

Cases: Funding of Services

CASES: FUNDING OF SERVICES

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1. Smart institutional arrangements for the provision, financing and delivery of Agricultural Research Services

(Häbig, M./ Springer-Heinze, A.)

This chapter is based on the experiences gained in GTZ supported projects.

1.1. Shifting Roles of the Public and Private Sector

Though agricultural research has often proved to be a form of investment with a high return for the public sector, public funding has decreased due to internal and external factors. Internally, the centralized and bureaucratic institutional structures of many national research systems have become obsolete, resulting in diminishing public support. Externally, the research systems have come under pressure due to government fiscal austerity measures and a general reduction in the role of public sector, which increasingly uses market mechanisms instead of becoming involved in the production of goods and the delivery of services.

In the past, the private sectors played a relatively minor role in agricultural research compared to public research. Most private sector investment concentrated on the food industry, plantation crops, mechanical farming equipment, fertilizers or agricultural chemicals for crop protection. Today, private sector involvement in agricultural research in industrialized countries has significantly increased in the advent of biotechnology, stronger protection of intellectual property rights and the globalization of markets. By 1995, the private sector in the United States conducted more food and agricultural research than the public sector. In the least developed countries, however private-sector investment in agricultural research is still restricted to a few isolated areas of modernization such as the plantation sector or well organized commodity associations.

1.2. New institutional arrangements for cooperation between public and private sector

While in the past the delivery, provision and funding of agricultural research services was mainly assumed by the public sector, other players have now taken over some of these functions. Universities, for-profit companies, non-profit organizations and commodity associations are among the most important. Unrestricted public funding for public research organizations has declined. An increasingly large portion of public funding is now provided in new varieties, such as project-based funding, competitive grants or contract research and is made available not only to public research organizations, but also to universities and the private sector. As a result of market mechanisms being imported into the public sphere opening up for non-public protagonists, competition between research institutions for available public funds has grown. At the same time, public research organizations are trying to tap into private sources of money, either from partners in the private sector or from farmers and their associations as clients requiring research products and services. There is a clear tendency in national research systems towards more diversity in both funding sources and institutional pluralism in conducting research. Among the many models of cooperation between the public and the private sector in agricultural research, the most important ones are the following:

- **Commodity group levies:** Farmers' associations and commodity organizations impose a levy (tax) on commodity sales, exports or planted areas to fund research, extension or market development activities. Such levies are usually imposed on export commodities and plantation crops because of the relatively low administrative costs involved. Moreover, the

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benefits of research on commodities for which demand is highly elastic, such as export commodities, are mainly reaped by producers. Examples of commodity group levies can be found in Australia, Columbia, the United States and Uruguay.

- **Contract Research:** A private company pays for specific research at national research institutes or universities. The private funder may retain ownership of patents developed through the contract or may be given preferential access to research results. Often, contract research is used by companies that do conduct research it selves, but that need specialized equipment or services for particular tasks, and in case where the degree of spill over to other users is low.
- **Joint ventures and technology licensing:** In a joint venture a public research organization or university works directly with a private company to develop a specific technology product or service. Normally, the public partner conducts applied research and the private partner focuses on near-market research, manufacturing scale-up and market development. Property rights resulting from the joint venture may be jointly owned, but an exclusive license would give the private partner a head star over competitors. Sometimes, public organizations provide the capital to start a new private company. Patented technology may also be developed by a public research organization independently of a joint venture. Depending on the extent to which private commercialization needs to be promoted, patent licensees can be given to one, several or all interested companies. Patent licenses usually include a royalty payment based on either a fixed fee or percentage of sales revenues. Joint ventures may be appropriate in cases where there is a well-developed private sector supplying input to farmers or processing raw agricultural commodities into value-added products. They are not appropriate for technologies not embodied in purchased inputs, such as agronomic techniques, soil and water management, or integrated pest and disease management. In order to prevent the private partner's competitors claiming that the joint venture has an unfair advantage as a result of the government subsidy, joint ventures and patent licenses should be opened up to competitive bidding.
- **Research consortiums:** In research consortiums, several public and private partners join together to contribute financial and (or technical resources for (usually) strategic research which might consist of long-term projects and involve higher risks. Additional applied and adaptive research will often be carried-out in-house in order to develop specific application from the more generic results of consortium-sponsored research.

1.3. Sustainable Funding of Agricultural Research in the Public Interest

Confronted with the instability and stagnation of public funding of agricultural research, tapping new sources has become a major challenge for most agricultural research systems. New forms of agricultural research are evolving which rely more on private sector, such as partnerships between private and public players, the commercialization of research results, farmer-managed levies etc. This can only be successful, if the agricultural sector itself evolves into a commercial agribusiness sector linked to global markets. However, the public good associated with many other research activities needs to be kept in mind. Even in industrialized countries, many types of basic and applied research are not supported by the private sector. For example, the private sector is unlikely to invest sufficiently in research on the environment and natural resources, on nutrition and food safety, on poverty reduction or on policy issues. There is wide consensus that the private sector will under-invest in so-called public goods. Where research produces benefits to third parties, e.g. to society, that by far exceed what a private inventor can expect to earn, the profit-making motive will not be enough to attract sufficient resources for research. Much agricultural research therefore

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remains the responsibility of the public sector, as least as far as the provision and financing are concerned.

In conclusion, there is no simple answer to the problem of sustainable funding of agricultural research in the public interest. Strategies to mobilize resources that are based on a range of funding sources and mechanisms seem to point in the right direction, and such strategies need to strike a good balance between public and private interests and resources through smart institutional arrangements. Centralism, monolithic bureaucracies, and outright dependency on the central treasury are not longer feasible.

2. Actors in the Funding Arrangement: The Case of the BOSAWAS Biosphere Reserve *(Barbara Krause)*

2.1. Introduction

Because of many characteristics, the "BOSAWAS Biosphere Reserve", nominated by the "Man and Biosphere Program" of UNESCO in 1997 is a unique site in Central America and one of 393 sites worldwide. BOSAWAS is located at the northeastern boarder of Nicaragua to Honduras, bearing some 20 000 sqkm of land in agricultural use or still maintained as untouched tropical rainforest. The Biosphere provides a living for as many as 250 thousand people, most of them poor farmers, belonging to three different ethnic groups¹.

An outstanding feature of BOSAWAS is the Global Management Plan, which is going to be issued in the next few months and will contain a funding strategy addressing Agricultural Research and Extension, oriented towards sustainable land use practices. This plan has taken many years to be conceived, due to the need to guarantee participation of most of the stakeholders of the so-called "BOSAWAS-process". Table 1 presents a selection of services that are being funded in BOSAWAS. There are plenty more of them, but at present, no inventory or systematic analysis has been done. This by itself is an indication, that due to the non-transparency of the market for knowledge based services, there is no basic quality standard that clients may demand nor any mechanism to monitor customer service delivery. It is also noticeable, that regional research and training centres do not realize basic research related to issues demanded by BOSAWAS as a biosphere reserve. On the other hand, the national agricultural research system is very weak indeed.

