

ECONOMIC AND SECTOR WORK

DESIGNING AND  
IMPLEMENTING  
AGRICULTURAL  
INNOVATION FUNDS:  
Lessons from  
Competitive Research  
and Matching  
Grant Projects



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# DESIGNING AND IMPLEMENTING AGRICULTURAL INNOVATION FUNDS:

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Report No. 54857-GLB



**THE WORLD BANK**

**Agriculture and Rural Development Department**

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# ACRONYMS AND ABBREVIATIONS

AgSSIP	Agricultural Services Sub-Sector Investment Program (Ghana)	NAIP	National Agriculture Innovation Project
AIS	Agricultural Innovation System	NGO	Nongovernmental organization
ADSP	Agricultural Development and Support Program (Zambia)	NIF	National Innovation Fund (India)
BOAM	Business Organization Access to Markets	PCN	Project concept note
CRDF	Civilian Research and Development Foundation	POCAD	Provincial Offices for Comprehensive Agricultural Development (China)
CRG	Competitive research grant	PPPs	Public-private partnerships
EC	Executive Committee	PROMSA	Programa de Modernización de los Servicios Agropecuarios (Agricultural Services Modernization Program), Ecuador
FIA	Foundation for Agricultural Innovation (Chile)	R&D	Research and Development
ICT	Information and communications technology	SNV	Netherlands Development Organization
IFM	Innovation fund mechanism	SOCAD	State Office for Comprehensive Agricultural Development (China)
IPRs	Intellectual property rights	SRO	Subregional Organization
IRR	Internal rate of return	TTGV	Türkiye Teknoloji Geliştirme Vakfı (Technology Development Foundation of Turkey)
M&E	Monitoring & Evaluation	UEFC	Unidad Ejecutora del Fondo Competitivo (Competitive Fund Management Unit)
MG	Matching grant	UNCST	Uganda National Council on Science and Technology
MIIF	Market Improvement and Innovation Facility (Zambia ADSP)	US	United States
MIS	Management information system		
MSI	Millennium Science Initiative		



# EXECUTIVE SUMMARY

Many countries are using innovation funds in the agricultural sector to support innovators and their links to public institutions, private entrepreneurs, and other actors, such as groups of rural producers. These funds create platforms for innovative activity by providing incentives for quality and collaboration. This report synthesizes experience with the two main innovation funds that the World Bank has used to fund agricultural innovation—competitive research grants and matching grants—and offers lessons and guidelines for designing and implementing them. Although the report draws extensively on experience with World Bank investments, the lessons are relevant in other contexts. The practical aspects of designing and implementing successful grant schemes are emphasized throughout.

## GRANTS FOR FUNDING INNOVATION

Grants are used to promote diverse activities, such as demand-driven research, adaptive research, research-extension-farmer linkages that improve the relevance and dissemination of new technologies, demand-driven services, productive partnerships, and links to markets. Thus the rationale for providing grants is often associated with the public good nature of the investment; the promotion of innovation, learning, or partnerships; or the reversal of market failures. As instruments of government policy, grants should be coordinated with other policy instruments, and their benefits should exceed their cost.

*Competitive research grants (CRGs)* provide funding to research through competition based on scientific peer review. These grants, which may also require grantees to provide matching funds, can promote innovation in several ways. They can focus scientists' efforts on high-priority research or new fields of expertise; improve the relevance and quality of agricultural research, extension, and training; promote research partnerships and leverage research resources; and help to develop a more efficient and pluralistic research system.

*Matching grants (MGs)* have also been used to finance research but increasingly promote near-market technology generation, technology transfer and adoption, private economic activity, and overall innovation, often by including multiple stakeholders. By bringing further attention to demand and use from the very beginning, basically by attracting users of technologies and knowledge in partnerships, MGs may be more effective than CRGs at enhancing the use of technology and knowledge by farmers and other entrepreneurs. Funds from the granting organization (usually a public agency) are matched with funds from the beneficiary. Most MGs targeting agribusinesses or farmer groups are not competitive; all proposals that meet the minimum requirements are funded.

Both CRGs and MGs rely on transparent selection criteria and feasibility reviews, and both are short- to medium-term funding arrangements. They cannot replace stable funding for long-term research, private sector development, human resource development, or infrastructure maintenance and development.

## SELECTING THE APPROPRIATE GRANT SCHEME

Several factors guide the selection of an appropriate grant scheme, including the scheme's *objectives* and *contextual issues*. Competitive grants are usually selected to promote high-quality, relevant basic or adaptive research or to support complementary objectives, such as research dissemination, research priority setting, development of a research culture, and development of highly skilled scientists. MGs may be preferable to CRGs when the objective is to promote (i) pluralism in applied technology development, transfer, and adoption (particularly among research providers and the private sector); overall agribusiness sector development (particularly through productive partnerships and technical assistance and services); or (iii) the productive activities of farmer groups, value-added activities, and small-scale infrastructure, often associated with community-driven development approaches.

Contextual issues are also important. Funding mechanisms, be they block funding, MGs, or CRGs, are not either/or choices to trigger innovation. It is important to identify the appropriate mix of competitive and institutional funding to respond effectively to the challenges, actors, and opportunities in a given context. For example, some projects use loans as well as matching grants to fund innovative activities for enterprises.

### **CHALLENGES OF GRANT SCHEMES**

Challenges presented by grant schemes include a lack of sustainability, projectization, equity issues, administrative costs, and capacity issues. Challenges with equity, administrative costs, and capacity are often related. *Institutional sustainability* is a prerequisite for financial sustainability. A grant scheme must be based in an institution that can withstand the challenges of implementing the scheme. Access to grants is more equitable when schemes train “disadvantaged” applicants or direct them to service providers and helpdesks; require explicit attention to development criteria in proposals; limit the number of times applicants can seek funds; limit the maximum grant amount per application or beneficiary; or limit the size of the companies that can apply. *Significant costs* can be associated with setting up, administering, and participating in grant schemes. Building the capacity of applicants and administrators and streamlining procedures can minimize overhead costs, but procedures to limit costs must be balanced against the need to make operations transparent and accountable. *Capacity building* should precede and accompany the implementation of a grant scheme. For example, CRGs require capable researchers and individuals/institutions versed in managing research grant systems. Participants in demand-driven matching grant schemes—be they farmers, researchers, agribusinesses, grant scheme managers, and service providers—often have limited capacity. The capacity to articulate demand and prepare demand-driven proposals, a balanced governance and management structure, a cadre of capable stakeholders, and established links between researchers, producers, and other stakeholders are essential for grant schemes to succeed.

