:
- the objectives and goals of the fund
- types of research services to be funded
- the composition and duties of the management committee and its secretariat who is eligible for making requests, and who is eligible to deliver requested services
- guidelines for proposals and conditions of funding
- conditions related to the execution of the activity, including monitoring & evaluation
- conditions of payment

Special attention must be given to empower the ZARF-MC members and train them in the assessment of proposals, monitoring and evaluation of progress and review of output. A strong ZARF-MC is a guarantee for demand-driven and efficient research and will sustain future sponsorship by ZARF donors.

[2] Zonal Agricultural Research Fund (ZARF) in Tanzania. Three of the seven research zones have established a ZARF.

Some guidelines for financial management by a ZARF-MC in Tanzania:

1 The ZARF-MC can claim administrative costs to a maximum of 10% of the annual budget. This includes costs of secretariat, monitoring & evaluation, publicity, acquisition and annual auditing.
2 Labelled sponsorship (i.e. donors/ sponsor specific studies) is accepted; matched funds of signed research contracts can be used within the mandate of that client.
3 Contracts will be signed between ZARF-MC and the executive institution. All payments are done to the institute's accountant who is responsible for budget monitoring, payments, transfer of funds and reporting to ZARF-MC.
4 Cost arrangements such as per diem, fees, awards, transport etc.
   - All DSA claims must follow GoT regulations
   - Institutional fee of US$ 50 can only be claimed for full-day activities, excluding preparation, transport, data analysis and reporting time
   - Publication fee can be claimed according to ZARF regulations
   - No per diem, fee etc. will be paid to (technical) staff from the client
   - Farmers can only be rewarded in kind, e.g. soda, seed etc.
   - A maximum of Tsh. 350/ km can be claimed for transportation.
   - Transport by the client will not be refunded

Proposed procedure for ZARF assessment of proposals

1 All proposals submitted have been scientifically reviewed. Proposals with scores higher than 61% will be reviewed by the MC (the MC can decide how high the benchmark should be for qualification). Proposals with scores lower than 61% are not accepted for further assessment.

2 Proposals with no evidence at all of client demand are not accepted for further assessment.

3 Proposals accepted for funding by any other sponsor (e.g. TARP-II) will not apply for assessment by the MC.

4 All other proposals will be assessed and scored by the MC on the following criteria:
   - convincing evidence of client demand
   - contributions by requesting client and partners
   - adoptability of the expected output (i.e. likeliness of the target farmers to adopt the recommendations proposed after the study)
   - budget: correctness and total requested amount for sponsorship
   - quality of the log-frame
   - qualifications of the principal investigator/ s for the proposed activities

   All six criteria are equally important and scored from 1-5 (1 = very poor/ absent, 2 = poor, 3 = moderate, 4 = good, 5 = excellent). The cumulative score is divided by 30 to obtain the ZARF scoring percentage of the proposal.

5 All proposals assessed and scored are ranked according to their scoring percentage. After compilation of the list, the MC will apply four (absolute) policy criteria:
   - Avoid duplication with previous or proposed research
   - Concentrate research in priority farming systems (to be defined)
   - Availability of human resources of the institute/ department/ programme in relation to other commitments
   - Timing and urgency of funds needed for conducting the activities

6 The MC will allocate funds according to availability of funds, cumulative scoring and application of policy criteria.

Source: Lema et al. 2003

Annex 3.5 Budgeting research proposals: Canevas in Mali

RESEARCH CONTRACT – ANNUAL BUDGET

Name of the project		Responsible of the project	
Code of the project		End date	
Starting date		Budget year	

BUDGET SUMMARY

	Total budget
Costs of personnel	
Operating costs	
Investments	
Indirect costs for personnel (min. 30%)	
Indirect costs of operating activities (min. 30%)	
Total project budget	

SPECIFIED BUDGET

Cost of Personnel

		Time deployment *			
Name	**Function**	**No. of months**	**%**	**Tariff****	**Total budget**
Total cost of personnel					

* indicate the number of months per agent

** tariff differs with the type of personnel deployed

OPERATING COSTS AND INVESTMENTS

Project

Code of the project

Operating costs **Budget year**

Category	Description	Quantity	Unit price	Total budget
Transport	sub-total			
Per diem	sub-total			
Temporary labour	sub-total			
Office equipment	sub-total			
Research equipment	sub-total			
Agricultural inputs	sub-total			
Costs for analysis	sub-total			
Report preparation	sub-total			
Other	(to be specified) sub-total			
Unforeseen (5-10%)	sub-total			
Total of operational costs				

Investments

Category	Description	Quantity	Unit price	Total budget
Total of investments				

Total operating costs and investments	

Indirect costs:	%	Total
Indirect costs for operating activities / investments		
Indirect costs for personnel		

Annex 3.6 Maintaining effective public relations (PR)

This tool addresses the availability and quality of current public PR at an ARC and ways to improve them. Two aspects are discussed:

i) Assessment of the current PR status of the ARC: *(remember that the best PR is acknowledged output and impacts but there are many ways of promoting results and output of the ARC.)*

Item	Objective	Target group
Business cards for all scientists	To assure that clients know where to find a researcher in case of need.	Authorities in client organisations
Promotion flyer. One page, double sided with 'catching' information on ARC.	To increase awareness about the institute among a wide range of potential clients.	People at various administrative levels who can co-promote the institute.
Promotion visits. Visits to potential clients for good relationships with the ARC.	To personally promote the institute and if needed address problems of (past) collaboration.	Decision-makers (especially about resources) who may be sceptical concerning the capacity of the ARC
Newsletters promote activities and outputs of the ARC.	To improve the institute's reputation among clients	From district decision-makers to field staff.
Leaflets, posters and other extension materials.	To disseminate research results;	Local clients among extension staff and farmers.
Field days and agricultural shows, "technology markets".	Marketing of research achievements	All client stakeholders
Presentations in radio broadcasts.	Promoting research output of ARCs	Audience is wide and divers, resource-poor farmers.
Stakeholder workshops.	For direct contact with the target group.	All stakeholders.
Seasonal greetings, calendars and other professional 'presents'.	Maintain good relationships.	Clients.
Advertisements in newspapers and journals.	To promote the ARC among unknown, not yet identified clients.	A wide range of clients within a specific category (newspaper read)
Annual reports and field notes.	To promote the ARC as sound and skilled	Potential international collaborators and sponsors.

Good PR are a pre-requisite to effective COR. Stakeholders in the agricultural sector should know the ARC, what it can offer, where they can find specific information and research staff and how an ARC will process a request for research support. Moreover, the ARC must have an image of reliability, efficiency and capability. The reputation of an ARC is often over-estimated by its own staff; in actuality, in most cases only a few stakeholders are fully aware of an ARC's available services and the conditions for consultation (see also box 3.15).

ii) Promotion of the ARC and its services should be done simultaneously and in various ways.

Considerations for choosing PR tools:

If you.....	**Then use.... To promote your institute**
Have never met the client.	Business cards, flyers and samples of available extension materials.
Are dealing with a sceptical client.	Promotion visit by a senior staff member and all available PR materials.
Have an established relationship with your client which needs improvements.	Promotion visits, workshops (on co-funding basis), extension materials and newsletters
Don't know your ('amorphous') clients.	Radio programmes, field days, agricultural shows and advertisements.
Have little resources.	Samples of extension materials, home-made business cards and flyers, sponsored newsletters.
Want to raise funds from an international sponsor.	Seasonal greetings, calendars, annual reports and field notes.
Want to raise funds from a local client.	Seasonal greetings, calendars etc. and promotion visits.

Annex 3.7 Effective Interaction with Stakeholders; Assessing Available Research Services; an Example from the Northern Zone in Tanzania

This tool facilitates the compilation of services available at an ARC. Clients often need services other than research. These services may be available but have to be reviewed internally to assess their efficiency, effectiveness and quality. This review should determine actions required to provide and/ or improve services. Once listed, charges for each service should be determined and promoted among potential clients.

Develop a service catalogue

Researchers often believe that their disciplinary research is the only contribution they can make to solve problems perceived by farmers. Experience with COR in Tanzania shows that clients frequently need a range of services. These may include requests for results of current adaptive research, but also access to information from past research, instant advice and recommendations for urgent problems, relevant extension material, training, soil/ plant- and pathology analysis, access to quality seed or planting material, etc. Where feasible, these services should be made available and actively promoted among potential ARC clients. Moreover, a list of costs and fees for these services plus payment modalities should be established to standardise ARC charges for individual client(s) or group(s).