Table 1: Project Experiences: The BOSAWAS Biosphere Reserve

The BOSAWAS Biosphere Reserve, Summary Table (Selected Examples)			
Service that is being funded	Actors in the Funding Arrangement & their Conditions		
	Funding Sources	Service Providers	Service Clients
Applied Research: Entomological screening on introduced cultivation plants	GTZ	UNAN-Leon,	Students and small farmers
Experimental Centres and Farms: silvipastoral land use systems with "pelibuey" sheep	KfW and CIM	NGOs	Students and all farmers
Pilot experiences: introduction of organic cacao production systems	PPP (Ritter-Sport and GTZ)	NGOs	Small farmers and producer's cooperative
Farmer to farmer exchange: on all topics, from farm management to land use planning and cacao production technology.	UE, Save the Children, and others	UNAG/PcaC	Small farmers
Exchange of experiences: indigenous knowledge on medicinal plants	GTZ	URACCAN	Mayangna and miskitu women
Training courses and extension: on all topics relevant to production in BOSAWAS	Different Donors	NGOs	Farmers
Primary Schools: improving agriculture back home	DED, Church	UCA/CCC	Small farmer's kids
Vocational Schools: on sustainable agriculture	DED, Church	INATEC	Young farmers
Higher Education: agroforestry land use systems	GTZ, BID, others	URACCAN	Rural youth and practitioners

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started a ten year long "Plan Nacional de Transferencia de Tecnología y Formación Agropecuaria"² in 2001, addressing this issue, which is funded by The World Bank. At present their target groups do not include the people in BOSAWAS, although advancements have been made to enter into some sort of arrangement.

The policy framework for the funding of all actions that take place in BOSAWAS is provided by the Management Plan (MP) of the Biosphere, as described before. The MP proposes a positive selection principle of target groups, meaning that those farmers who are already and voluntarily shifting from slash and burn agriculture to a more sustainable farming system should be given priority by all programs, projects or other initiatives in BOSAWAS. In the first step, those farmers who comply with the sustainable production parameters prescribed by the MP, will get a yearly personal certificate and a label for their farm from the Ministry for Natural Resources and the Environment (MARENA) and another independent certification organization. This certificate is an incentive to those farmers who are potential role models for others and targets their need of belonging to a peer group of "BOSAWAS farmers".

The second step is a strategic alliance between all programs, projects and other initiatives in BOSAWAS, to promote and enforce these farmers by sending them to training courses, seminars and exchange events, especially all over the six municipalities of BOSAWAS. Part of this strategy would be to promote and advice an association of technical advisors, who specialize in the BOSAWAS subject through courses on sustainable agriculture in buffer-zones of protected areas.

Based on that, the third step proposes that the products and services provided by a more sustainable farming system can undergo a certification of origin that improves access to specialized markets, like those of Biosphere Reserves abroad. The aim is to improve livelihood in the buffer-zone of the Biosphere Reserve and to foster a change towards sustainable land use systems, in order to mitigate the impact of the agricultural frontier. Finally, this strategy needs to provide for improvement of the quality and homogeneity of services rendered. This monitoring has to be carried out by farmers themselves with accompanying professional moderators.

2.2.2. Degree of decentralization of public services

While a formal service market does not exist, INTA³, INATEC⁴ and INAFOR⁵ are autonomous public institutions, which provide some service related to agriculture and forestry. INTA and INAFOR have incipient representation in the six municipalities, but weak funding for implementing. INATEC runs a training centre in one of the municipalities of BOSAWAS, but it is a weak institution in terms of management.

The University URACCAN⁶ has a campus and an institute on sustainable resource use in the region, which also offers diplomas for practitioners. In 2001, there was a first promotion of 20 agricultural engineers who specialized in agroforestry. No other university provides services in the region, apart from spontaneous assignments within contracts from donor agencies or NGOs⁷. In fact, a well decentralized institution is SETAB⁸, the entity of MARENA, that has a legal mandate for the management of the Biosphere Reserves affairs and runs offices at each of the six municipalities. Because many public services to satisfy basic human needs

² PNTFA: National Plan on Technology Transfer and Agricultural Capacity Building

³ INTA means "Institución Nicaraguense de Tecnología Agropecuaria"

⁴ INATEC means "Instituto Nacional Tecnológico"

⁵ INAFOR means "Instituto Nacional Forestal"

⁶ URACCAN means "Universidad de las Regiones Autónomas de la Costa Caribe de Nicaragua"

⁷ NGOs means "Non Governmental Organizations"

⁸ SETAB means "Secretaría Técnica de BOSAWAS"

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are not available in the region because of lack of institutional presence and capability, SETAB has been tempted to fill in the gap leading funds away from its original mandate.

2. 3. Support Structure of Service Providers

2.3.1. Service Capacity and orientation

Apart from the URACCAN, experience shows that the ability to manage funds is extremely weak, and that even the most basic bookkeeping skills are lacking in the region. This is in fact one of the mayor bottlenecks for NGOs and public service institutions when it comes to deliver in time and according to the stipulations of the service contracts. Historically donors in Nicaragua have been paternalistic in providing, as well as lax in monitoring the use of funds. Service providers have become used to this and feel ill-treated when there is some sort of request from an unsatisfied "client" (a term that is, by the way, utterly unfamiliar). This is a temptation to divert the use of funds.

As stated before, the sort of relationship called "client and provider" is practically unknown within the understanding and context of Nicaraguans today. Due to their history, such a relationship is linked to the one between the "patron" (who has the money and thus, the power) and the subordinate (who has nothing but labor-force to offer), something that at least officially was abolished after the Sandinista revolution. In the public sphere, emphasis is still placed on a "brotherly" relationship, where everyone is equal. The client-provider relationship is not regarded as bearing a win-win situation, because it is felt as not been symmetric in terms of power. As labor force is ill-qualified, adding value to products and services is still a challenge for the starting economic dynamism.

Due to the Nicaraguan history there are also few technical advisors or trainers with a continuous higher education. The attitude prevails, that a technical advisor knows everything and is expected to have answers to all questions posted, while the farmer, being illiterate and unskilled knows nothing. This implies that technicians seldom engage in auto-didactic actualization, but rely heavily on donor sponsored courses, which enhance their curriculum, but not necessarily their competence.

2.3.2. Client Profile

Income and ability to pay for services

Most of the clients of knowledge based services are poor and small farmers, many of them in charge of subsistence economies. So income is near the poverty line of 1 to 2 US\$ per day. Medium sized farmers are non-the-less unfamiliar with payment of advisory services or training courses. Nevertheless, there are some experiences, where an in kind payment (i.e., providing food) has been attempted when a farmer to farmer methodology is used. On the other hand, as technical assistance and training has always been free, clients are not used to claim quality services, explaining that it is not polite to make requests when training is a present or donation. This situation is enforced by the fact, that training and advice are always linked to donations of "hardware" production inputs. Furthermore, as employment and salary level of technical advisors do not depend on customer satisfaction, no one seems to be urged to change the *status quo*.

Market linkages

The market linkage in BOSAWAS is weak to non-existent. In many areas of BOSAWAS, farmers live a day trip away from any road or urban site. A net of radio stations has been

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installed to cover BOSAWAS, which provides some market information. Also, as colonization is recent in many areas, farms are located far away from each other. This means, that any extension system in BOSAWAS faces difficulties, when it comes to on the spot advice, on farm trials or even organizing training events for groups of farmers. In particular it puts women seeking access to training and advice at a disadvantage. On the other hand, programs and projects run in BOSAWAS have selected target groups in areas, where access is easy, so that one may find some 20 organizations attending the same farmers in the municipality of Wiwili, while in Bonanza there is no organization at all.