### **BUILDING AWARENESS OF GRANT SCHEMES AND ENGAGING STAKEHOLDERS**

Public awareness programs, consultative processes, and governance mechanisms are important to encourage intended beneficiaries and other stakeholders to participate in grant schemes. The transaction costs associated with these procedures must be evaluated in light of the greater participation, responsiveness, and political buy-in that they foster. Grant schemes benefit from platforms to set priorities, select eligibility criteria, identify constraints on implementation, share results, and discuss progress. Matching grant schemes for value chains often benefit from consultative processes that support sector development, such as sector associations or platforms for selected value chains.

### **INSTITUTIONAL ARRANGEMENTS TO MANAGE GRANT SCHEMES EFFECTIVELY**

Institutional arrangements for grant schemes depend on the level of decentralization and the roles and responsibilities of implementing bodies and host organizations. It is good practice to maintain separate units for policy setting, technical evaluation, management, and governance. Most grant schemes require a secretariat to handle day-to-day administrative functions; a board or committee to provide oversight and approve subprojects; a technical review panel or reviewers to assess proposals and make funding recommendations; and a body to handle potential appeals. The placement of the grant secretariat—within a government entity, autonomous government organization or unit, nongovernmental organization, or private entity—is influenced by the capacity and sustainability of each institution, overhead costs, the need to separate the financing and implementation of activities, the potential for political interference, and the interests of key stakeholders. The level of decentralization is influenced by tradeoffs related to efficiency (decentralized programs are more complex to manage), opportunities for participation, the need to understand the local context, and challenges with monitoring and evaluation.

## DEFINING THE PARAMETERS OF GRANT SCHEMES

A first step in designing a grant scheme is to determine which themes and strategic interventions it will support. Resources should not be spread too thinly—most of the funding should be allocated for priority interventions, allowing limited funding for other innovative activities. It is important to specify very clearly *which stakeholders* may apply for funds and *which activities and expenditures* are eligible for support. Grant schemes generally stimulate new activities or induce particular processes, so they should *give higher priority to investing in know-how rather than equipment* (favoring expenditures on technical assistance, capacity building, services, and studies rather than on salaries, inputs, equipment, and infrastructure). Other parameters that must be defined include the *size of subprojects* to be supported by grants and the *size of the grant subsidy* (minimum, maximum, and as a percentage of subproject expenses).

Criteria for selecting grant recipients should reflect the grant scheme's objectives; emphasize relevance, quality, diversity, and economic considerations; and be relevant to wider national goals. Increasingly, partnership is a criterion. With CRGs, prospects for sustainability increase when selection criteria include the development of plans to disseminate results, transfer technology, and/or sustain research when grant funding ends—criteria that are rarely adequately weighted in selecting grantees. The more stakeholders an innovation fund supports (as in matching grant schemes for value chain development), the more evidence a proposal should demonstrate that dissemination is within the capacity of the applicants and other beneficiaries. Criteria for many MGs emphasize the local context, the additionality of the investment, the inclusion of diverse groups of stakeholders, and an aptitude for partnership (a key condition for MGs to foster innovation). A useful practice is to weight criteria rather than to rely on simple scoring.

## PROCEDURES FOR SELECTING AND APPROVING SUBPROJECTS

Aside from establishing selection criteria, several procedures are involved in selecting and approving subprojects transparently and effectively. A rigorous awareness raising campaign should inform stakeholders about the grant scheme's purpose, potential activities, procedures, and requirements. Calls for proposals at regular intervals are common for CRGs, which often fund large subprojects and set funding limits for each call. An open call for proposals is common for MGs, particularly when individual grant amounts are small. Some matching grant schemes, such as those targeting enterprises, may need a more direct approach to ensure sufficient participation. Capacity building may be required to expand the pool of competitive applicants.

A two-stage process managed by the grant secretariat is frequently recommended for submitting and reviewing grant proposals. Applicants submit a short concept note; authors of promising concept notes are then invited to submit full proposals for further review and possible funding. The two-stage approach reduces transaction costs for the secretariat and applicants. Because competitive schemes fund only the best proposals, the role and composition of the technical review panel are crucial. As noted, proposals for MGs targeting farmer groups or enterprises are funded if they meet the minimum criteria, but they are subject to technical and financial appraisals based on weighted criteria. After the board approves funding for a subproject, a legal agreement is enacted to define the rights and obligations of the parties to the grant.

## MAIN PROCEDURES FOR IMPLEMENTING GRANT SCHEMES

The main processes in implementing subprojects include disbursement, financial management and audits, procurement, and safeguard management. A good practice is to assess the procurement, administrative, disbursement, and financial management capabilities of the applicants and provide training in the main skills and procedures required under the grant scheme. Financial management and procurement practices are verified through regular field visits, timely reporting, and audits. The grant scheme must also assign resources to assess, monitor, and offer training in environmental and social safeguards. Because innovation funding is demand-driven, the specific subprojects that will be funded—and their potential environmental and social impacts—cannot be identified in advance. It is advisable to prepare an assessment of potential environmental and social effects arising from the subprojects, with detailed guidelines for monitoring and mitigating any negative impacts.

## **MONITORING IMPLEMENTATION AND EVALUATING THE IMPACT OF GRANT SCHEMES**

Monitoring and evaluation (M&E) are central for tracking and documenting the outcomes of innovation funding. From the outset, a grant scheme requires a sound M&E system to address problems as they arise and improve the scheme's sustainability. A good practice is to hire specialized M&E staff in the grant secretariat and/or outsource M&E to experts. Many grant recipients are not adept at M&E requirements and will benefit from specific M&E training as well as hands-on support. Other good practices are to ensure that subprojects are designed with clear and appropriate indicators and milestones; conduct early and close monitoring through regular progress reports and field visits; use a management information system to capture and review monitoring data; and evaluate the impact of the innovation fund. Although they are somewhat different, economic evaluations of the impact of matching and competitive research grant schemes follow similar principles and procedures, usually involving a sample of subprojects when activities are nearing completion.