Available services and their costs can be assessed in a general research staff meeting. Services to be included in the service list have to be reviewed to avoid that the ARC promotes services which cannot be offered satisfactorily. This could be the case if for example a service can only be offered by one individual and not an ARC department or section and if the person is not available the service cannot be provided. Other services (e.g. soil fertility analysis) can often only be provided in close collaboration with (a) partner institute(s). These services should be mentioned specifically, because the ARC is not solely responsible for providing them. All conditions that may limit immediate access to the services (e.g. availability of chemicals for soil analysis), should be included in the information regarding available ARC services.

In 1999, the Northern Zone ARC in Tanzania compiled a list of services that the institute can provide. This list includes services ranging from breeding and testing varieties, selection of appropriate fodder crops, diagnostic surveys, marketing and feasibility assessments, and soil and water conservation, to services such as cartography, training, soil and plant analysis, testing of agro-chemicals, identification of diseases and insects, design of extension materials, and hiring of farm machinery. Fees for all services were proposed, discussed with stakeholders, approved by the Ministry of Agriculture, and published in the zonal policy paper. The policy paper hence served to guide all services the institute provides.

The above resulted in an increase of research contracts but did initially not result in an increase of use, for example, of the soil laboratory. This and other units required a more active promotion of their services whilst they also had to prove to clients that they could offer quality services efficiently. For example, a number of commercial intensive farm enterprises (flowers and coffee) in the region would rather send their soil samples to renowned laboratories across the border than come to the institute. They cited slow service, low quality results and high costs. Once the laboratory proved able to deliver timely results, could confirm the quality of results by participation in an international soil sample exchange network, and had clarified payment modalities through the account section, the number of samples processed in 2002 increased drastically.

Source: Lema et al. 2003

Annex 3.8 Ex-ante self-assessment of research proposals

General questions to ask yourself while assessing quality of a proposal

A scientist can only write a good proposal if he/ she is very critical to his/ her own proposal. Such a critical attitude will help to improve the quality and avoid unnecessary omissions. It may also make the difference between getting funds or not. 20 general questions are presented which a scientist can ask when assessing his/ her proposal. Although some questions may be more crucial than others, a good proposal should score positively on all those questions.

20 questions for quick assessment of proposals

1 Is the proposal complete, i.e. according to the format of the funding agency?
2 Does the proposal address a significant constraint to rural development?
3 Is the proposed activity not an old topic, routine work or not necessary because already done elsewhere?
4 Is there clear evidence of client-demand? Is it explained how the request for the research activity was made? Is there evidence that key stakeholders were involved in preparing the proposal?
5 Is there no confusion between client, target group and funding agency?
6 Is title of research project clear and to the point?
7 Are the objectives realistic and measurable and are they compared to the ex-ante situation?
8 Is there a strong indication that clear and user-friendly output will be produced?
9 Does the proposal indicate how the results of the research activity will be reported and made available to extension and farmers (leaflets, posters, training, ...)? In other words, are dissemination activities clearly described?
10 Is the research activity likely to have an impact on resource-poor farmers? How?
11 Does the proposal (background and justification) clearly state the problem and the affected geographical areas and socio-economic groups?
12 For ongoing activities: are the results so far obtained sufficiently described are these results promising?
13 Does the background and justification contain up-to-date and complete information?
14 Is relevant literature cited and is this mentioned in the literature list (and vice versa)?
15 Does the methodology take technical, socio-economic and institutional issues into account?
16 Are research methodologies and tools clearly indicated? Does it give answers to questions that start with: how, what, when, where, who, why? Would another scientist be able to conduct the activity when he is guided by the methodology and the work plan?
17 Is the use of personnel realistic and not overdone?
18 Is the work plan presented in chronological order with one line for each activity?
19 Is there evidence of strong institutional collaboration with other organisations (other research institutes, districts, NGO's)?
20 Is the budget in line with the proposed activities and is it realistic?

Source: Lema et al. 2003

Annex 3.9 Scoring list for submitted research proposals

0 Presentation and project summary

Criteria	Appreciation scale	Score
Is overall presentation of document complete? Is title of research project clear? No confusion between client, target group and funding agency? Is project summary correctly presented?	3 = very positive 2 = positive 1 = just acceptable 0 = not acceptable	..... out of 3

1 Background and justification

Criteria	Appreciation scale	Score
Is the problem clearly stated? Does proposal address significant constraint to rural development? Evidence of client-demand? Is the relevance to zonal, regional or district priorities outlined? Summary of past research? Summary of on-going work? Are results obtained so far promising and is continuation justified? Is relevant literature reviewed and cited? Are hypotheses stated and are specific problems defined? Are affected geographical areas and socio-economic groups indicated?	11-15 = very positive 8-11 = positive 4-7 = just acceptable 0-3 = not acceptable	..... out of 15

2 Objectives

Criteria	Appreciation scale	Score
Are objectives clear? Are objectives realistic? Are objectives measurable? Do objectives show concern for natural resource management, socio-economic development? Are objectives articulated to needs of specified target groups (at household, community and district level)?	6-7 = very positive 4-5 = positive 2-3 = just acceptable 0-1 = not acceptable	..... out of 7

3 Materials and methods

Criteria	Appreciation scale	Score
Are treatments indicated? Are data gathering techniques indicated for all data to be collected? Are analyses to be carried out specified? Are analyses complete (economic analysis, gender analysis, environmental analysis, adoptability analysis,...)? Are materials to be used highlighted? Does proposal indicate on-farm research and farmer assessment?	8-10 = very positive 5-7 = positive 3-4 = just acceptable 0-2 = not acceptable	..... out of 10

4 Personnel

Criteria	Appreciation scale	Score
Is the Principal Investigator experienced enough to conduct the research? Is team composition balanced and relevant for the activities to be undertaken? Is time involvement of team members realistic? Are CV's (well) presented?	6-7 = very positive 4-5 = positive 2-3 = just acceptable 0-1 = not acceptable	..... out of 7

5 Work plan

Criteria	Appreciation scale	Score
Are activities presented in an chronological order (one line per activity)? Are implementation modalities of the activities indicated, e.g. is it indicated who is doing what? Is amount of work indicated (size of plots, number of persons to interview, ...)? Is the location of activities indicated? Is timing of activities realistic and feasible?	12-15 = very positive 8-12 = positive 4-8 = just acceptable 0-3 = not acceptable	..... out of 15

6 Expected output and impact

Criteria	Appreciation scale	Score
Are the practical outputs objectively verifiable (varieties, breeds, botanicals, technologies)? Is scientific output (publications) specified? Will user-friendly output be produced (leaflets, posters, training modules, radio programme, ...)? Is the expected socio-economic impact indicated? Is the expected economic benefit indicated? Are strategies/ possibilities for dissemination of results indicated?	12-15 = very positive 8-12 = positive 4-8 = just acceptable 0-3 = not acceptable	..... out of 15

7 Monitoring and evaluation

Criteria	Appreciation scale	Score
Are indicators for all outputs defined in such a way that they can be measured? Are indicators realistic? Are modalities for M & E sufficiently highlighted (how and when)? Is reporting system described?	6-7 = very positive 4-5 = positive 2-3 = just acceptable 0-1 = not acceptable	..... out of 7

8 Detailed budget and budget summary

Criteria	Appreciation scale	Score
Is detailed budget clearly linked to workplan? Are budget estimates realistic? Are budget estimates complete? Are costs in line with standard costs for LZARDI? Is quarterly budget summary correctly presented?	7-8 = very positive 5-6 = positive 3-4 = just acceptable 1-2 = not acceptable	..... out of 11

9 Collaboration / other sources of funding

Criteria	Appreciation scale	Score
Evidence of collaboration with other organisations / stakeholders? Are there any contributions of other funding agencies? Level of financial, physical and human resource support. Is role and responsibility of other organisations clarified?	6-7 = very positive 4-5 = positive 2-3 = just acceptable 0-1 = not acceptable	..... out of 7

10 Literature

Criteria	Appreciation scale	Score
Is literature overview complete and presented according to approved scientific (DRD) format?	3 = very positive 2 = positive 1 = just acceptable 0 = not acceptable	..... out of 3

Annex 3.10 Scoring form

Appraisal summary:
The appraisal of research proposals follows the format that has been adopted. A form is used to summarize the scores assigned to each component of the proposal (from annex 3). The total score for the proposal is 100.