Organization of clients

In general the capacity of self-organization of Nicaraguans is good. Traditionally, farmers have been organized in producer cooperatives, recently changing into service and credit cooperatives. Nevertheless, their managing capabilities are weak. In some areas of BOSAWAS the remoteness of farms has impaired any kind of association with others. This has to do with the situation of living at an agricultural frontier, where no one knows his neighbour well, who may have immigrated from a different part of the country for unknown reasons. Thus, trust is very low and individualism is an overall trait of the people at the agricultural frontier. From the point of view of men the need for support from others is seen as a weakness. Female spouses, on the other hand, who are desperately in need of support, are subdued to be and stay on their own.

Change of agricultural extension methods is not urgent, because there is no organized articulation mechanism for farmers to communicate and negotiate on issues of customer satisfaction. Thus, participation and empowerment are limited.

2.4. Perspectives developing service arrangements

In Nicaragua, it is difficult to bring up change that needs systematic forward-looking planning and acting. Unfortunately, NGOs tend to be part of the problem, not of the solution, because of mismanagement, unusually high salaries for executive staff and a misunderstanding of their role in civil society. Often they are perceived as representing the interests of beneficiaries or target groups, but at the end they act as consulting enterprises. The paternalistic approach inhibits the orientation towards farmer's demands in content and quality performance. No monitoring system is provided for in any of the initiatives, but the MP of BOSAWAS. Training and extension are neither coordinated nor coherent, which is partly due to donor agencies not in need to coordinate efforts in BOSAWAS. Initiatives, working to generate alternative rural income sources, are scattered over the area.

In general, topics that address quality of research, extension and training methodologies are not an issue in development of the agricultural sector. Funding is a topic currently discussed in relation with environmental protection and services, less on agricultural research and extension. And as research has not attained much glory, there is small interest in funding national initiatives, neither publicly nor privately. Working in remote areas like BOSAWAS is not very attractive either.

In 2002 a new government is taking office in Nicaragua. Plenty of strategic papers and national plans have been issued in 2001, namely a Poverty Reduction Strategy Paper, Strategies for Development of the Agricultural and Forestry Sector or the before mentioned PNTFA mentioned in section 3.1 amongst others. It is not sure, whether the implementation of the strategies described in these papers is going to be acted out. Nevertheless, reform efforts are tangible.

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In fact, MAG-FOR, INTA, INATEC and INAFOR are targets of the ambitious PNTFA. INTA is again undergoing a new institutional strengthening effort that explicitly aims at reducing public funded agricultural extension and claims a participation in costs from medium farmers. Poor farmers are quoted as not viable subjects for sharing costs and will be addressed with social support programs run by other initiatives, like NGOs working in the area. Interest in addressing the issues of BOSAWAS is improving.

Driving forces for changes are difficult to identify. There is a change in government coming about next year, but not necessarily in politics. Nicaragua is a heavily aided country and donors are running out of enthusiasm about achieving development goals. Overall there is a contraction of donor-aided programs and projects, in terms of money and sectors. Agriculture for the poor is again en vogue because of poverty and food security issues addressed by donors. The tendency is to leave the poor for donors and "their" NGOs. On the other side, politicians, economists and entrepreneurs go for an industrialized kind of agriculture, which relies heavily on external inputs and aims at exports, Public funding through government politics and programs thus turns away from marginal areas such as BOSAWAS.

3. Competitive funding as lever for development-oriented agricultural research in Benin, West-Africa (A. Matthes⁹/ D. Arodokoun¹⁰)

3.1. Situation of agricultural research in Benin

Benin's national agricultural research started its reorganisation with the beginning nineties. The national institute for agricultural research of Benin (INRAB) was created as an autonomous institute in 1992. Its mandate comprises the following functions

- Contribute to the definition of the national research policy
- Design and implement (or delegate implementation) according to the demand articulated by the government, public, private, national or international organisations relevant research programs for the agricultural sector
- Coordinate all agricultural research activities in Benin
- Contribute to the training of professionals in agricultural research and development.
- Conduct studies and consultancies in its area of mandate
- Contribute to the transfer of research results
- Publication and diffusion of results and thus contribute to the development of scientific and technical information.

INRAB comprises seven sector and three regional programs, which have been adopted by the National Committee for Agricultural Research and the Board of Trustees of INRAB, and 3 central service units. Since 1997, efforts have been undertaken to create decision platforms at the regional level (Benin) that involve users in priority setting. For the regional programs, priority setting for development-oriented agricultural research takes place in a bottom-up approach (i.e. from the local level to the regional, national and sub regional (W-Africa)) and is based on the different interfaces (Local committees, 2 regional R+D Committees, National Committee, Figure 1) facilitating the dialogue between research, different users and clients. Effectiveness and sustainability of the interfaces and their coherent interaction according to subsidiarity are crucial for all further steps in research management, scientific cooperation, fund raising and research implementation which in return have to be compatible with the same context. Efforts to optimise their interaction and achieve sustainability are presently undertaken by the INRAB, its national partners in research and development and are supported by different European donors (Denmark, Netherlands, Germany, France). Since 2000, the procedures are completed and reinforced by a competitive funding mechanism.

⁹ GTZ-Advisor in research management and organisation in the project Support to the management of national agricultural research Benin

¹⁰ Scientific director of Institut National des Recherches Agricoles du Bénin

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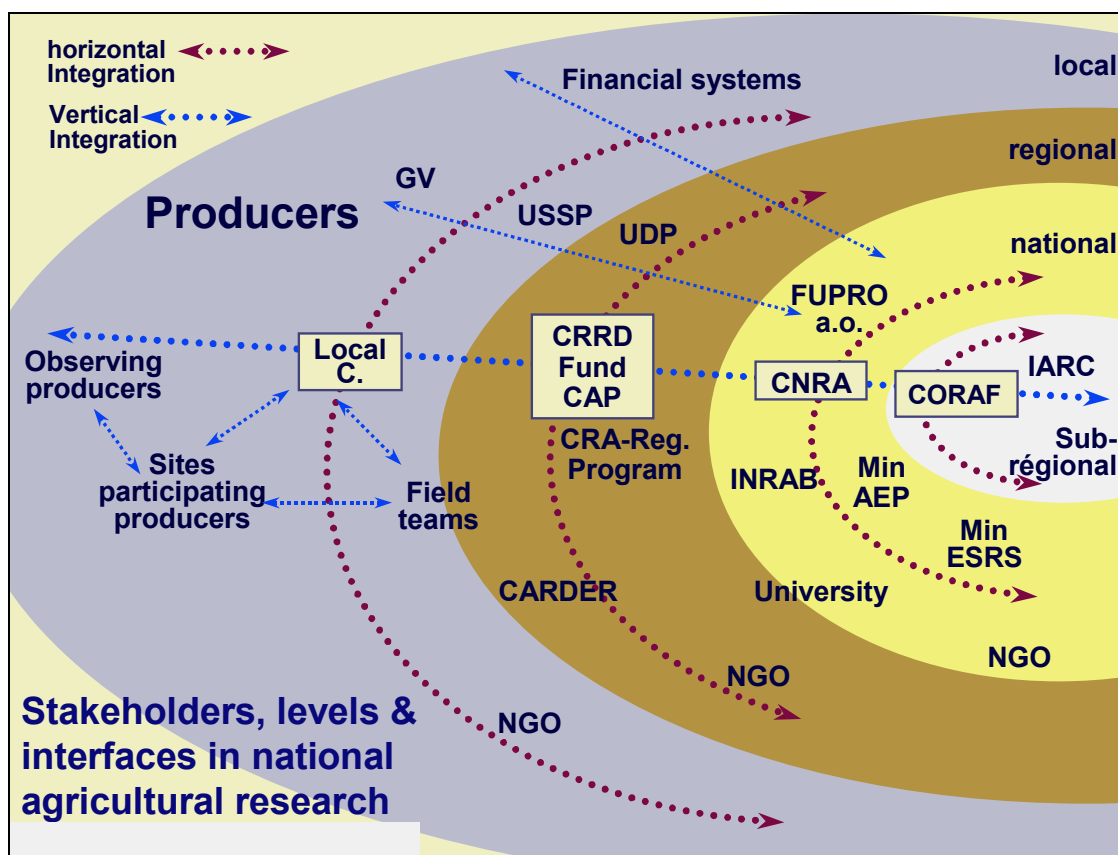