Impact evaluations for innovation funds should receive much more attention, especially given the urgent and growing global demand for agricultural innovation. Current information on impacts of innovation funds is limited. Aside from economic impacts, innovation funds should be evaluated against their set objectives, their impact on institutions and beneficiaries, and their other social and environmental impacts. They should especially be evaluated to capture valuable lessons on process. For example, many innovation funds aim at addressing market failures. It is important to determine the extent to which they have succeeded and the characteristics that separate effective from ineffective innovation funds.

## Chapter 1: INTRODUCTION AND BACKGROUND

### UNDERSTANDING INNOVATION AS THE KEY TO AGRICULTURAL DEVELOPMENT

Agriculture is a powerful resource for promoting sustainable development and reducing poverty in the twenty-first century,<sup>1</sup> yet it is a resource that must be constantly renewed through knowledge and innovation. The kinds of knowledge and innovation required in agriculture will not be the same from year to year or from place to place. Agriculture requires a widening and perpetually changing array of knowledge and innovation to meet the diverse needs of the world's growing population and to resist or mitigate the effects of climate change.

The forces that generate knowledge and drive innovation in agriculture will also continue to change. Agricultural development is now driven less by production than by the forces of markets, urbanization, globalization, and shifting patterns of consumption, competition, and trade rules. The scope for technical innovation in agriculture continues to widen with advances in biotechnology. Information and communications technology (ICT) and the private sector significantly influence the production, use, and dissemination of knowledge. Where public institutions once presided over nearly all aspects of agricultural development, private firms have become far more active in developing technology and supplying it to farmers. It is obvious that agriculture increasingly relies on knowledge, and that this knowledge comes from multiple sources interacting to generate new ideas and develop responses to changing conditions (World Bank 2006b).

Reforms directed at agricultural research, education, and services—often considered the center of innovation in the agricultural sector—have begun to make a difference, despite underinvestment in agriculture, especially in agricultural research and development. Even the most tradition-bound agricultural knowledge institutions increasingly consider clients' demands, work with farmer groups, communicate more skillfully, and collaborate with the private sector. Funding mechanisms in the agricultural sector, such as those discussed here, also reflect new thinking about changing sources of innovation.

<sup>1</sup> World Bank (2007a).

In sum, a broad range of service providers (the public sector, private sector, farmer organizations, and others) has become relevant to the process of agricultural innovation. The demand for innovation in agriculture no longer comes from a single source (farmers) but from a variety of sources, such as input suppliers and marketing and processing firms. All of these stakeholders in the agricultural sector require services to apply knowledge and obtain information to address local, national, and global demands, which are expressed through economic chains. The importance of facilitating these services is clear. The challenge is to create sustainable mechanisms that will promote the creation, development, diffusion, application, and overall commercialization of knowledge and technology in a socially inclusive manner.

### THE EMERGENCE OF THE AGRICULTURAL INNOVATION SYSTEMS APPROACH

The agricultural innovation systems<sup>2</sup> approach (AIS) looks at the multiple conditions and relationships that promote innovation. AIS considers the diverse actors involved, their potential interactions, the role of informal practices in promoting

<sup>2</sup> The last 40 years have witnessed substantial debate over the best way for science and technology to foster innovation and contribute to development. An earlier view of scientific research saw it as the main driver of innovation: Research created new knowledge and technology that could be transferred and adapted to different situations. The linear model has been criticized on several grounds. First, it fails to address the role of markets. Second, it is blind to the links between successive stages of innovation and provides no insight as to how they work in practice. Third, the linear model does not account for incremental innovation of the kind occurring daily in enterprises, formal and informal. Finally, the model lacks an orientation toward innovation, both for markets and producers, which is recognized as an important factor in stimulating innovative activity. In the 1970s and 1980s, the innovation systems approach emerged from work in evolutionary economics. The approach offered a new and more flexible way of explaining why the more successful economies possessed what they described as an effective national system of innovation (Freeman 1987; Lundvall 1992). These systems often developed in a network-based setting that fostered interaction and learning among scientific and entrepreneurial actors in the public and private sector in response to changing economic and technical conditions (World Bank 2006b).



**TABLE 1: Investments and interventions that warrant strengthening in many agricultural knowledge systems**

FOCUS INVESTMENT/ACTIVITY	EXAMPLES
Focus on <b>joint action</b> —organization of stakeholders at diverse levels	<ul style="list-style-type: none"> <li>• National innovation committees/council</li> <li>• Industry–agribusiness–(sub-)sector level associations, coordination committees, or boards</li> <li>• Producer organizations</li> </ul>
Enhancing interaction, learning, and <b>knowledge flow</b> within organizations and across organizations and sectors	<ul style="list-style-type: none"> <li>• Information venues such as annual consultation/knowledge-sharing workshops, stakeholder platforms (consultative, planning, integrative)</li> <li>• Virtual platforms, web interface</li> <li>• Sector or industry networks</li> <li>• Knowledge brokers with appropriate skills and tools</li> </ul>
Focus on <b>outcomes</b> —putting ideas to use	<ul style="list-style-type: none"> <li>• Technology transfer units, technology fairs</li> <li>• Pilots of new technologies and practices in partnership</li> <li>• Training for professional skills, market understanding, entrepreneurship, intellectual property rights (IPRs)</li> <li>• Innovation funds and technology incubators</li> <li>• Technology foundations for transfer and commercialization</li> </ul>
<b>Private sector's role</b> as a significant player and innovator—requires capacity and incentives for all actors	<ul style="list-style-type: none"> <li>• Innovation funds, incubators, matchmaking services to bring partners together</li> <li>• Lower transaction costs—organization of actors</li> <li>• Training, internships programs, university-industry curricula</li> <li>• Units for special services and communication</li> </ul>
Parallel or coordinated investments into <b>enabling factors</b>	<ul style="list-style-type: none"> <li>• Infrastructure, market development, financial services, regulatory issues (such as IPRs and standards)</li> </ul>

Source: R. Rajalahti.

innovation, and the agricultural policy context. The AIS approach focuses on an integrated set of interventions that not only support research, extension, education, and the creation of research-extension-farmer linkages but support the *additional types of interventions* needed for innovation to take place. Table 1 lists many of these insights and interventions and provides examples of corresponding investments.