NO:

Principal investigator:			
Title of research project:			
Subjects	**Scoring**		**Remarks**
	Max.	**Score**	
0. Project summary	3		
1. Background and justification	15		
2. Objectives	7		
3. Materials and methods	10		
4. Personnel	7		
5. Work plan	15		
6. Expected output and impact	15		
7. Monitoring and evaluation	7		
8. Detailed budget and budget summary	11		
9. Collaboration / Co-financing	7		
10. Literature	3		
Total score:	**100**		

Annex 3.11 Scientific review form in Mali (no scores just checklist)

Selection criteria for research proposals (Applied and Strategic research)

1. Following the research proposal format
2. Experience/ level of education/ scientific contacts (Principal researcher and team)
3. Collaboration with other institutes
4. Literature review
5. Relevance (National policy and strategic plan)
6. Scientific quality (methodologie)
7. Multidisciplinarity of research
8. Possibility to apply results
9. Environmental impacts
10. Cost efficiency of research

DECISION	
Accepted	
Accepted with conditions	
Rejected	

Annex 3.12 Selection criteria in Mali for research proposals (development research)

Selection criteria	Score
1. Does the proposal respond to a demand in the region? E.g..: What is the representativeness of the client in the region (farming systems, type of exploitation, gender)	maximum 20 points
2. Did the end users participate in the development of the proposal and to what extent do they participate in the implementation and evaluation of research ?	maximum 20 points
3. Will the research results be disseminated to clients and partner organisations?	maximum 20 points
4. Does the proposal include all elements of development research (on farm testing and evaluation as well as demonstration activities ?	maximum 20 points
5. Does the research proposal stimulate the collaboration between the farming systems and thematic researchers Indicators : Composition of the team (multidisciplinary) formulation correcte et systématique des phases de recherche logic of research (problem analysis, cause/ effect relations, proposed solutions)	maximum 20 points
6. Does the proposal follow the general quality criteria of the regional committee of end users ? Indicators : following the format for research projects methodologie gender sensitive cost efficiency of budget	maximum 20 points
7. Does the proposal treat the thematic priorities developed in the strategic plan of IER ? Indicators : verification with thematic priorities developed in the strategic plan approval received by the committee of end users	maximum 20 points

DECISION	
Accepted	
Accepted with conditions	
Rejected	

Annex 3.13 Terms of reference of monitoring committees (steering and executive) and auditors (Mali)

Terms of reference and composition of the regional steering committee, Mali

The main objective of the regional research steering committee is to take strategic research decisions. It has the following tasks :

Review the research programmes in relation to changing needs of farmers and other stakeholders;
Focus research components following the socio-economic changes and latest agricultural production problems;
Conflict management between research and clients;
Management of relations between research, donor organisations, and clients;
Development of procedures to assure efficient technical and financial execution of research contracts;
Search and negotiate new research contracts.

The chairman of the committee changes between IER and the clients and they shall meet twice a year. The first meeting before the restitution of research results to discuss the recommendations of the Committee of monitoring and evaluation of research contracts and the second after the restitution. The committee consists of representatives of research, clients, donor organisations, and possible other stakeholders.

Terms of reference of the executive monitoring committee, Mali

The committee for monitoring and evaluation of research programmes is responsible for monitoring research activities and it is the executive instrument of the regional steering committee. It has the following tasks:

- To monitor the recommendations of the regional steering committee;
- To monitor the implementation of research programmes through field visits, meetings, lecture of research reports, etc.;
- To prepare proposals to improve the research programmes for the regional steering committee;
- To organise meetings with stakeholders of research programmes as well as the restitution meeting;
- To develop a format to present research results during the restitution meeting.

The chairman of the committee is the client, while IER holds the secretariat and they visit the research programmes in the field at least two times a year. The first meeting before the restitution of research results to discuss the recommendations of the Committee of monitoring and evaluation of research contracts and the second after the restitution. The committee consists of representatives of research and clients.

Terms of reference of the auditor

The auditor is responsible to:

- Verify the efficient and transparent management and use of funds that are supplied by the national government or donor organisations. Therefore, the auditor:
- Examines the financial management and accounting of IER;
- Guarantees the transparent use of funds, conform the accounting rules agreed upon in the contracts.

He/ she also assures the application of the procedures established in the IER management manuals concerning:

- Public establishment,
- Internal IER organisation,
- Personnel management,
- Accounting procedures,
- Procurement policies,
- Management of research stations,
- Management of laboratories, and
- The performance contract between IER and the Mali Government.

The auditor visits all accounting sites of IER at least two times a year. He/ she proposes to the Director General all actions necessary to improve the management and efficient use of funds.

Annex 3.14 Technology Markets and Farmer Extension Groups

Following the identification and agreement on a list of prioritised researchable problems between farmers, extension officers and researchers, technological options for solution of the problems can be provided. Farmers will provide options based on their local knowledge, practices and innovations Different farmer options can exist based on household categories and gender. Other technological options are to be provided by research and extension on request of farmers or 'from the shelves' and compared with farmers' options (i.e 'controls'). All options require an ex-ante assessment by farmers, extension officers and researchers, also in order to reduce the number of options. Different options can be analysed during on-station and on-farm field days or other means. Technological options can also be presented in villages through "technology markets".

Technology markets

A technology market is a meeting in which researchers present technological options through short talks and presentation of implements, posters and pictures. Farmers who are interested in testing a particular option can register themselves and appointments can be made for follow-up meetings to discuss the various experiments and options. This is an improvement on the earlier situation in which farmers were selected by researchers not on the basis of interest in particular options but purely on the basis of their 'representativeness'.

Farmer extension groups (FEGs)

Farmer Extension Groups are groups of farmers that are working with extension on the verification of recommended messages and options, which have been developed in the same or similar farming system zones by FRGs in partnership with the ARC. The number of FRGs is normally limited (due to the resource constraints of the ARCs), while the number of FEGs is larger than the number of FRGs but smaller than the extension 'contact groups', which are known from the T&V system. FEGs remain in close contact with FRGs (facilitated by extension officers) in order to receive technology feedback. During field days in the FRGs, FEG members are invited to assess the various technological options for possible testing.

Source: DRD, 2003, Kingma et al, 1998

Annexes of chapter 4

Annex 4.1 CORMA Human Resource Management

4.1.1 General human resource management

Issue	Options	References	Indicators	Conditions/assumptions
How to develop a human resource management change process?	Develop strategy Use tools such as: • Fear Map analysis • SWOT (Chandel, 1998)	Ten tools for managing change in National Agricultural Research Organisations (Hobbs, 1999) Resistance to change analysis (Braimah, 1999) Metaplan (http://www.metaplan.com/training.htm)	Staff acceptance of change, staff satisfaction Trends (age, gender balance, composition)	Integrated management (including human resource management) at the decentralised level Local ownership of the need for change
How to establish a CORMA change team?	Establishment of COR promotion team from existing staff (researchers, managers and support staff (Information Officer, HRM officer, RELO, FM officer). Involve researchers with OFR experience Consider gender balance	Box 3.1 Problem census approach (Walker et al, 1996) Work setting, incl. Gender, analysis (Mulinge, 2001) Women in research (management)(Brush et al, 1995)	Team established and accepted in general staf meeting	Commitment from management and staff

4.1.2 Adaptation of staff competence to stakeholder needs (COR)

Issue	Options	References	Indicators	Conditions
Have business plans at sub-national level (5 year time-frame) been established?	Strategic planning Priority setting workshops Mid-term evaluation	See World Bank supported plans in Tanzania: Research Masterplan, Agricultural Sector Development Plan etc.	Frequency of sub-national priority setting Number of stakeholders involved	
Has a long term HRM plan been established based on requirements in business plan (incl. Strategy see also before?	Long term training planning (based on need assessment) Database of completed training (formal, informal) Recruitment (long-term, short-term) Internal reallocation Partnerships Database of short-assignment staff Long-term training contracts Training sponsorship	Financing Agricultural Research: Source Book (Tabor et al, 1998) Physical and personnel needs assessment of ARC (Bell et al, 1994) Evaluation of research capacity (Kowero, 1997)	Number of staff recruited Number of partnerships Priority/staff composition fit (%) Age/disciplines/gender etc. over time Number and type of training received	No employment stop
Does the team have essential skills for Client-Oriented	Essential skills prioritised by stakeholders	Box 3.1 Capacity development	Workshop regularly held Frequency of performance	

Issue	Options	References	Indicators	Conditions
Research (communication, pro-active acquisition, etc.)	Individual performance assessment (also in contracts) by stakeholders)	assessment (Horton et al, 1999, 2001)	analysis % staff with COR experience/skills	
Has client-oriented attitude and culture been well established with ARC staff?	Image analysis, client satisfaction assessment COR attitude training	Acquisition and advisory skill training courses (KIT IC, Mali, Angola) PR management and communication skills	Number of staff trained in COR Client-satisfaction	Continuous training effort