Figure 1

3.2. Political framework

The master plan for Benin's agricultural research has been elaborated from 1994 to 1996 and constitutes the political framework for the organisational development of INRAB and the national network of agricultural research. Service decentralisation, demand orientation and user involvement in decision-making are focal points. With a certain delay a master plan for rural development has been conceived and is presently translated in operational 14 action plans. The following matrix (Table 2) indicates the existing, emerging and potential relationships between the different action plans and the master plan for agricultural research.

Linkage type A comprises the production and delivery of information on target groups, farm and farming systems and sectors, confirmed technological knowledge.

Linkage type B concerns the organisational development for the negotiation of, decision-making on research and development priorities and funding of activities and impact assessment.

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Table 2 Effective / potential linkages between the master plan for national agricultural research and the action plans for rural development

Action plans of the action scheme for rural development	Linkage type A			Linkage type B			
	Started	To be strengthened	Capitalisation of results	Started	To be strengthened	Capitalisation of results	To be structured
Support to producer organisations *	x	x			X	x	x
Extension & vocational training in agriculture *	x	x			x	x	x
Institutional support to the ministry of agriculture (MAEP) *					x	x	x
Rural financial systems	x	x		x			
Rural legislation (tenure right, cooperatives) and agricultural products	x	x		x			
Communication & rural information	x	x			x	x	
Gender & development	x	X					
Monitoring & evaluation	x	x			x	x	x
Diversification of production (national + international markets)	x	x	x		x	x	x
Conservation, processing, marketing	x	x	x		x	x	x
Animal production	x	x	x	x			
Fisheries	x	x	x	x			
Natural resource management and soil fertility		x	x		x	x	
Rural infrastructure	x	x					

* Being prepared for a World Bank funded support program to the agricultural sector and producer organisations

In Benin, research is generally funded

- by the Government
- in the framework of service contracts or programs (e.g. cotton) with different national clients, their organisations and/or development projects, and
- in cooperation programs (e.g. basket funding, competitive fund) and scientific partnerships which are supported by donors.

The **competitive fund** for research is one funding mechanism among others and covers presently operating costs, which are a main limiting factor. Practical experiences cover 2 years in the 3 regional research programs (North, South and Central region) and are also applied since 2001 to the sector program Post-harvest technologies of INRAB. The competitive fund is an instrument to implement and coordinate client driven inter-institutional and interdisciplinary research at regional level. The related annual cycles (Figure 2) are subordinated to the mid term strategies (= 3 regional programs) which have been agreed upon in 2000 with users and clients at local and regional level.

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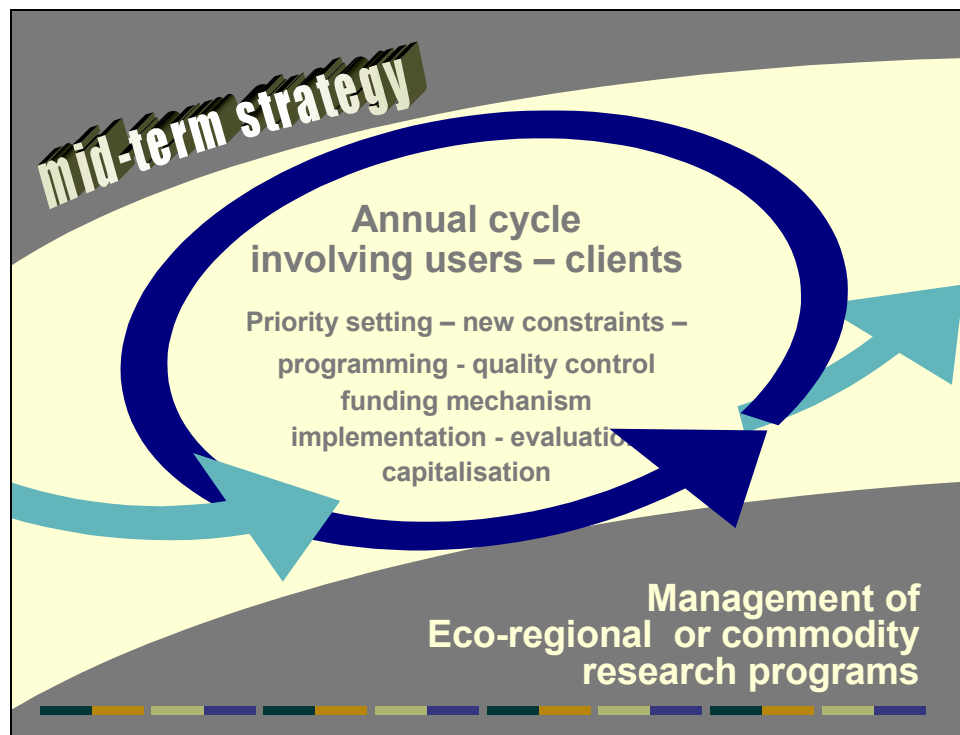


Figure 2

The **annual management cycle** involves users and clients. Priorities are actualised, new constraints and demands are articulated and translated in corresponding research activities.

The competitive selection and funding mechanism helps to improve strategic and methodological quality of research and to mobilise the complementary efforts of different research structures (INRAB, University, NGOs, CARDER) partially in joint projects.

The research year is organised by a sequence of events and evolves between the meetings of the regional committees for research and development (CRRD, Figure 3). Researchers report results to technical working groups comprising producers and extensionists from GOs and NGOs. The relevance of results, their follow-up and utilisation are discussed and corresponding decisions are made. The yearly meeting of CRRD is followed by the public call for research proposals, which have to be presented in a standard form. They are examined and selected by a commission of representatives from research and users. About 50 percent of proposals are selected (Table 2) according to 5 weighed criteria appreciated within a range from 1 to 5 points:

- **Strategic relevance (weighs 10)**: goals of sector development, transversal quality criteria (gender specific aspects, sustainable natural resource management), coverage by mid term strategy and decision of CRRD
- **Scientific relevance (weighs 5)**: adequate translation of development constraints and potentials in research issues
- **Appropriate research methodology (weighs 3)** which takes the state of art into account
- **Efficiency (weighs 2)**: Interesting ratio between cost and envisaged results

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Table 3 *Synopsis of competitively funded research – Southern region 2001*