In many countries, innovation funding has heralded a shift away from block grant funding towards the use of innovation funds. Innovation funds aim to support innovators and their links to public institutions, private entrepreneurs, and other actors (such as groups of rural producers). Accordingly, they can be thought of as tools that create platforms for innovative activity by providing incentives for collaboration. Innovation funds allocate grants to targeted applicants based on a system for evaluating the eligibility, relevance, and excellence of their proposals. To date, the two innovation funds most commonly used by the World Bank are competitive research grants and matching grants.<sup>3</sup>

Competitive research funds and grant systems work to deepen reforms in national agricultural research systems by bringing researchers together to work on key problems,

forging institutional linkages, developing research capacities across organizations, and connecting scientists with the users of new technologies. In near-market agricultural research and extension, matching grants often help to promote private investment in the development and dissemination of technology (World Bank 2006a). Matching grants have also been used to enhance the development of markets and enterprises. For example, grants can support investments by private enterprises in training, agricultural services, technology, and innovation. Many countries have also used matching grant schemes to provide incentives for productive partnerships, support linkages between diverse stakeholders, link producers to markets, and address market failures.

### PURPOSE AND CONTENT OF THIS SYNTHESIS REPORT

This report describes the two main innovation fund mechanisms (IFMs), competitive research grants and matching grants, and offers lessons and guidelines based on experience. Although the rationale for using grants is discussed briefly, *the main emphasis is to provide guidance on how to identify challenges related to innovation funds and design and implement successful funding mechanisms.*

Determining when to use an innovation fund and which innovation fund to use is not a precise science. The capacity, stakeholders, goals, and objectives vary in each context.

<sup>3</sup> As documented in the AIS Annotated Database of World Bank Agricultural Innovation Systems Related Projects (Agriculture and Rural Development Department, World Bank, internal use only).

Consequently, the appropriate choice of innovation fund will vary, too. In developing this synthesis, the authors drew heavily on experience with World Bank investments, but the lessons described here are relevant in other contexts.

The report first discusses critical aspects of grant schemes and then focuses on their management. It is structured as follows:

- Grant schemes:
  - Description of competitive research grants and matching grants, with examples.
  - The rationale for using grants and their appropriate uses.
  - Selecting the appropriate grant scheme for the purpose, stakeholders, and context.
  - The challenges of grant schemes, including sustainability, projectization, equity issues, administrative costs, and capacity issues, and suggestions to overcome them.
- The main steps required for successful management of a grant scheme:
  - Building awareness and engaging stakeholders.
  - Institutional arrangements for effective management, including level of decentralization and the roles and responsibilities of implementing bodies and host organizations.
  - Identifying funding priorities, eligible activities and expenditures, and defining acceptable funding and subproject size.
  - Criteria for target group and subprojects and procedures for subproject selection.
  - Main procedures for implementing grant schemes.
  - Monitoring implementation and evaluating the impact of grant schemes.



## Chapter 2: THE MAIN INNOVATION FUNDS

This section describes and provides examples of the two main innovation funds, competitive research and matching grant schemes, that have been used to target agricultural research, services, and enterprise development.

Innovation can be financed through diverse modes of funding and from diverse funding sources, such as innovation funds, public–private partnerships (PPPs), voucher and levy systems, check-offs, royalty schemes, endowment funds, sales of services and consultancies, contracts, patents, renting of land or research facilities, and block grants, often in combination (Tabor, Janssen, and Bruneau 1998). This synthesis focuses on competitive research grants and matching grants, because they are the most prevalent mechanisms used to support AIS to date. Particular attention is given to matching grants because they are increasingly used to stimulate private sector and farmer engagement in activities related to technology generation, technology dissemination and innovation processes overall. *Although matching grants can be used for many purposes, it is important to note that in this report “matching grants” specifically refer to funds used for near-market technology development, enterprise/agribusiness development, and support and services targeting farmer groups.*

Innovation funds aim to support innovators and their links to public institutions, private entrepreneurs, and other actors (such as groups of rural producers). Accordingly, they can be thought of as tools that create platforms for innovative activity by providing incentives for collaboration. The funds reviewed in this synthesis are conceived as short- to medium-term funding modalities. They cannot replace reliable, stable funding for long-term research, private sector development, human resource development, or infrastructure maintenance and development. The objectives of an innovation fund must be connected to broader national or sectoral research and/or innovation strategies if the fund is to serve as an integral component of a sound overall research and/or innovation investment plan.

### GRANTS

Grants frequently promote demand-driven research, adaptive research, and better research-extension-farmer linkages (to make new technologies more relevant and speed their dissemination), as well as demand-driven services, productive partnerships, links to markets, and enterprise development.

Grant schemes often allocate grants to applicants based on a system for evaluating the eligibility, relevance, and excellence of their proposals. The pool of applicants usually includes public and private institutes, research teams, farmer associations, the private sector, civil society, and, to a lesser extent, international actors.

Grant schemes can be competitive or noncompetitive. One of the crucial considerations in choosing between a competitive or noncompetitive grant system is the capacity available. If the capacity of the applicants or those who are expected to support them is thin, a noncompetitive system is likely to be a better choice than a competitive one (see Section 4 for a discussion of capacity).

### COMPETITIVE RESEARCH GRANTS

A subset of grant schemes, *competitive research grants (CRGs)* target research-related activities to mobilize available research capacity, stimulate scientific creativity, and promote efficiencies in the research system. In competitive research grant schemes, research providers are selected on a competitive basis, using calls for proposals and scientific peer review to allocate set funding. CRGs are often linked to the establishment of an agricultural research fund that is open to a variety of potential contributors who may wish to finance specific research or technology transfer activities through the fund. Some CRGs are full grants to selected researchers or their organizations, but often they require a match from the winning researchers/organization.