4.1.3. Increased staff motivation for COR

Issue	Options	References	Indicators	Conditions
Is basic staff remuneration well developed and implemented?	Transparent promotion system, increments (seniority, training based and performance) Timely pay	Financing Agricultural Research: a Source Book (Tabor et al, 1998) Performance assessment (Mali) (intern, extern) (WB)	Inflation corrected payrise	Job security
Have clear Terms of Reference for all staff established and regularly assessed?	Formulate TOR for every category of ARC staff. Assessment of performance, joint establishment of individual targets	Kenya (KARI) Mali	Number of distinct and complete job descriptions Progress in performance	Individual training and career development plan in place
Are there are additional staff incentives?	Performance based incentives (output fees, awards) Acquisition fees Proper working conditions (office, transport, computer) Secondary conditions of work Social incentives (Access to TV, Community Centre, parties etc.) Positive feedback	Staff stability analysis (Idachaba, 1998) Box : 3.3 Annex 3.1 Case from Mali (% of fee for ARC)	Staff satisfaction Staff exit assessment Staff rate of attrition Individual output quality/quantity indicators Secondary benefits package	Financial autonomy ARC policy for staff doing consultancies in place Leadership style and training

4.1.4. Organisation of flexible workforce

Issue	Options	References	Indicators	Conditions
How are human resources allocated to the research assignments?	Time management system (Inform, planning board) CV database Regrouping based on disciplines	Lake Zone experience Inform-R (ISNAR) and SAC-Mali (2002) Institutional felexibilioty to service (Hall, 1999)	Time recorded for all staff	Management Information System in place
Are research assignments implemented by inter-disciplinary teams?	Training interdisciplinary team management and functioning Indisciplinarity in planning research programmes etc.	Sutherland (1999) Mettrick et al, (1999) ISNAR (1999)		

4.1.5. Enable effective team work and communication among staff

Issue	Options	References	Indicators	Conditions
Effective internal communication structure in place	Technical meetings (PME) Management team meetings (composition) Participatory decision-making Follow-up and debriefing of meetings	Staff minutes of meetings (e-mail) (Mali) Notice board announcements (Tanzania)	Frequency of meeting Satisfaction of staff	Incentive system in place Effective e-mail connectivity Attitude Institutionalisation

Issue	Options	References	Indicators	Conditions
	Seminars Suggestion boxes Calendar of activities			
Team performance evaluation and team performance incentives	Team awards Joint field trips (Landrover solution) Team output analysis Joint free coffee break	Tanzania experience (see boxes) Baobab solution in Mali (pers. Comm.. Doré Guindo)	Team output indicators	Few staff

4.1.6. Provide clear direction and responsive leadership

Issue	Options	References	Indicators	Conditions
Policy, mission, strategies clearly formulated	Workshop with stakeholdersPursuing commitment by staff Mission development committee	Tanzania Strategic leadership, Human Resource Management (Lusthaus et al, 1995)	Frequency Staff commitment	Room for decentralised strategy development
Management structure?	Stakeholders in boards TOR of Board TOR of all research managers	Tanzania and Mali models	Board composition Staff awareness of board composition	National guidelines provide room
Governance, transparency of leadership well defined and stakeholder ownership pursued	Staff participation strategy Board participation Communication	Stakeholder feedback reports	Management structure sustainable (all management areas will continue to function if some key managers are absent)	Consideration for cultural setting

Annex 4.2 CORMA Financial management

4.2.1. Diversification of research funding

Issues/topics	Options	References	Indicators	Conditions
Has the institute clear funding mechanisms?	List potential services Internal assessment of added value of services that can be offered Assess costs for services by competitors Inform potential clients of new funding mechanism (presentation, visits, brochure) Stakeholder meeting to discuss funding strategy	Mali (business unit) A case policy paper Northern Zone Fiscal sustainability (Feder et al, 1999, Echeverria, 1996, 1998). Diversification of funding (Pal et al, 1998). Sustainable financing	List of available services Internal analysis of added value of services Market assessment report Number of visits to clients Stakeholder participation in meetings Services available to stakeholders when requested	Stakeholder commitment Policy approval
Has the institute agreed on contract research arrangements with clients?	Establish contract research arrangements (levels of fees, balance in the institute between contracts and others)	Contract Research (Heemskerk, 1996). Financing research (Tabor et al, 1999) Box 3.9: Funding mechanisms in Lake Zone Tanzania	Number of contracts implemented Stakeholder satisfaction with contracts	Contracts should be within the mandate/competence of the institute Funding available for stakeholders to contract research
Has the institute collaborative agreements?	Memorandum of Understanding Memorandum of Agreement	Annex 3.3: Mali and Tanzania case	Improved collaboration Increased number of contracts	To be signed with wealthy partners
Has the institute a competitive ARF?	Independent Sub-national Agricultural Research Fund	Competitive Agricultural Research Funds (Gill and Carney, 1999) Annex 3.4: Tanzania ZARF case Box 3.10: Experience in Tanzania with ARFs Agricultural Technology Development Fund (Hobbs et al, 1998)	Money in the fund	Autonomy to create a ARF
What other funding opportunities are available?	Internal service units Additional sources of income (IPR, seed production, sale of crop produce, etc.)	Box 3-12: Tanzania case Box 3-6: ARC revenue retention (Self-help funds)	Revenue generated	
How can contracts be managed properly	Establish a business unit for contracts	Box 3-11: Mali	Stakeholder satisfaction	A large number of researchers in the institute

4.2.2. Improvement of efficiency and cost-effectiveness: cover recurrent overhead costs

Issues/topics	Options	References	Indicators	Conditions
Are complete overheads known?	Calculate overhead costs of the ARC Develop strategy to cover overhead costs Decrease structural overhead costs (direct variable costing method and establishment of service units) Calculate the cost of meetings	Schrader (2000); Financial analysis report.	Financial analysis report All overheads paid for (no unpaid electricity bills, telephone lines not cut) More institutional budget available to pay for extra's Cost recovery = receipts/costs	Valuation of assets available Availability of operational cost budget Time management information available Transparency

Issues/topics	Options	References	Indicators	Conditions
Are overhead costs included in research budgets?	Include all direct and indirect costs in research budgets	Annex 3.5: CANEVAS (Mali,)	Actual expenses/planned expenses	Budget guidelines established

4.2.3. Improvement of efficiency and cost-effectiveness: sustain well-functioning support services

Issues	Options	References	Indicators	Conditions
How are support services organised?	Develop a strategy for retaining services and out-sourcing (sustainability and strategic reasons to retain services) Organise support services in units Assess financial feasibility of all units Establish service units (e.g.: Transport unit, Publication and photo-copying, Stationary and inputs, Farm land, Computers and internet, Telephone and fax, Laboratories), assess competition and draft business plans (with realistic costing). Outsource support services	Box 3-14: Organisation of support services in Northern Zone	Support services available to staff when required Timely service provision Financial targets are achieved Profitability of services Quantity of services available Staff satisfaction with services	Discuss ideas with staff Full management support No pay - no service No taxation on internal services Capital funding or seed money available to cover past depreciation Good suppliers

4.2.4. Improvement of efficiency and cost-effectiveness: efficiency of goods and services procurement

Issues	Options	References	Indicators	Conditions
Procurement priorities	Inventory of equipment and assets (location, value, depreciation) Determine depreciation rates Labelling of the same Determine priorities for investments	Tabor et al. (1998)	Comprehensive inventory list Investment plan	Competitive price analysis Internal audit of procure-ment offices
Procurement procedures	Prepare procedures for decentralised procurement Outsourcing Tender procedures Determine procurement costs (transport, telephone) Clarify procedures to staff Ensure compliance to procedures	Box 3-15: Mali's procedures	Price ledger Manual of procurement procedures Awareness of procedures by staff	Autonomy for procure-ment Transparency Capable stores officer Tax exemption Donor commitment to follow ARC's procedures

4.2.5. Improvement of efficiency and cost-effectiveness: maintenance of assets and equipment

Issues	Options	References	Indicators	Conditions
Analysis of the cost structure of maintenance	Assess maintenance costs Review direct costing rates in terms of cost-effectiveness and inclusion of depreciation	Tanzania, Lake Zone	List of maintenance costs, financial report Satisfaction of researchers	Inventory of assets and equipment available