Researcher teams from	Amount in 10 ³ FCFA	Amount in €	Selected proposals	Covered by mid-term strategy	Covered by decision of CRRD	Scoring after peer review
Inrab – Carder *)	11.355	16.352	15	15/15	100%	74,4
Inrab -NGOs	4.353	6.269	3	2/3	66 %	72,3
Inrab- University (FSA)	12.724	18.323	11	11/11	64 %	63,9
INRAB- University (FSA)-NGO	954	1.374	1	1/1	0 %	63,0
Inrab	26.076	37.550	22	21/22	95 %	65,5
University (FSA)	6.154	8.863	4	4/4	100 %	65,3
University (FSA)-NGO	1.197	1.724	1	1/1	100 %	54,0
Inrab–Ministry-IITA	4.699	6.767	3	3/3	100 %	64,0
Inrab-University (FSA) +project	1.147	1.652	1	1/1	100 %	56,0
INRAB-IITA	2.650	3.817	4	4/4	75 %	60,6
Private researcher + private German enterprise	1.414	2.036	1	1/1	100 %	65,0
	72.726	104.726	66/131	64/66		65,8

*) Proposals for testing before extension

Presently, the competitive fund is supported by Denmark, the Netherlands and Germany. Contributions of the national budget are envisaged in 2002. The promotion of competitive funding mechanism and the related management cycle play central parts in the strategy and the process of organisational change in Benin's agricultural research. The financial support is completed by technical assistance (5 advisors at different levels).

Strategic relevance and methodological quality of research have been significantly improved (Table 2, column 4 to 5) by

- the exposure to users and clients as decision-makers on priorities research and value of results
- standard tools for research design,
- the selection procedure,
- the developed M&E approach and increased discipline in writing and reporting.

The development of the national agricultural research system (NARS) towards a structured network receives important impulses and orientation from the new funding mechanism.

Service Provider(s)

In the framework of the regional programs and the competitive fund, different service providers are active. (Mixed) researcher teams from INRAB, the university, and the agronomic faculty in particular, and NGOs conduct mainly on farm research. In the transition from technology adaptation to extension, the RD-units of extension offices (CARDER) and NGOs are involved.

Service Client(s)

The scenario of service clients is varied and comprises final, intermediate clients of the sector, political clients, and other service providers for rural development (Table 2). Presently, the potential for research funding seems not yet fully used. Major reserves can be

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seen for almost all categories. The organisation of these clients may be characterized as ongoing and affects equally the representativity and efficiency in priority setting and research management and coordination.

Table 4 Service Client(s) of agricultural research in Benin and potential for funding

Service Client(s)		Able to pay	Paying	Market linkage	Organized
Final user-clients	Farmers & their organisations	Yes potential	Yes (in cash: cotton, or in kind)	Yes	Partially
Intermediate user-clients (sector)	Import, export, Input providers, Processing	Yes	No	Yes	Partially
Political user-clients	Ministries, donors	Yes	Yes	?	Partially
Service providers for rural development	extension in GO & NGO	Yes	No	?	No
	Rural financial systems	Yes	No	?	Partially
	Rural development projects	Yes	Yes	Yes	?

3.3. Perspectives developing the arrangement

The driving forces for innovation in research funding are

- Reorganisation of state interventions in agricultural research and extension
- Public budget cuts and frozen recruitment requiring networking between research structures in mixed partnerships and increased efficiency in priority setting and resources allocation.
- Progressive organisation of producers and
- Donors

The funding mechanism proves to be an important lever for demand driven research and self-organisation of the national agricultural research system. In spite of many positive effects on the relevance of research for development and networking, the current arrangement is not yet sustainable in terms of funding. Nevertheless, there is substantial potential for the diversification and increase of funding from national sources, i.e. national budget, producer organisations and development projects if high quality of research and management are being guaranteed,

In 2001, the developed procedures are applied to the post-harvest research program, which receives substantial funding from Denmark. An additional important perspective is the delivery of quality management as paid service in the framework of research contracts with development projects, the public investment program and producer organisations.

4. Policy and Funding of Agricultural Research and Extension Services Delivery in Ghana *(P. Asibey-Bonsu, H. Posamentier, 2001)*

4.1. Situation in Ghana

As part of a unified agricultural extension strategy, the Agricultural Extension Agents (AEAs) are trained once a month by Subject Matter Specialists (SMSs) drawn from the subject matter or technical directorates of the Ministry of Food and Agriculture (MoFA). The AEAs visit groups of contact farmers on fortnightly basis. Each contact group has a minimum of 10 farmers and each AEA interacts with 16-24 of such groups in a particular farming season.

Agricultural extension service in Ghana has experienced considerable changes in the past four decades. Changes in the political economy of the country, particularly the liberalisation of the economy with private sector participation in service provision, decentralisation of governance and national focus on poverty reduction call for a rethinking of our agricultural development efforts.

The **decentralisation policy** began in 1997 based on a ministerial directive, has shifted the responsibility for extension service provision from central to local government. This means that the district assemblies will have to organise and operate their own extension service while national MoFA (Ministry of Food and Agriculture) directorates focus on developing national policies and programmes, co-ordination, providing technical backstopping and training services to the regions and districts.

The last decade has seen an **upsurge in private sector activity in extension services provision** in the country. Producer organisations, buyers, processing and export companies provide extension services to farmers for specific agricultural commodities e.g. cocoa, cotton, oil palm, rubber, cashew, pineapple and vegetables among others. Costs of service are recovered through service charges deducted from payments to farmers at the time of sale. Such extension services however tend to concentrate on 'high value' crops like cocoa, cotton, oil palm and pineapple. Similarly, there has been a growth in the involvement of NGOs in the supply and financing of extension services. This increasing involvement of the private sector and NGOs in extension service delivery is expected to result in improved farmer coverage.

Government is also concentrating now on ways of **strengthening the management of public finances** through the development of the medium-term expenditure framework (MTEF), focusing on increased **efficiency** in its financial administration. The DAES (Directorate of Agricultural Extension Services) must therefore develop approaches that will enable it to perform in a more cost-effective manner.

Policy Change

Despite progress made under a Medium Term Agricultural Development Programme (MTADP) in terms of generating economic growth, many rural dwellers remain poor. Furthermore women have increasingly limited access to production inputs like farmlands, credit and agricultural advice. In line with government's Vision 2020 (now vision 2010), government policy is to become more focussed on:

- ensuring equity in the distribution of the benefits from development,
- improving rural livelihoods, and
- reducing poverty especially among rural women, the youth with a special effort to reach the physically challenged.

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Agricultural extension efforts, therefore, need to respond to the needs of the poor and the socially disadvantaged segments of the society.

4.2. Chances and Constraints to extension service delivery

Agricultural extension delivery and impact are still constrained by a number of factors such as high cost of inputs, non-availability of adequate credit to farmers, poor and inadequate rainfall and distribution, inadequate processing and marketing facilities and high incidence of pests and diseases among others. There is the need for agricultural extension services to develop strategies to support farmers to respond to these challenges.

The extension policy recognises the need for the national extension services to:

- be pluralistic, demand-driven and client-focused.
- promote accountability of the public sector and be responsive to changing situations.
- encourage private sector participation, and
- be consistent with other government policies, including the decentralisation of government functions to district assemblies.

In the short to medium-term (2-10 years), an efficient and demand-driven extension service in a decentralised system established through partnership between the government and the private sector needs to be installed. It is envisaged that clients (farmers and other users of service) would participate in extension programme formulation, implementation, monitoring and evaluation to ensure that their needs are met.