CRGs frequently complement “core” or “block” grant funding, and funds are allocated annually to specified public research organizations for their core research programs, infrastructure, and human resources. Often CRGs are used in association with reforms of national agricultural research systems that have become unproductive owing to insufficient operating funds, incentives, and flexibility. CRGs aim to enable researchers to work on key problems, to develop institutional linkages and research capacities across organizations, to link scientists with users of new technologies, or to help public research agencies partner with the private sector. Advocates of CRGs contend that their flexibility renders them useful in several ways: They help to build national agricultural research systems by providing tools to focus on priorities; they promote research efficiency; and they provide incentives for institutional reform (Embrapa, IDB, and World Bank 2000). These and other advantages of CRGs are described below (World Bank 2006a; Heemskerk and Wennink 2005; and Echeverria 1998). For a review of how CRGs have been used, see the proceedings of the international workshop on CRGs (Embrapa, IDB, and World Bank 2000).

- *Focus research funding on priorities.* CRGs are a tool for focusing scientists’ efforts on high-priority research topics or new fields of expertise, which may involve changing the focus of research institutions or programs. A competitive research grant scheme can make research agendas more relevant by helping them to respond better to emerging scientific opportunities, breakthroughs, or threats (for example, by emphasizing research that responds to a changing context). A competitive research grant scheme might support these or other activities with a particular purpose through separate “windows” of funding (World Bank 1999c).
- *Improve the relevance and quality of agricultural research, extension, and training.* Research, extension, and training can be reoriented to clients’ priorities through competitive and demand-driven grant mechanisms that include stakeholder participation, particularly the participation of user organizations. The quality of services improves when funds are offered to all potential agricultural service providers based on competitive criteria that include quality considerations and rigorous technical screening. Peer reviews of grant proposals can be useful for building capacity among those competing for funding.
- *Promote research partnerships and leverage research resources.* By promoting partnerships between different sectors and types of organizations, CRGs can foster change within an agricultural innovation system. The involvement of AIS stakeholders other than national

agricultural research systems can mobilize total research and extension capacity more efficiently. Cooperation with universities and other tertiary educational institutions is often a major aim for CRGs, as is collaboration with public or private extension agents at the local level. CRGs can create synergies between organizations endowed with other resources. They can expand the base of research providers and opportunities as well as build on comparative advantages by including nongovernmental organizations (NGOs) and the private sector.

- *CRGs can foster institutional change.* As indicated above, CRGs can contribute to the development of a pluralistic research system that makes better use of human resources and physical infrastructure from a wider range of institutions. These grant schemes can induce institutional change in the national innovation system by separating research policy, funding, and implementation.

Box 1 describes the factors behind the success of the United States Civilian Research and Development Foundation, which is noted for the comprehensiveness of its competitive research grant programs. The Foundation operates more than 1,000 grant assistance projects in the agricultural sciences and other fields, involving more than 25,000 scientists globally.

## MATCHING GRANTS

The rationale and benefits of *matching grants (MGs)* vary. These grants are more commonly used for demand-driven services and development subprojects (such as community-driven projects) or for enhancing private economic activity.<sup>1</sup> For this reason, they often target farmer groups and agribusinesses and are expected to increase their incomes or profitability, improve their competitiveness, facilitate their access to finance, and strengthen collaboration and the development of partnerships. In matching grant schemes, funds from the granting organization are matched with funds from the beneficiary. Most often, the granting organization is some sort of public agency charged with administering the program.

Like CRGs, MGs rely on a transparent process that is based on selection criteria and feasibility review. Most MGs targeting agribusinesses or farmer groups, however, are not competitive—in other words, all subprojects that meet the minimum criteria are endorsed for further development and funding. Box 2 presents an example of how a matching

<sup>1</sup> Projects funded by an IFM are described as “subprojects,” because in many cases the main “project” is the IFM itself.

**BOX 1: The Civilian Research and Development Foundation: Using competitive research grants for international scientific collaboration in agriculture and beyond**

A nonprofit organization authorized by the US Congress and established in 1995 by the National Science Foundation, the Civilian Research and Development Foundation (CRDF) is a public–private partnership that promotes international scientific and technical collaboration through grants, technical resources, and training. The Cooperative Grants Program, the first initiative and core of the CRDF, provides up to two years of support for joint US–Eurasian research teams in all areas of basic and applied research in the natural sciences, including agriculture. Focusing on countries of the Former Soviet Union and the United States, the grant program presents opportunities for US and Eurasian scientists and engineers to collaborate in ways that strengthen the quality of research, provide opportunities for junior researchers and female scientists, support the redirection of former weapons scientists to civilian research, and establish the background of knowledge and technology on which successful industry and business partnerships may be built. The grant program benefits from the strong scientific and technical capacity in the countries where it works and provides an avenue for pursuing new research. In its first decade of operation, CRDF made more than 3,000 awards and implemented 1,000 grant assistance projects, totaling almost US\$ 240 million and involving over 25,000 scientists.

Cooperative research grants average US\$ 60,000 and are awarded on a competitive basis. Research proposals are evaluated rigorously through a merit review process that includes external peer review and assignment to disciplinary review. Grants to Eurasian teams include individual financial support; equipment, supplies, and travel support; and institutional support to the grantee institution. Expenses of the US team include travel, supplies, and graduate student stipends. CRDF gives special consideration to proposals that include full-time participation of former weapons scientists or engineers.

Source: [www.crdf.org](http://www.crdf.org).

**BOX 2: Matching grants to support agribusiness and smallholder commercialization: Zambia’s Agricultural Development and Support Program**

Recognizing the private sector’s importance in developing the agricultural sector in ways that reduce poverty, the Government of Zambia has endorsed a smallholder commercialization strategy that expands contract farming and out-grower schemes. The government is furthering this strategy through its Agricultural and Development Support Program (ADSP). With funding from the World Bank, the ADSP aims to develop the commercial smallholder sector by improving value chain links between growers and processing and marketing organizations that focus on high-quality, high-value products.