Issues	Options	References	Indicators	Conditions
Development of a maintenance strategy	Include maintenance costs in research budgets Rent out assets and equipment at full cost Outsourcing maintenance through tendering	Tanzania, Lake Zone	Proforma's Condition of assets and equipment Stores register Maintenance done Maintenance contracts	Good accountant and accounting system

4.2.6. Improvement of efficiency and cost-effectiveness: activity based budgeting

Issues	Options	References	Indicators	Conditions
(Financial) Planning	Introduce direct and variable costing method for research (and other) budgets Scientific review committee Stakeholder assessment of research budgets Assessment or research cost in relation to outputs	Tanzania, Lake Zone Ex-ante economic analysis (Qaim et al, 1998). Efficiency index (Nagy, 1998)	Research proposal Rate of budget exhaustion (= actual budget/planned budget)	Standardised format Standardised costing Stakeholder committees
Monitoring, (internal) auditing	Link accounting system with research activities Quarterly financial reports M&E software (Suivi, Appui, Conseil) Monthly or quarterly management meetings Monitoring committees with stakeholders	SAC Mali (IER, 2001) Auditing (Horton et al, 1999)	Minutes of meetings Monitoring reports Financial reports	Costs to be included into budgets At least Excel Accounting staff computer trained

4.2.7. Transparent financial management

Issues	Options	References	Indicators	Conditions
Accounting procedures	Financial manual ToR accountants Introduce a financial management system	Financial management manual (DRD, Tanzania) Financial management reform (Eiseman et al, 1996)	Approved external audit reports	Reliable computers and software
Financial reporting	Introduce timely internal and external reports Present financial reports to relevant stakeholders and board or management meetings Reporting on utilisation of internal revenues to staff Financial reports for service units Technical and financial reports from headquarters to zonal offices	Box 3-6 and 3-7: SelfHelpFunds in Tanzania	Financial reports	Institutionalised reporting system
Internal control	Annual audit report to be presented to all clients with a contract or a MoU Internal control unit Contracts allow clients to control accounts Financial committee in the institute	Annex: IER (BCG) 3.13 (Mali)	Audit report Internal control unit reports	Institutionalised control system

4.2.8. Decentralisation / financial autonomy for ARC

Issues	**Options**	**References**	**Indicators**	**Conditions**
Has the institute financial autonomy?	Develop a policy to provide greater financial autonomy by DG or board to director of institute Negotiate autonomy with the Ministry of Finance	Bank account Audit Internal control system Institutional financial procedures Donor commitment to follow the rules and regulations of the ARC Direct donor support to ARC	Box 3-8: Mali case (EPST) Box 3-13: Tanzania case (self help funds)	Approved audit Report of internal controller Copies of signed contracts Financial procedures manual

Annex 4.3 CORMA linkage management

4.3.1. General strategic issues

Issue	Options	References	Indicators	Conditions
How is information management organised?	Institutional learning	See Section 3.5		
How to build confidence with researchers to deal with stakeholders?	Training of researchers Exchange visits	Workshops in Tanzania Client-Orientation training	Number of contacts between researchers and stakeholders	Researchers to be aware of the need to involve stakeholders
Have roles and responsibilities and provision of resources in TDT process been spelt out?	Initiate joint research and linkage activities MoUs with TOR (What, when, how and who)	Lake Zone MoUs	Number of MoUs	Stakeholder and researcher expectations clarified

4.3.2. Organise active stakeholder involvement

Issue	Options	References	Indicators	Conditions
Is a liaison office institutionalised?	Appoint liaison officers and set up a liaison team	Output production and liason activities in Tanzania (LZARDI, 2002). Conceptual linkage framework (Witono Adiyoga, 1995)	TOR for RELO developed and RELO appointed - Budget for liaison activities	Policy decision on source of linkage officer
Does the ARC know its stakeholders, their needs, uses and interests?	Produce stakeholder inventory Classify stakeholders and analyse interests Organise stakeholder tours (visits of liaison officers to stakeholders) Organise stakeholder meetings at different levels	RAAKS (Engel et al, 1997) Stakeholder survey NZ, Tanzania Stakeholder surveys/ analysis (Tanzania) CZ-Tanzania stakeholder meetings (various reports) Actor linkage matrix (Biggs et al, 1999)	Stakeholder directory established Target groups and categories of stakeholders identified Number of contracts with partner and for different clients - How far do stakeholders know the ARC? - How far do stakeholders in ARC activities?	Sub-national ARC takes a service delivery approach Identifies targets for its services
Have end-user contacts been formalised	Establish FRG/Village groups Organise FRG meetings Organise farmer field days and farmer exchange visits Organise Open Day at research station	FRG establishment guidelines VLPA (KIT Worldbank Manual) Links with farmer organisations (Eponou et al, 1999, Wuyts-Fivawo, 1996, Eponou, 1996a, 1996b, 1996c)	% research activities originating from farmers % activities with active farmer involvement	Need for ARC's to see the farmers as the engine of rural development
Do you have a feedback system on linkages?	Research x extension quarterly workshops Monitor and evaluate contracts Feedback to policy makers Monitor stakeholder satisfaction	Participatory monitoring and evaluation schemes Zambia experience (special unit within MoA liasing with ARPT of Research). Effectiveness of institutional linkages (Dixon, 1997)	Frequency, numbers Equity indicators Stakeholder satisfaction reports	Stakeholders participate in research in PME Stakeholders assess research output

4.3.3. Maintain effective public relations

Issue	Options	References	Indicators	Conditions
Is the ARC well known by its stakeholders?	PR strategy has been developed for different stakeholder categories. Develop a logo, business cards, promotion flyers, Develop calendars and other promotional materials. Send seasonal greetings Introduce ARC Newsletter Develop radio broadcasts Develop website Contribute to journal articles	Lake Zone stakeholder directory (DRD, Tanzania) Northern Zone stakeholder survey and directory (DRD,Tanzania)	% of stakeholders that know the ARC and what it is doing and its services available the number of stakeholders interacting with the ARC	PR budgets exist Funding strategies exist
Is the output of ARC well demonstrated?	Participate in agricultural shows Display output at ARC Conduct on-farm trials with extension List of products	Maruku peer review and screening procedures	% stakeholders that know the output Number of peer reviews	TDT process focusing on stakeholder needs Quality criteria in place
Are services and fees well known with stakeholders?	Develop an ARC profile (including services and fees) Visit potential clients Train staff in marketing of services Use mass media	Lake Zone, Northern Zone, Tanzania	Number of contracts and services used	Services and products are client-oriented Services available at competitive prices

4.3.4 Acquire research assignments

Issue	Options	References	Indicators	Conditions
Stimulate effective demand	FRG empowerment Confidence building with stakeholders Facilitation of DC need assessment Open day for agro-industry to identify agro-industry needs System to follow-up demand	VLPA Manual and Tools (WB/KIT, 2000) RAAKS (Engel et al, 1997) Box 3-19: Barley Industry in Tanzania	Number of research requests (contracts) from stakeholders Number of agro-industrials visiting ARC	Skills with ARC or out-sourced Lobby with agro-industry
Initiate communication with potential financiers at different levels from identified categories	Make inventory of financier categories Fundraising Assess costs of fundraising Train ARC researcher on how to write proposals	Fundraising skills (www.kit.nl) Market assessment Cost-benefit analysis (DRD, 2000) National innovation system (Hall et al, 2001) How to write a winning proposal (ISNAR: (http://www.isnar.cgiar.org/learning/index.htm) Interact effectively (Box 3-18). Options for public-private partnerships (Komen, 1999)	Number of financiers identified Amount of funds raised Number of proposals developed	Financial transparency and quality output Trust in public service delivery

Issue	Options	References	Indicators	Conditions
Are stakeholders empowered to review and reject research proposals	Research board (Policy level) Technical Committee Sub-national ARF's	Tanzania (ZEC) ZTC and screening committee in Lake Zone Zonal ARF's (NZ, LZ, CZ) Stakeholder participation (Frempong, 1999). Participation investment strategies (Persley, 1998) Research-farmer partnership (Collion et al, 1995, 1998)	Number of projects reviewed/rejected by stakeholders Number of stakeholders involved	