The private sector, including NGOs, would participate in extension service delivery and funding in response to farmers' demands, while farmers are empowered through farmer-based organisations (FBOs) and Community -based organisations (CBOs) to seek services from both the private and public sector providers and develop the ability to pay for such services. This initiative would be supported by the establishment of an Agricultural Extension Development Fund (AEDF) and a Farmer-Based Organisation Development Fund (FBODF).

Government will provide funding for extension service delivery (especially to small resource-poor farmers) while large scale farmers and members of FBOs practising 'market-oriented' farming will be encouraged to seek and pay for the services they receive from private organisations e.g. cotton companies and local cocoa buying companies.

Other innovations being tested include a) extension service provision through an Agricultural Information Centre and b) extension service provision through small and large entrepreneurs.

4.2.1. Agricultural Extension Information Centre

Existing information centres, the District Agricultural Development Units, are often remote from places (i.e. markets) visited by farmers. Furthermore they are poorly equipped (i.e. 1.2 books/unit) and staff often are not available. Hence farmers rarely if ever visit them.

Exceptions are a few with donor supported programs.

Objectives of the centres installed now are:

- Make information easily accessible by moving it district markets, which are visited by 30% of the farmers each week and many others involved in agricultural activities.
- Revitalise staff to its mandate and duties by providing some inputs (printed materials, extension materials, some simple furniture, renovations), follow-up, assistance in planning (i.e. demonstrations), supporting an opening ceremony (for public relations and advertising).

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- Once having created interest among local stakeholders, provide a forum, meeting point or simple contact point for stakeholders (i.e. connecting producers with processors, researchers with farmers).

Planned and current activities include:

- providing demonstrations on site to attract attention; these are advertised,
- providing resource persons on specific and advertised topics relevant to the area,
- providing a question/answer service,
- providing printed handouts and extension materials,
- showing videos on relevant topics,
- advertising/introducing technologies/inputs/ventures relevant to the areas.

Initially the national level together with the regional level and the support from donor/NGO programs has to take an active backstopping role in initiating, suggesting ideas, providing funds for meetings and follow up. Activities and results are also monitored to flow into 'lessons learnt'. It is hoped that after 15-20 such centres have been installed, that there will be enough momentum for many of the 110 districts to follow. One such centre has been installed and the lessons learnt are flowing into installing another four during the first two months of 2002.

4.2.2. Extension service provision through small entrepreneurs

A challenging objective in Ghana is the 'empowering' of the many small farming households. Their problems range from a lack of infrastructure, access to credit and information to having reliable market outlets. The venture below describes a possibility to improve the livelihood of a few of these farmers, which in our opinion must be the first step to empowerment.

The idea is to connect small time producers to small time traders or processors and establish a 'win-win' situation. By small time producers we mean those, who primarily produce for their consumption, selling excess produce only. The processors want to start a business and require a certain quality of produce including some processing. Both parties benefit: The producers by obtaining access to inputs, information and a market, the processor to obtaining a produce of the required quality and quantity.

Initially the processor/trader is functioning as a facilitator, organising inputs, resource persons and the marketing. Mostly represented by a single person, he/she may also have some production competence. Subsequently she/he will coach facilitators from within each farmer group to take his/her role. The processors would then only need to visit the groups on very few occasions and visit new ones instead. In this way the business can be expanded.

The program support includes travel expenses and a small honorarium for the entrepreneur for 1-2 seasons and some physical inputs mainly for farmers. In addition the program provides technical back-stopping including resource persons as needed.

The difference to the public service is that the processors is building a business and therefore has an interest going beyond immediate personal financial gains. This is not a new idea and has been tried before in Ghana. In principle once this relationship has been established it should be sustainable.

Another important aspect is the value addition. By adding simple processing (solar drying, grinding to powder or even packaging) farmer can add value to their produce and the processors reduces capital investment, at least initially. This also reduced transport losses and costs (lack of roads!) and may even provide some job opportunities in rural areas, at least in the medium to long term.

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Though the venture has only just started some positive effects are already demonstrated. Interest by farmers is high indicated by their enthusiasm, in following and adhering to the demanded quality standards, participating in input costs (not quite common in Ghana) and demanding further information for improving production during the next season. In addition neighbouring farmer groups are sending representatives to the meetings at their own expense. The processor is also very enthusiastic shown by the assistance given to farmers to organise/facilitate funds for the construction of 'clean rooms' to ensure quality, assisting in the certification of produce and seeking support from donors for resource persons.

5. The Kenya Agricultural Research Institute (KARI) *(Mr Kigundu Njagi, Dr R. Kiome, Dr H. Recke)*

5.1. Introduction

Kenya's mainstay is agriculture although other sectors such as tourism are now starting to bring in a sizeable share of foreign exchange. Ecological zones range from the very dry open plains to forested areas and very high mountains. The population of the country is in the region of 30 millions the bulk of which are small-scale farmers. While there are a few large-scale farmers, most of the agricultural output in the country is produced by the small holder farmers. Agricultural research and extension are coordinated through the Ministry of Agriculture and Rural Development (MoARD). The bulk of agricultural research is undertaken by the Kenya Agricultural Research Institute (KARI). Other NARS institutions besides the universities are the Coffee Research Foundation (CRF) and the Tea Research Foundation (TRF). There are also private sector players such as Delmonte (K) Ltd for pineapples and British American Tobacco (BAT) for tobacco. Extension is provided mostly provided by the MoARD and some NARS as well as NGOs to a very small extent. The MoARD extension system, however, has suffered from lack of operational funds during the recent past

The Kenya Agricultural Research Institute (KARI) conducts agricultural research for promotion of further development of the crop and livestock sectors and contributes towards the attainment of food security and poverty reduction. KARI manages more than thirty research centres and sub-centres strategically located throughout the country to cater for different agro-ecological zones and socio-economic systems. This national network of research centres has qualified staff and the necessary facilities to address the technological needs of the nation in collaboration with various partners.

KARI has over 460 trained scientists in various disciplines, among them 120 Ph.D. holders and over 200 M.Sc. holders. These are supported by a compliment of about 3,200 staff of technicians, technologist, suppliers, accountants and administrators.

5.2. Services and policy framework for funding sources

Currently 591 projects are being funded comprising of 174 commodity/factor projects, 132 adaptive research projects and 111 technology transfer projects involving some 170 NGOs and CBOs. Areas of research therefore cover the whole spectrum from basic research to attempts to ensuring that technologies developed are being adopted / adapted. The latter projects are separately funded under the recently created Agricultural Technology and Information Response Initiative (ATIRI).

KARI also runs a competitive research grant scheme (the so called Agricultural Research Fund (ARF)). ARF is an open grant scheme, which is advertised in the local daily newspapers twice a year. This assists KARI in attracting as wide a coverage/participation as possible. ATIRI is a community based competitive grant scheme meant to encourage Non Governmental Organisations (NGO's) and Community Based Organisations (CBO's) to get involved in technology delivery and thus assist in adoption / adaptation of existing technologies while at the same time providing feedback to research.

While the ARF has been in place since the early 1990s, ATIRI is a relatively new development started in 2000. Both funding schemes together currently cover less than 5% of the budget of KARI's research funds, but their contribution is gradually increasing.

The Government of Kenya's (GoK) general development policies are to accelerate the implementation of reforms aimed at poverty reduction through (i) an increased participation

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of the private sector, (ii) liberalisation of markets and accelerating export and private sector – led economic growth and employment creation and (iii) improved access to basic social facilities for all Kenyans.