The ADSP’s Market and Innovation Facility provides MGs to eligible agribusinesses interacting with smallholders or business-oriented farmer groups and cooperatives. Initially the grants supported extension and technology development, studies and pilots on market development, and capacity building for producer associations. Currently, grants support a wider range of activities, with an emphasis on technical assistance: (i) technology, training, capacity building, and agricultural services in production, processing, and marketing for value chain development; (ii) information, research, and studies associated with value chain development; and (iii) services and capacity building in business management and development, product promotion, and the acquisition of technical and market information. The scope of the grant program was widened to match the business development needs of the sectors.

The Market and Innovation Facility is coordinated and managed by an independent, outsourced secretariat. Independent technical reviewers assess the technical and financial feasibility of subprojects. A multistakeholder Sub-Committee of the National Project Steering Committee—involving representatives of the Bankers Association of Zambia, the agribusiness sector, the Ministry of Agriculture and Cooperatives, and a member of the secretariat—makes the final funding decisions.

Source: World Bank (2007b; 2009c).

grant scheme in Zambia promotes innovation in agribusiness development.

Although MGs have been used to finance research projects, they are increasingly targeted at promoting near-market technology generation, technology transfer and adoption, and overall innovation, often emphasizing the inclusion of multiple

stakeholders. By bringing further attention to demand and use from the very beginning, basically by attracting users of technologies and knowledge in partnerships, MGs may be more effective than CRGs at enhancing the use of technology and knowledge by farmers and other entrepreneurs. In Turkey, a matching grant program helped to promote scientific and technical collaboration and technology development (Box 3).<sup>2</sup>

**BOX 3: Getting the most from matching grant schemes: The Turkey Technology Development Project**

Perhaps the most notable legacy of the Turkey Technology Development Project (a US\$ 100-million project approved in 1991) was the construction of the Technology Development Foundation of Turkey (TTGV). The Foundation provided funds for “Challenge Programs” to stimulate applied research and technology development by industry through a mix of MGs, income notes, and conditional loans. TTGV stimulated private investment in the development of industrial technology by providing seed capital (matching funds) for market-driven research and development (R&D) subprojects in a host of critical industrial sectors, including agro-industry.

In 1992, TTGV began to co-finance R&D subprojects in the private sector with the assistance of the World Bank. Proposals were solicited twice yearly. Of 273 proposals submitted by April 1998, 103 (37.7 percent) had been approved for funding. The funded projects elicited US\$ 99 million in funding—US\$ 44 million from TTGV and the remainder from private matching funds. The majority of the approved subprojects (84) were for technology development; 67 of these subprojects had concluded by the time the project’s Implementation Completion Report was submitted in 1998. The Implementation Completion Report noted the project’s success in establishing TTGV, supporting 103 R&D subprojects and studies, and (more broadly) promoting a “technology culture.” More than 50 percent private sector participation was elicited through the MGs, and a large majority of subprojects funded through those grants succeeded technically as well as commercially.

*Source: World Bank (1999e, 2006e).*

<sup>2</sup> Another example of using MGs to stimulate technology transfer is China’s Agriculture Technology Transfer Project, described in Box 7.

## Chapter 3: APPROPRIATE USES OF GRANTS

This section discusses when to use grants, why to use grants, and which grant scheme is an appropriate choice for a given situation. It provides information on factors that affect the selection process, including the resources available—human, institutional, sectoral, and financial—the overall objective and purpose of the funding, the capacity issues, as well as the overall contextual issues. A more detailed discussion of how capacity issues can influence the selection of a funding mechanism appears in Section 4.

### WHEN SHOULD GRANTS BE USED?

Grants are used to promote diverse activities, such as demand-driven research, adaptive research, research-extension-farmer linkages that improve the relevance and dissemination of new technologies, demand-driven services, productive partnerships, and links to markets. Thus the *rationale for providing grants* is often associated with the public good nature of the investment; the promotion of innovation, learning, or partnerships; or the reversal of market failures. MGs for enterprise development often take the form of a one-time subsidy for a concrete additional investment activity (adapted from van der Meer and Noordam 2004).

Grants are generally considered justifiable, although not without further scrutiny, for particular innovation-related activities (authors; van der Meer and Noordam 2004; Donovan 2006):

- Skills training, technology development, innovation, technical assistance, partnerships, interactive learning processes, and access to information (with an emphasis on know-how over equipment).
- Starting a business or facilitating private investment in local infrastructure or networks.
- Subproject preparation and participation in trade fairs.
- Lumpy capital investments with externalities.
- Investments of a public good nature (for example, investments that are expected to confer environmental and social benefits).
- Collective action for mutual benefit, with spillover effects.

Market failure occurs when the market for a good or service fails to include all economic costs and benefits in the price of that good or service. Since the price of goods or services does not reflect all of the costs and benefits, the use of these prices results in the misallocation of resources and suboptimal economic outcomes. Market failures generally occur for the following reasons: (i) abuse of market power (for example, when a company has a monopoly); (ii) failure to account for externalities; (iii) provision of public goods (for example, knowledge which when released cannot be limited to certain users); (iv) asymmetric information (one party to a transaction has more information on the real value of the good or service than the other party); (v) uneven initial wealth distribution; and (vi) factor immobility (World Bank 2005b). Annex 1 provides further details on use of public funds to address market failures.

Views differ as to when to address *market failures*. Factors that hamper private investment in innovation include (van der Meer and Noordam 2004, Donovan 2006):

- **The lack of public goods such as infrastructure, legislation, or information.** In this case, the appropriate solution is to invest in these public goods. It will not help to give grants to reduce the high costs of production caused by their absence.
- **The lack of economies of scale.** No single enterprise is large enough to make the lumpy investments needed to overcome this problem. In this case, grants do not automatically help, although it may help for governments to support collective action for making lumpy investments.
- **High risk,** arising (for example) from the long gestation periods for certain investments, political instability, lack of transparency in government policy, or natural disasters. Private insurance schemes can handle some risks, and governments should first deal with any deficiencies in their own policies and performance before considering grants as a solution.
- **High costs of protecting property rights.** In general, governments should establish and protect property



rights and provide subsidies (grants) only where the costs of enforcing those rights are too high.