4.3.5. Actively develop (inter)national networks (note: should be combined with chapter 3.5)

Issue	Options	References	Indicators	Conditions
ARC is part of national network	National lead scientist co-ordinators Peer reviews Young scientists in technical exchange visits National steering committees/national commodity/factor networks	Box 3.22 ARC is part of (inter)national research network in Tanzania. Actor network approach (Sousa et al, 1998) NARS analysis (Hobbs, 1998)	Number of senior scientists Sub-national programme reviews	National and zonal policies well elaborated
Is ARC part of international research network	Organise liaison activities with international research institutes facilitated by NARI and national co-ordinators Regional Networks (SACCAR, ASARECA, CORAF)	ASARECA experience (http://www.asareca.org) Collaborative research agreements (Annex 3.3) Partnership agreements	Number networks represented in ARC.	Scientific, networking attitude Ability (willingness and logistics) to network
Are scientists part of professional societies?	Participation in (inter)national fora Publication in journals	SEAFSRE experience (Newsletter) IFSA (http://conference.ifas.ufl.edu/ifsa/#index)	Number of scientists member	Funding of individuals apart from membership fee

Annex 4.4 Change process in planning, implementation, monitoring and evaluation

4.4.1. General

Issue	Options	References	Indicators	Conditions
Has a national and local strategic plan been developed?	Ten year national plan Five year local strategic action plan. Targeting (Develop Farming System zonation map (target zones, Develop social stratification and gender analysis (target groups) baseline studies, sector studies, and marketing studies) Main priority themes	Strategic planning in Mali Box 3.23 Different tools AEZ-based priority setting (1998) Gender sensitisation change (Maarse et al, 1998) ZOPP/OOPP/PPO (Lema and Heemskerk, 1996) Ex-ante research benefit estimation (Mills, 1997) Targeting resource poor and female farmers (Ravnborg, 1996, Mehta, 1997)	Strategic plan Mid-term review Number of stakeholders participating in planning	Policy :Government priority for research Data, skills Strong stakeholder involvement
Has annual research planning cycle been established? (Including participatory budget planning)	Develop timing with stakeholders Establish committees with stakeholders	Figure 4 Strengthening role smallholder organisations (Batz et al, 2000), Programme priotity setting (Kamau et al, 1997) Participatory framework (Kronen, 1996)		Stakeholder capacity to participate

4.4.2. Organise/initiate assessment of research needs

Issue	Options	References	Indicators	Conditions
How to get research requests?	Direct contacts with clients (Government, Industry etc.) Annual stakeholder meeting Diagnostic surveys (with farmers, and other stakeholders) Liaison officers	Farming Systems Approach Manual Tanzania (DRD, 2000) Liaison activities (LZARDI, 2002) PRA reference guide (Stewart, 1995). VLPA guide (WB/KIT, 2000)	Number of requests Number of stakeholder meetings Number of stakeholders Number of PRA reports	Researchers open-minded Stakeholders confidence in research competence PRA skills with stakeholders with researchers Research request database
Assessment/review/ priority setting	Classify type of research (Internal, which type of funding) Problem priority setting in stakeholder meeting Review by stakeholders (action plan, urgency)	Annex 3.9 Classifying and scoring in Mali Beyond economic surplus methods (Smith, 2001) Ex-ante analysis of priorities (Ramasamy, 1997) Economic priority setting (Alston et al, 1995) Farmer-oriented research priority setting (Meindertsma, 1994)	Number of research priorities reviewed/rejected/ accepted through different ex-ante assessments	
Decision on list of research requests to be formalised	Establish formal committee with stakeholders Decision communicated to all stakeholders Invite stakeholders to make TOR for priority requests	Research System Tanzania (DRD, 2000, KIT, 1997) Annex 3.8	Number of stakeholders in committee Committee reports Number of received TOR for priority requests.	

4.4.3 Plan research programme and write professional proposals

Issue	Options	References	Indicators	Conditions
How are research request TOR's from clients transformed into full proposals?	Develop a format for research proposals Ensure participatory proposal development (with clients) Inform scientists on criteria for screening proposals (from different organisations)	IER-Mali format (Annex 3.8) Participatory trial design (Veldhuizen et al, 1997)	Number of TOR translated into full proposals Number of clients involved proposal preparation Quality of requests indicator	Capacity of clients to prepare good TOR Good access to information Availability and capacity of researchers to understand request and write proposals
How are full proposals screened?	Technical reading committee (2x annually) Establish criteria scoring system (Scientific, relevance for clients, economic, environmental impact, gender, etc.)	IER-Mali screening criteria Mali (Annex 3.8)	Number of screening reports filled. Quality of proposal indicators	Incentives for committee
How are proposals approved?	Set up a review system (peers, Internal Technical Review, Approval Committee (Board) Financial/Funding criteria applied. Resource allocation criteria: Human Resources, land, etc.	IER- Mali case (Annex 3.8)	Number of proposals approved Total budget from different sources	Financial data available (Core budget etc.) Time management data

4.4.4. Implementation of client-oriented research

Issue	Options	References	Indicators	Conditions
How to involve clients in on-station research?	On-station field days for different categories of stakeholders Participatory variety selection (PVS) On-station farmer assessment (ranking, scoring) From RMRI to even FMRI?	On-station assessment Lake Zone, Tanzania (Kapinga et al, 1997) PVS (Mali.)	Number of OS trials with client involvement Number of field days	Frequency affordable (every year?, budget?)
How to do farmer focused on-farm research?	Working with Village Groups, FRGs, Farmer Field Schools Balance RMFI/FMFI trials Adaptability analysis (leads to flexible recommendations)	Farmer Research Groups (Kingma et al,1998, Sutherland et al, 1998, KIT, 1997) FSA Manuals (DRD, 2000) PTD (Veldhuizen et al, 1997) Participatory Agricultural Research Methodology (Neubert, 2000, Amanor, 1989) Output focus maintenance (Compton, 1997) Flexible recommendations (Hildebrand and Russell, 1996)	Number of FRGs/FFS, etc. Proportion RMFI/FMFI? Number sdaptability assessments implemented	Policy decision Capacity building of groups

4.4.5. Effectively monitor and evaluate research projects

Issue	Options	References	Indicators	Conditions
Has a monitoring system for research projects been established?	Set standards and develop procedures for monitoring research projects Develop format for research progress monitoring report (Incl. Logframe) and annual workplan	Monitoring sheets for research projects, Tanzania, Lake Zone and SAC in Mali	% of research protocols with monitoring sheet derived logframe? Frequency of monitoring reports	Is it part of research protocol?
Is the monitoring system participatory?	Develop procedures for stakeholder involvement in project monitoring Are goals and expectations of different stakeholders addressed in the logframe.	Quarterly research-extension meetings (KIT, 1997). Matrix assessment for evaluation of quality and extent of stakeholders involvement (Engel et al, 1997) Participatory monitoring process (Guijt, 1998)	Cost-benefit ratio of stakeholder involvement	Costs, benefits and impact of stakeholder involvement are recorded
How is the monitoring implemented?	Establish monitoring committee with stakeholders (2x year) Initiate co-ordinated analysis of progress per commodity Ensure frequent trial visits (on-farm and on-station) Field days with stakeholders	Mali, M&E Committee (KIT, 1997) Field day structure in Tanzania (DRD, 2000) Cost-benefit analysis quantitative/qualitative economic assessment (DRD, 2000)	Number of committee meetings with stakeholders Number of trials visited Reports of trial visits and filed days	
Are evaluations of research projects being implemented?	Implement adoptabilility and adoption studies http://www.worldbank.org/afr/aftsr/impact1.htm	Maize adoption in Tanzania (Cimmyt,1999) Comprehensive research impact assessment (Esterhuizen et al, 2001) Supply-demand analysis (Macedo, 1997) Participatory impact analysis (Bantilan et al, 1998, Baidu-Forson, 1996)	Number of adoption studies Rate of adoption of released technologies	Ex-ante and ex-post

4.4.6. Organise an efficient progress reporting process

Issue	Options	References	Indicators	Conditions
How is progress reporting organised with stakeholders?	Develop a system based on monitoring reports of principal investigators Reports are distributed to stakeholders	Reporting format and system in Mali and Tanzania	Timeliness of reports, Number distributed Quality of research indicators	Clear indication of tasks and responsibilities of different research institution in the region
Responsibilities for progress reporting	TOR and assignment Develop format for quarterly progress report for ARC as a whole and division of tasks	Internal format relation results and expenditure (Tanzania) Activity and cost reporting (Mali)	Completed monitoring report	Research activity logframe indicators used during M&E in monitoring sheets.