KARI's research programmes are planned on a long-term basis (15-20 years) under the National Agricultural Research Project (NARP). NARP forms the basis for financial and technical support by the GoK and various donors with the following being the main contributors GOK, the World Bank (IDA), EU, USAID, GoN, DFID-UK, Rockefeller Foundation among others. The total annual contribution to KARI from all sources are in the region 15 million US Dollars.

5.2.1. Support structure for service providers

Ability to handle funds by KARI and most of the research institutions in the NARS is secured by external annual audits finalised within six months after the financial year ends. Problems, however, are experienced with collaborating community groups untrained in accounting procedures.

KARI has a compliment of highly educated and experienced scientists, probably the best in the region. Other administrative and financial procedures are of equally high standards thus effective delivery of services is possible. Scientists have increasingly been oriented towards market demand for their work. This ensures that end-users are encouraged to pay for or subsidise for services rendered. In areas such as soil and plant analysis, but also to a limited extent for advice, customers are being charged for services. Further attempts to deliver such services on a more commercial basis are underway.

5.2.2. Client profile

KARI's clients comprise mainly small scale farmers and pastoralists / semi-pastoralists but also large scale farmers and major multinational corporations. The bulk of the technologies produced are, however, for the small scale farmer whose capacity to pay is very limited. Nevertheless, the Government through MoARD has been encouraging privatisation of services and this has made it easier for KARI to implement charge rates for services where provided even if they are not on a full cost recovery basis.

Large corporations are expected to pay for the costs involved in research. The charges currently only cover operational costs but arrangements are being made to handle these on a more commercial basis resulting in an adequate element of overheads and profits being allowed for.

Depending on the level of centralisation of the sale of their final products, farmers are being charged levies. Organisations such as CRF for coffee and TRF for tea as well as KESREF for sugar research already fund their work through levies. The challenge KARI faces is to make small and medium scale farmers understand the value of research to improve their income. It is estimated that quite a number of smaller farmers will be able and willing to contribute to the cost of research and extension.

Most of the markets are the major urban centres where consumers or processing plants are located. For most of the larger scale farmers markets, mostly for cash crops are outside the country. Accessibility of agricultural areas is a problem during the rainy seasons sometimes resulting in waste. In addition huge harvests on a seasonal basis without a market outside the country or a proper storage facilities result in losses.

Farmers' organisations in the country do exist for the major cash crops. The larger KNFU (Kenya National Farmers Union) is not very strong at the moment and politically motivated.

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However, informal organisations are used for marketing most of the agricultural produce locally. Some marketing organisations have been stronger in earlier years but are now breaking up as a result of drops in export values of commodities or due to poor management. Most of these organisations have been in the form of cooperative societies, which have been coordinating marketing of final products and purchase of inputs. In some cases these large organisations had their own extension and research units, which tried to address problems specific to their crops.

Currently the GoK has not been able to fund research and extension to the extent needed. This has been accelerated by fund shortages due to the current down-turn of the Kenyan economy. However, privatisation efforts are continuing, although some publicly funded research and extension will still have to continue for basic food crops that are not attractive for the private sector.

Acronyms:

ATIRI	Agricultural Technology Information Response Initiative
ARF	Agricultural Research Fund
GoK	Government of Kenya
MOARD	Ministry of Agriculture and Rural Development
KARI	Kenya Agricultural Research Institute
NARP	National Agricultural Research Project
IDA	International Development Association
DFID – UK	Department For International Development – United Kingdom
GON	Government of The Netherlands
USAID	United States Agency for International Development

6. Issues of Policy Framework, Services Markets, Decentralisation in Zimbabwe *(M. Connolly, 2001)*

Currently the sweeping political actions by the GoZ on land reform cut across all pre-existing policy and programme activities in agriculture and rural development in Zimbabwe.

However, it is important to note what developments were emerging before May 2000:

- A policy framework document was in place viz. **Zimbabwe's Agric. Policy Framework (1995-2020)**. It focused on the development of sustainable production systems for SHF's and supported the gradual transition to a market economy for agriculture and agribusiness. The privatisation of Dairibord and Cottco in 1997/98 gave evidence of this commitment. While GoZ advocated less public and more non-governmental involvement in agricultural services provision generally, this was not supported by specific policy and legislative measures to delineate and develop the new roles emerging for the various players. A National Farmer Training Board was established with donor funding (DANIDA) but in an administrative mode without a comprehensive vision for the learning / training required by the vast majority of resource – poor farmers in the future. The agendas and ownership of the NFTB need substantial attention if the board is to respond adequately to the new needs of the majority of smallholder farmers in Zimbabwe. This would be in contrast to the “leader elite” approaches of the past 20 years which have focused training and development programmes towards minorities of resource – endowed farmers, while largely failing to engage with the needs and circumstances of the majority.
- Through the **Agricultural Services Management Project (ASMP)** in 1998, the Ministry engaged with an agenda for change both for its own divisions and the three services departments (AGRITEX, DR&SS & Veterinary Services). A Core-Functions Analysis exercise was completed and, led to a viable agricultural revolving fund for cost-recovery by service departments in the ministry. AGRITEX generated Z\$30 Mio. in its fund since 1999 and this is used to finance services delivery in areas where there may be no or reduced recurrent funding provisions in the normal line budgets. Major re-organisation and restructuring of services did not take place in functional terms. A Principal Director for services was appointed earlier this year but the shape of the new services structure and systems is still not in place. The current tumult arising from GoZ actions on land redistribution have added to the uncertainty and paralysis in services re-organisation.

Some departments, such as AGRITEX and Veterinary Services, undertook organisation – wide change management programmes (1998 - 2000) to become more client-orientated in services development and provision, engage more effectively with stakeholders and support approaches that move towards more emancipated and self-organised farmer groups and organisations.

While a **services market** has been in place for the commercial farming sector for many years, there is as yet no comparable parallel service development for the smallholder sector. There have been few focused research initiatives to examine the nature and quality of demand for services within the latter sector.

GTZ, through the IRDEP project and the former SINDA, initiated a project with the Agricultural Research Council (ARC) in 1999 to study farmer demand in the communal farming sector at village levels, in two districts of Masvingo province. The project was prompted by the need to set up a viable means of funding research and extension through

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the Agricultural Research & Extension Fund (AREF). This is the first systematic attempt to explore the nature and quality of farmer demand in the communal smallholder sector and test where and how communities would set priorities in their demand for rural extension and allied services. A critical issue emerging from the initial findings so far is that farmer emancipation is a virtual prerequisite to establish the actual needs and priorities of farming communities. In effect, real demand can only be articulated and advanced by emancipated communities. Emancipated communities are those free from the inhibitions and socialised dependency created by condescending hierarchies and elites who patronisingly claim to know what communities need. A key issue is how to facilitate such emancipation as a key preparatory process in enabling communities to articulate their real demands and needs. The need for quality in such facilitation is as important as the normative pre-occupations with criteria for funding services development and provision. While criteria for funding are important, a key concern is funding of what? Do we stick with secondary benevolent assessments of dependent community needs or engage with their real needs as articulated as part of more emancipated and independent processes? How to interpret or aggregate demand from local (ward or district) to meso (provincial) levels is another challenge which the project will study in coming years.