- **Lack of commercialization of the economy.** In such an economy, the development of financial services is especially slow. Grants should not be used in these cases for subsidizing credit, but they may be justified for training, developing management information systems, or helping to expand rural outreach of credit providers and install new technologies.
- **Lack of technology, information, or trained staff.** Grants may be useful to solve these problems.

Grants are instruments of government policy. For this reason, “their use should be based on sound theoretical and empirical analysis and their implementation well-coordinated with other policy instruments,” and government intervention is warranted in circumstances in which the benefits are bigger than the cost of interventions (van der Meer and Noordam 2004). From these brief examples, it should be clear that the rationale for introducing a grant scheme has many dimensions (Box 4) that must be considered carefully in each context.

### SELECTING AN APPROPRIATE GRANT SCHEME

As discussed in Section 2, when national agricultural research systems are undergoing reform, CRGs often are used to enable scientists to focus on key problems, develop institutional linkages and research capacities across organizations, link scientists with users of new technologies, or partner with the private sector. MGs, on the other hand, are more commonly used for near-market technology generation and transfer, demand-driven services and development sub-projects, or enhancing private economic activity. In practice, however, the distinction between CRGs and MGs for enterprise/development is becoming increasingly blurred.

Research system reforms have shifted toward promoting greater participation of private sector actors and farmer groups, an activity that is more often associated with MGs than with the CRGs that often accompany reform initiatives (Box 9). MGs for technology generation and transfer can be particularly useful in bringing attention to demand and adoption of innovation and participation of private stakeholders (see the examples from Turkey and China, Boxes 3 and 7).

#### BOX 4: Questions to ask in determining whether to use a competitive grant scheme

In deciding whether to use a competitive grant scheme to support agricultural activities, it helps to answer a series of pointed questions about the context, objectives, and expected payoffs of employing this type of IFM. The questions below elucidate whether an observed market failure can be addressed with a competitive grant scheme and help to clarify the relative costs and benefits of doing so:

1. Is there indeed a market failure? For what goods and services?
2. Would a grant scheme deal most effectively with the underlying problem of the market failure? Does it compensate for, reduce, or eliminate a market failure that discourages private investment and sales?
3. Do the benefits of intervention outweigh the costs? The costs of implementing a grant scheme are often high for the public and private sector, and the benefits are uncertain. For grants that support the delivery of social services, a cost-effectiveness assessment is vital. What are the likely dynamic rewards of solving the purported market failures? Would the proposed grant scheme have unintended and perhaps undesirable side-effects?
4. What is the best design of the grant scheme? Should it intervene on the demand side or on the supply side? Different modes of implementation may greatly affect the effectiveness and efficiency of grant schemes, depending upon the particular market situation and the specific targets that are pursued.
5. What criteria determine who is eligible to receive a grant? For what activities and for what dollar amount should the grants be devised? Do all eligible parties have fair and equal access to the grants? Or, in fact, do the grants support only some social strata? Equity requirements may be costly to meet.
6. Is the capacity to implement the scheme sufficient? Effective and efficient implementation of grant schemes should not be taken for granted. Government and private sector capability for implementation and governance may be poor and expatriate expertise too expensive. Does the expected future use of grant schemes warrant relevant capacity building?
7. Are transparency and accountability sufficiently planned?

Source: Adapted from van der Meer and Noordam (2004).

**TABLE 2:** Key issues to consider in determining whether a competitive research grant, matching grant, or block grant/core funding is the most appropriate choice

ISSUE	COMPETITIVE RESEARCH GRANTS	MATCHING GRANTS	BLOCK GRANTS OR CORE FUNDING
<b>Primary objectives and activities supported</b>	Strategic research, local/zonal adaptive research (and extension)	Demand-driven, diverse subprojects, technology packages for smallholders, agribusiness activities, applied research, pre-extension adaptive R&D activities, connecting innovation systems actors to strengthen markets and supply chains, technology promotion, and productive partnership creation	Long-term strategic research and institution building and strengthening
<b>Key stakeholder</b>	Universities, researchers, research teams, public research organizations, international research organizations, increasingly also private sector	Farmers/farmer organizations, market organizations, parastatal entities, private sector, NGOs, research institutes, public research organizations, extension services, other service providers	Parastatal organizations, public research organizations, universities, government agencies
<b>Ownership</b>	Some ownership by fund contributors (less by clients) over outputs; varies with research approach, feedback mechanisms, and representative selection procedures	High ownership due to cost sharing, which increases accountability and ownership	Funds are accounted for at national level and hence local stakeholder ownership is low
<b>Capacity requirements</b>	Significant capacity required to compete and partner as well as to administer, monitor, and evaluate a competitive grant scheme	The implementing agency requires capacity to administer and negotiate with public and private partners and to network, monitor, and evaluate beneficiaries, among other activities; beneficiaries often require capacity in participatory technology development methods, partnering, and contracting, among other activities; third-party service providers often need to develop new professional skills	Little additional capacity required
<b>Willingness to contribute</b>	Limited, due to ownership issues	High level, with interested clients	Cost-sharing limited to in-kind resources
<b>Incentives for proponents</b>	Depends upon the competitive grant scheme guidelines	Often oriented toward nonresearch activities; institutional incentives have to be in place so that researchers are allowed to obtain funds	Low
<b>Overhead and transaction costs</b>	Significant, due to management and monitoring and evaluation	Varies; can be significant depending upon the degree of decentralization of the program and the overall purpose and actors involved	Low or nonexistent

Source: Authors; Heemskerk and Wennink (2005).

A synthesis of the findings from World Bank and other experience with CRGs, MGs, and block grant funding provides a framework for comparing these three modes of funding innovation. Table 2 highlights the contrasts between these approaches with respect to key issues that are discussed in the remainder of this section.