Issue	Options	References	Indicators	Conditions
How is annual reporting taking place?	Produce annual progress report and information of stakeholders on results, as well as summary to research headquarters	Format annual report, Website, Highlights, format for policy makers etc.	Detailed annual reports for stakeholders Summary reports for HQ	
How are stakeholders informed about research results?	Village restitution meetings (only results) Develop debriefing procedures for stakeholders	Village restitution meetings in Mali		

Annex 4.5 Output production and dissemination

4.5.1 Information and Knowledge Management

Issues	Options	References	Indicators	Conditions
Farmers' knowledge and terminology	Topical survey on farmers' knowledge (also include local weights and measures) Extension seminar with participation of farmers, extension and research At least one annual sub-national farmer committee, Seminars	Lake Zone recommendation gap analysis (KIT, 1997, Mafuru et al, 1996) IER Mali (IER, CRU) Market information services (Shepherd, 1997)	Minutes of committee meetings Report of review meetings Number of recommendations based on farmer knowledge	Training of farmer committee members Researchers sensitive to farmers knowledge
Scientific (formal) knowledge	Access to relevant books Internet access Participation in networks Seminars	Satellite communication Selian Radio communication Maruku (Folmer et al, 1999) Agricultural Information management (Giovannetti, 1996)	Registry entries Number and type of seminars attended Number of networks Quantity and quality (recently) of references in proposals and reports	Initial capital available Telephone access Internet service providers
Institutionalise the link between farmers and scientific knowledge	Documentation and Information unit Centre for Agricultural Information or Communication Centre Appointment of Information Liaison Office Ensure On-farm research, Farmer Research Groups PLAR	Information Documentation Unit (Kapange, 1999) BDIP (IER- Mali) Information management officer (LZARDI, 2002) Participatory learning and action research (Defoer et al, 2000) Problem Census approach (Walket et al, 1996) Farmer-formal knowledge link (Hall et al, 1998, Sutherland, 1999)	Number of FRG, FFS, OFR	Researchers and stakeholders aware of the need
Management of internal information	Documentation and information unit ZILO Management information systems News from DG Internal newsgroups	ISNAR's INFORM-R (Vernon, 1999, http://www.cgiar.org/isnar) SAC scientific and SAC organisational Mali Newsgroups Mali Knowledge management (Walker et al, 1997)	Percentage of SAC filled in. ToR for ZILO	Computers and software in place Institutional management committed and actively promoting it
Application/use of information	Use of farmer terminology in research proposals References to previous publications	Farming Systems Zonation Lake Zone, Tanzania (Enserink et al, 1996). Toposequence workshop (KIT, 1996)	How is it incorporated in protocols	

4.5.2. Scientific output

Issues	Options	References	Indicators	Conditions
Production with international research systems	Establish international links: CGIAR, international funds for agricultural sciences, regional networks, universities, CAMES Collect publication guidelines	CAMES ASARECA http://www.asareca.org/ CORAF http://www.coraf.org/ SACCAR http://www.info.bw/~saccar/	Number of articles published in recognised journals Funding levels from international agencies Number of collaborative projects	Good Memoranda of Understanding between partners Scientific review committee

Issues	Options	References	Indicators	Conditions
	Identify journals for different research themes Establish national links: universities, other public or private research institutes Establish joint review committees (national and international partners) Organise joint meetings (national and international partners)	FARA (http://www.worldbank.org/afr/aftsr/arg&fara.htm) Sharing your agronomic information (Boussou et al, 1997)	Joint outputs (with partners)	
Production within the institute	Set up a publication series Start a scientific bulletin Publish a publication list and annually update it	List of publications and incentives (LZARDI, 1999)	Number of reports published	Sufficient publishable articles Competent reviewers
Monitoring of publications	Make inventory of reports that are due and introduce monitoring of pending documents	Research output accounting (Lake Zone, Tanzania)	Number of reports pending Monitoring reports	Research continuum exists
Improvement of output quality	Training of scientists how to write scientific articles Set up internal and external review committee (quality indicators, review procedures) Develop an incentive scheme for output production	Scientific writing (Stapleton et al, 1995) Tanzania Incentive System (Box 3.5)	Number of participants in training Training report Incentive schemes in place Number and quality of outputs increased	Competent internal and external reviewers

4.5.3.User-friendly output

Issues/topics	Options	References	Indicators	Conditions
Inventory of technologies	Assess available technologies and recommendations Stakeholder workshop to discuss priorities for materials Exchange information on technologies between national institutes		Statistics on technologies developed in research projects	Institutional memory of technologies developed
Production of the material	Ensure production of fact sheets, e.g. as part of scientific final reports Decide on formats with extension staff: e.g. through stakeholder meeting Preliminary production of extension format (e.g. leaflet, video, poster, drama, t.v., radio, training modules) Organise research and extension committee (e.g. an existing documentation unit) to oversee and monitor production of	Leaflet and poster week Lake Zone and Northern Zone, Tanzania Fiche technique Mali T.v. programmes Mali Eastern Zone for the technology book, Tanzania Mali internal review Agricultural information centres (Ojambo, 1995)	Number of technologies adopted Number of radio and t.v. broadcasts Number of leaflets, video's Technology book Stakeholder comprehension Distribution	Available resources (budgets, resources) Capacity of extension staff Capacity of researchers Well developed linkages between research and extension

Issues/topics	Options	References	Indicators	Conditions
	high quality materials Develop an incentive scheme for production of high quality user-friendly outputs Develop technology book Test material developed through extension and stakeholders Training on producing material			
Approval of the material	Review the process of variety release and chemicals etc.			

4.5.4. Dissemination of research results and recommendations

Issues	Options	References	Indicators	Conditions
Strategy to disseminate research results at the ARC	Field days on-station for stakeholders Permanent exhibition on-station Study tours for stake-holders Demonstration plots Annual stakeholder meeting to present results and plan	Mali permanent exhibition (IER-Mali)	Number of field-days, study tours List of participants Adoption of technologies	Technologies and user-friendly materials available
Strategy to disseminate research results outside the ARC	Develop a strategy to target different user categories (end-users, policy makers, intermediary organisations) Invite mass media (t.v., radio, newspapers) to familiarise with technologies Technology markets Farmer Extension Groups Farmer Field Schools On-farm seed multiplication and seed banks Monitor dissemination and distribution	Lake Zone technology market and FEG (Box 3-29)	Number of programmes Matrix on target group versus extension messages Number of meetings with FEG and FFS	Mass media available that are interested in agricultural programmes

Annex 4.6 Example of a Monitoring Sheet. Changes in stakeholder – ARC collaboration over the past 6 months

Date		Stakeholder category

1. Please describe the mandate of the ARC? *(optional)*	Description: …….
	Do not know

2. Please describe the services and products available? *(optional)*	Description: …….
	Do not know

3. When in the last 6 months did you collaborate with the ARC? With whom did you collaborate? In which activity? Who initiated the collaboration?

Date	Name ARC staff involved	Activity	Who initiated

4. Did you receive any other services and can you describe them?	

5. Have you collaborated with any other research organisation (please specify how and why)? *	

6. Your satisfaction with the ARC performance

Please indicated the changes since last interview in the appropriate columns

- 1 situation deterio-rated
- 2 situation was bad and remained the same
- 3 situation was good and remained the same
- 4 situation improved
- 5 situation improved considerably

	1	2	3	4	5	Please explain your observation
ARC staff capacity to satisfy your needs for research services						
ARC responsiveness to your demands for services/products						
ARC staff's attitudes in terms of collaboration and helpfulness						
ARC's effectiveness in solving your problems						
ARC's capacity in providing effective services and useful products						
ARC's capacity in communicating with you						
ARC's capacity in providing adequate feed-back						
Your overall level of satisfaction with ARC						

7. What do you feel are the ARC's current strengths and weaknesses? Were there any specific changes in this respect?

	Current situation	Specific changes since last interview
Strengths		
Weaknesses		

8. Do you feel your own motivation for collaboration with ARC has changed? And can you specify why and how? *

deteriorated	has not changed	improved
explanation:	explanation:	explanation:

9. Do you have any other remarks that you want to share with us? *

Annex 4.7 Internal progress monitoring indicators

Please note that the same statements were used in the initial assessment. Once again scores from 0-5 should be marked. Changes over time may then be analysed.