Engagement with the latter issues is critical for renewal and transformation - not just of communities and their needs, but also of approaches by those funding and providing services (including research and innovation)

While legislation is in place in Zimbabwe under the Rural District Communities (RDCs) Act (1995) for **decentralisation** from central to district government structures, little has been done to operationalise this in practice. The sectoral line ministries still administer and operate in their own vertical silos with limited engagement with RDCs. Line ministries staff it on Rural District Development Committees (RDCCs) but in advisory and not executive capacities.

Some government service departments have, however, begun to decentralise budgeting within their own line systems. For example, AGRITEX has, since 1999, decentralised responsibility and accountability for provincial budgets to the Provincial Chief Agricultural Extension Officers who in turn have to engage district managers and staff in annual programme and resource prioritisation and allocation. This has led to changes in how funding is allocated to given programme priorities at district and provincial levels.

One of the critical insights we gained so far here in Zimbabwe in relation to intra-organisational decentralisation, is that the development of capacities and competencies at provincial / district levels are a crucial preparatory focus. Local managers and staff have to be orientated / prepared for the new authority and responsibility which will be assumed by them under decentralised arrangements. The review of roles, responsibilities and relationships is crucial in this regard. A gradual process approach at all stages of implementation is advisable, preferably with pilots initially in selected units / departments.

This combined with more active stakeholder participation in districts and at national level has led to improved client orientation by staff in extension services management and delivery. Progress has been slow and problem – laden, but changes in how staff operate and respond to service needs are evident.

What is emerging clearly from experience here is that the quality of processes and systems to assure client responsiveness is more important than policy measures or structures per se –

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especially if the latter are merely token or rhetorical gestures to appear to be accommodating donor agendas / trends. Vocal and assertive stakeholders are the vital **agenda – setters and driving forces for change** in how the Ministry operates and responds to its role and responsibilities.

If those in services provision bow to an administrative “permission culture” then very little changes and they become detached and irrelevant to changing needs and demands. If, however, there is a “kukuraya” (lets try it out) culture then much is possible (even in staid and reactive government bureaucracies). In this regard, the commitment of senior officials / managers towards the spirit and merits of change is a *sine-qua-non* for progress.

7. Experience with competitive funding in Latin America *(Manfred Haebig)*

Obsolete institutional structures and a lack of funding are the major challenges facing agricultural research organizations and their governments in Latin America. Competitive funding has, for quite some years, been promoted as a miraculous way out of the crisis. After the initial euphoria and subsequently disillusion upon implementation, the potential and limitations of competitive grant schemes can now be evaluated more realistically.

With the support of the GTZ and other development cooperation agencies, the national agricultural research institute Ecuador (INIAP) has been host to two events on this topic. The first was dedicated to the presentation and analysis of how competitive funding schemes have worked in the region. The following success factors were identified by the participants:

- The objectives of a competitive grant scheme are based on the existing demand of technology; the sector has developed an agenda for innovation.
- The scheme should induce and support networking and collaboration.
- The schemes open up the research systems for new protagonists and new research topics. Participation and sharing of power and resources becomes a reality.
- The scheme promotes a gradual change in the innovation system.
- The rules are clear and easy to understand and adhere to, because they were developed in collaboration with the organizations that may later be involved.
- Equal opportunities for all potential participants are guaranteed.
- Communication processes are transparent and continuous; feed back has to be given.
- Transparent monitoring and evaluation schemes are applied.
- Transaction costs are minimized.
- All interested researchers and their organizations can rely on help from the scheme in order to be able to develop adequate project proposals.
- Policy-makers deliver a stable research framework for the operation of the scheme.
- Policy-makers participate in the search for financial sustainability right from the beginning.
- The scheme is successful in promoting a change toward a “project culture” within the research community.

The second event of INIAP analyzing the PRONATTA programme in Columbia found out that the competitive grant programme:

- serves as a motor for change in the institutional structures of the Columbian research system
- ties in with the ongoing decentralization process in Columbia by integrating local and regional governments in this governance structure and by regionalizing the approach
- puts emphasize on creating space for the expression of demand by farmers and their organizations.

8. Competitive funds for research and technology in Africa *(Andreas Springer-Heinze)*

Competitive funding has been an issue in Africa since the public funding of its agricultural research went down in the late 1980's and the crisis of agricultural research in Sub-Saharan Africa became obvious. Decreasing funding levels and funding instability are just aspects of an institutional crisis that runs deeper, but funding issues moved to the centre of attention when the "Special Programme for African Agricultural Research (SPAAR)" of the World Bank started the "Sustainable Finance Initiative (SFI)" in 1995. Alternative funding instruments, including competitive research funds, has been supported as a means to address other fundamental problems, e.g. the poor linkage of funding to performance, the extremely low levels of operational funds per researchers leaving much of the existing infrastructure and intellectual resources underutilized, lack of focus in research programs, and the insufficient response of research institutions to technology demand in a rapidly changing political and economic environment. Thus competitive funding is used as leverage for research capacity building and a means to foster strategic policy decisions. Competitive research funding has a short history in Africa. The Kenyan Agricultural Fund has been established in 1990 and is probably the oldest scheme now. Similar funds have been set up in Tanzania (NARF), Malawi, (contract research programme) and Zimbabwe (ARF) as well as in Mali and Senegal. These competitive research programmes are almost exclusively funded by donors through grants of USAID, DFID or others- or loans provided by the World Bank. They benefit public research institutes (NARIs) and universities in the first place, but are open to NGO's and the private sector as well. Topics covered include agricultural and natural resource management likewise. The record of these funds is positive in so far as they have been able to make up for funding shortages and have enabled researchers to continue working. However, interests of poor farmers and smallholders still seem to be underrepresented. On the managerial side, the record is mixed and problems of administrative efficiency are reported widely. The quality benefits obtained do not always justify the high costs of funding and managing, especially in the case of small projects. This may be different in the case of regional funds that have been prepared in recent years as part of the effort to strengthen agricultural research through co-operation between African Countries. The "Association to Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)", the roof for the regional networks off ten countries, presently in the most advanced "sub-regional organizations" as regards competitive funding at the regional level. At present, ASARECA is about to establish a competitive scheme channelling European and US funds to collaborative research projects involving several Eastern African countries.

Regarding lessons learned of competitive research in Africa two problems are standing out:

- All competitive schemes are refinanced by donors and foreign donors have been the strongest voice advocating the use of this funding model. Hence, research and technology funding remains to be donor-driven. The sustainability both of the research funding and of the funding arrangement is in question. The problem is aggravated by the relatively high transaction costs and managerial requirements.
- Second, the existing pool of competing applicants is very small, so that the competition principle is jeopardized.

A difficulty of particular to donor agencies as the GTZ is the limited benefit that the existing funds have brought specifically for small-scale producers and the rural poor. One possible explanation is that the scientific merits of standard research, e.g. on varietal improvement, outweigh other criteria in a fund that exclusively focuses on research. An important task for the institutional development of competitive funding arrangements is the linkage to target groups. Once a fund is established and the mechanisms for the presentation and selection of

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proposals in place, it is necessary to make sure that farmers and local organizations get a say in developing the proposals and are regularly involved in the routine funding process. The institutionalization of a competitive funding scheme at national level needs to be complemented by a similarly clear defined mechanism to involve the beneficiary level. Another avenue is to widen the objectives. Competitive grant schemes should not only be confined to research institutions, but also to technology transfer, local testing, training and extension or other technology- based activities without a scientific character. This would enable a much higher group of rural organization to apply and overcome the problem of “insufficient pluralism”.