Serial	Statement	Issue which may be monitored based on score changes
1.1.1	Our staff members have adequate skills to respond to stakeholder needs	•
1.1.2	Staff training is planned according to stakeholder needs	•
1.1.3	All staff members are equally considered for training	• staff satisfaction
1.2.1	Our staff members work sufficiently in interdisciplinary teams	•
1.2.2	Our institute can easily engage an outsider on short time basis to complement the zonal staff	•
1.3.1	All staff members regularly receive incentives for output	•
1.4.1	There are sufficient technical meetings	• staff satisfaction
1.4.2	There are sufficient management meetings	•
1.4.3	Decisions agreed upon in meetings are well communicated to all staff	• staff satisfaction • internal communication
1.4.4	There is adequate follow-up on agreed decisions in meetings	• staff satisfaction
1.4.5	There are adequate facilities for informal interactions between all staff members	• internal communication
1.5.1	There is a well-defined zonal research policy paper	• internal communication
1.5.2	The Zonal Executive Committee (ZEC) guides the organisation and management in the zone effectively	
1.5.3	There is good and effective (administrative and technical) leadership	
2.1.1	Our institute actively tries to generate sufficient income (Self Help funds) to maintain its facilities	• financial health
2.1.2	Our institute consistently charges overhead costs for services delivered	
2.1.3	The Institute has sufficient funds to cover costs for its electricity, labourer wages, watchmen etc.	• financial health
2.2.1	All support services are available when needed	• staff satisfaction
2.3.1	Stores are well managed	
2.3.2	Procurement procedures are transparent and effective	
2.4.1	Our institute allocates funds to ensure regular maintenance of its facilities	
2.5.1	Every year, our institute reviews and plans its annual revenues and expenditures	
2.5.2	All research costs are included in research budgets	
2.6.1	The accounting system is efficient and transparent	
2.6.2	Researchers obtain their imprests when needed	• financial health • staff satisfaction
3.1.1	Our institute knows its stakeholders	
3.1.2	The stakeholders know the institute and the services it can provide	• stakeholder satis-faction as perceived by ARC staff • external communication
3.1.3	The stakeholders are satisfied with the services that our institute provides	
3.1.4	Our institute actively promotes its services with PR materials	
3.1.5	Our institute responds adequately to stakeholder requests for services	
3.1.6	Our institute collaborates sufficiently with national partners	
3.1.7	Our institute collaborates sufficiently with international partners	
3.2.1	Liaison officers enhance linkages between our institute and its stakeholders	
3.2.2	Our institute has an updated detailed stakeholder inventory/directory	
3.3.1	Our institute acquires sufficient research assignments from local stakeholders	
3.3.2	Our institute acquires sufficient research assignments from international organisations	
3.4.1	Our institute has frequent interactions with regional/international research networks	
3.4.2	Our institute has frequent interactions with national and other zonal research institutes	
3.4.3	Our researchers frequently participate in national research fora	
3.4.4	Our researchers frequently participate in international research fora	
4.1.1	Stakeholders are partners in the identification of research needs	
4.1.2	Stakeholder involvement has resulted in more accurate information about research needs and priorities	
4.2.1	There is an updated zonal farming system zonation map	
4.2.2	Within farming system zones, the institute has identified research target groups	
4.3.1	Our researchers interact with stakeholders/ clients during proposal development	

Serial	Statement	Issue which may be monitored based on score changes
4.3.2	All researchers use the same format for writing research proposals	
4.3.3	All proposals are reviewed internally before submission to clients	
4.3.4	All technologies to be tested are subjected to adoptability analysis (the likeliness of a technology to be adopted)	
4.3.5	All proposals specify relevant farming system zones and target groups	
4.3.6	All proposals specify who and how research results will be disseminated	
4.3.7	All proposals are critically reviewed by the IPR	
4.3.8	All proposals are critically reviewed by the ZTC	
4.4.1	Farmers participate in conducting all research activities	
4.4.2	Gender analysis is conducted in all research projects	
4.4.3	All research projects include economic analysis	
4.4.4	Farmers always assess the performance of technology tested	
4.5.1	Various stakeholders/clients are involved in research monitoring and evaluation (M&E)	
4.5.2	Our institute uses logical frameworks (log-frames) to monitor and evaluate research activities	
4.5.3	Our researchers always have up-to-date information on their research project expenditures and remaining funds	• internal communication
4.5.4	Our institute regularly conducts adoption studies of released technologies	
4.6.1	All progress of research projects is reported quarterly and annually	
4.6.2	Progress of research projects is frequently discussed with various stakeholders	
5.1.1	All research publications are reviewed by peers	
5.1.2	Our institute has an accessible publication series	
5.2.1	Our institute generates a range of extension materials	
5.2.2	Research and extension staff co-operate in the generation of extension materials	
5.3.1	Our institute organises farmer field days, demonstrations, training and agricultural shows to disseminate research results	
5.3.2	Our institute uses other multi-media (e.g. radio, tv, zonal newsletters, newspapers) to disseminate research results	
5.3.3	Our institute organises exchange visits and farmer-to-farmer extension	
5.4.1	Research staff members have sufficient access to scientific information	
5.4.2	Our library is well-organised and up-to-date	
5.4.3	Our institute has an up-dated database on research activities, results and agricultural data	

Annex 4.8 Beneficiary assessment

(Adapted from: World Bank September 2002): Good practices for monitoring and evaluation and management information systems in competitive grant programmes in European and Central Asian countries. Working Draft)

Introduction
Beneficiary assessment (BA) has been successfully used in many programmes to provide user feedback on extension performance. A BA is carried out to inform management about ways of improving project performance from the point of view of the final users. More specific objectives include: determining the (*changes in*) level of satisfaction of intended beneficiaries; understanding the degree and manner in which community members have participated in various phases of subproject implementation; and learning how stakeholders feel

Methodology
The core techniques are:

- conversational interviewing among representative groups of key stakeholders (intended beneficiaries, NGOs, consultants, government officials, etc.);
- focused interviews with intended beneficiaries;
- participant observation.

Samples should be representative of both numbers of farmers reached and numbers of sub-projects funded. Stratification should be by gender, ethnicity (where relevant), research activity type and region/district/village.

Interview Guide:
The issues for the Beneficiary Assessment will be determined according to the nature of the research or extension activity. *In the case of implementing the change process to CORMA the issues will be based on the logical framework or change programme planning matrix that has been elaborated.*

The issues will be addressed largely by interviewing, using a basic interview guide that may be modified for use with different stakeholder groups. This guide could include the following topics:

- *Exposure to the CORMA change process: How did people learn of its existence and what do they know about it?;*
- *Participation: Degree and nature of involvement in decisions regarding activity in the community and maintenance of what was created;*
- *Partnerships: Collaboration with other entities- local governments, NGOs, private sector;*
- *Satisfaction with study and trial objectives, mode of operations, and results;*
- *Recommendations for improvements in research station's approaches and its contacts with clients (see also Annex 4.9).*

Annex 4.9 Service evaluation questionnaire

As ARC is continuously trying to improve its services to its clients, we would be grateful when you could fill out this form.

1. Name of Client:		
2. Service requested		
3. Date request submitted to ARC:		
4. Date of ARC's first response to this request		
5. Date of service delivery		
6. In relation to the type of work requested do you think this was.....? (Please tick appropriate box)?		earlier than expected
		adequate
		later than expected
		much too late
7. What do you feel of the quality of the service?		
8. If any reporting was done, what do you feel of the quality of this report?		
9. Could you indicated on a score of 1-10 whether ARC staff was?		friendly
		co-operative
		correct in their dealings with you
10. Could you indicate your assessment of price quality ratio for the service you requested? (please tick appropriate box)		good
		normal
		bad
11. Only if you have had earlier service requests for ARC: Has the way in which your request was dealt with? (Please tick appropriate box)		improved
		remained the same
		deteriorated
12. Will you continue to make use of ARC services?		YES NO
13. Would you recommend ARC to others needing similar services?		YES NO
14. Please feel free to write down any additional observation.		

Annex 4.10 Sample monitoring schedule

Issue to be monitored	Indicators	Frequency	Sources of information	Responsible	Mailing list
Human Resource Management Area					
Increased researcher involvement in COR programme	• Number of researcher staff trained in COR • Number of field assistants trained in participatory techniques • Number of trial elaborated jointly by research staff and farmers	Semi-annually	• Research programme • Progress reports • Farmer/extension worker logbooks • Capacity building reports • Other reports of Human Resource Section	• Human Resource manager • Research Station Manager • Farmer group leaders	• Research Station manager • Research Financers
Financial Management Area					
Efficiency of use of research funds	• Number of farmers reached • Funds used • Number of field visits made	Annually	• Minutes of meetings • Farmer group logbooks • Extension staff logbooks • Project accounts	• Research manager • Research station accountants	• Research Financers • Regional government
Planning and implementation management area					
Improved farmer participation	• Number of participants in farmer meetings • Number of farmer groups • Composition of farmer groups • Issues discussed at group meetings	Quarterly	• Minutes of meetings • Farmer group logbooks • Extension staff logbooks	• Farmer group leader • Extension worker	• Farmer groups • Extension Service • Collaborating NGOs