### The Objective as a Guiding Factor

The central objective of a competitive research grant scheme is usually to promote high-quality, relevant research. A number of complementary objectives, such as research dissemination, research priority setting, the promotion of a research culture, and the training of highly skilled scientific and technical human resources through exposure to research, correspond to the rationale for choosing CRGs.

The literature indicates that CRGs are a good choice in an increasing number of situations. First-generation CRGs were used to improve efficiency by fostering competition between research and development (R&D) proposals while stimulating collaboration within the national agricultural research system, whereas second-generation CRGs emphasize the importance of the demand side, requiring clearer roles for and better participation from other stakeholders within the agricultural innovation system. As a result, CRGs are now considered a good choice not only for basic research but also for adaptive research and dissemination activities, either at the local level or within a commodity context (Heemskerk and Wennink 2005). Box 5 summarizes the objectives of Uganda's Zonal Competitive Research and Development Fund.

**BOX 5: Objectives of Uganda's Zonal Competitive Research and Development Fund**

- Strengthen the national agricultural research system through better involvement of different stakeholders focusing on zonal issues.
- Promote research partnership and collaboration between national and international, private and public institutions to maximize complementarities among different institutions and disciplines in the conduct and management of agricultural research.
- Make research more demand-driven by involving clients at the grassroots in setting priorities and funding, executing, and evaluating research.
- Improve research quality and innovation by selecting subprojects based on a rigorous technical review of scientific merit, sound work plans, and expected results to ensure relevance to different agro-ecological zones.
- Increase total funding for research by mobilizing funds from farmers, industry, and other sources.
- Strengthen the contribution of universities in addressing agricultural problems of zonal importance by facilitating the participation of faculty members and post-graduate students in demand-driven agricultural research projects.
- Support the introduction of modern technologies and innovative ideas in the zonal research system.

Source: Government of Uganda (2006).

**BOX 6: When to consider a regional competitive grant scheme**

Interest in creating (or re-creating) a more regionalized research system in sub-Saharan Africa is not new. Regional research, whether conducted on a competitive grants basis or via some sort of formula funding, has long been promoted as one means to take advantage of technology spillovers, to facilitate borrowing, and to deal with problems caused by the small size of national innovation fund mechanisms. At the same time, regional programs can also help to develop scientific skills of national researchers by facilitating exchanges and interaction among scientists with both national and international programs. Latin America's FONTAGRO fund may offer useful lessons for establishing regional funds. This fund was designed to encourage and finance strategic research on a medium- to long-term basis and to produce technologies with the characteristics of regional public goods. The fund seeks to promote the competitiveness of the rural sector in ways that contribute to poverty reduction and the sustainable management of the resource base. Examples include adding a permanent flow of new resources to regional agricultural research; accelerating applied research at the national level by supplying public goods-type technologies of cross-country relevance; and promoting research cooperation and collaboration among organizations at national and regional levels and between Latin American/Caribbean and international agricultural research organizations.

The following list identifies a number of benefits associated with a regional competitive grant scheme. However, consideration should be given to potential organizational instability caused by long-term regional funding arrangements. Regional competitive grant schemes can:

- Strengthen the national agricultural research systems and their scientific research organizations.
- Increase R&D cooperation among national and international, private and public institutions.
- Contribute to globalization of research findings and expertise.
- Increase the linkages between stronger and weaker R&D stakeholders to allow for capacity building.
- Experiment with a new flexible, participatory, and transparent funding scheme that targets R&D projects.
- Complement core programs with competitive grant schemes.
- Promote cost-effectiveness and efficiency of partnership research systems.

Source: Extracted from Bingen and Brinkerhoff (2000) and from "Competitive Grant Scheme for Agricultural Research and Development in Sub-Saharan Africa: Scheme for SROs and Their Organs" (no author, 2002).

For some challenges, such as the need to address regional as well as national research priorities, regional partnerships may be the answer. The rationale for using CRGs at the regional level may depend on additional considerations, however. Box 6 highlights six reasons to select a regional competitive research grant scheme to promote innovative activity (identified by a 2002 donor meeting on competitive grant schemes for agricultural R&D in sub-Saharan Africa).

When the objective is to stimulate private investment in knowledge, equipment, training, technology, and

innovation, *MGs may be better than CRGs*. MGs complement funding by an investor for purposes ineligible for other forms of support. MGs are often an appropriate choice to fund services, ranging from the provision of information to funding the purchase of various business services, stimulating the decentralization of innovative activities, promoting new institutional arrangements, and enhancing the participatory nature of innovation in the agricultural sector. By bringing further attention to demand and use from the very beginning, basically by attracting users of technologies and knowledge in

**TABLE 3:** Purposes of matching grant schemes in World Bank projects in the agricultural sector

PURPOSE	EXAMPLE OF PROJECT ACTIVITIES*	PROJECT REFERENCE
<b>Promote technologies, technology transfer, and new institutional arrangements</b>	Funds for tripartite joint ventures for testing research-investor-farmer partnerships; competitively allocated innovation fund to complement joint ventures, targeting farmer organizations.	China Agricultural Technology Transfer
<b>Implement productive partnerships</b>	Seed capital provided for participating small producer organizations entering into partnerships with various technology and service providers.	Colombia Productive Partnerships Support
	Grants for productive partnerships between existing/new agribusinesses and farmer associations.	Vietnam Agriculture Competitiveness
<b>Strengthen the extension system</b>	Cost-sharing through payment for services (in cash or kind) implemented through existing Agricultural Support Centers and their village agents.	Armenia Rural Enterprise and Small-Scale Commercial Agriculture Development
<b>Adapt strategic and applied research</b>	Grants provided for strategic and applied research for production processing and marketing and for adaptive research investment associated with technology transfer.	Colombia Agriculture Technology Development
	Grants for research and extension—agricultural technology fund, extension, adaptive research; development grants to producer associations and service providers.	Peru Agricultural Research and Extension
<b>Build farmer-based organizations, ensure participatory processes</b>	Funds can be used to establish farmer-based organizations, devise participatory approaches, rehabilitate old facilities, integrate farmer organizations, and build capacity through training programs.	Ghana Agricultural Services Subsector Investment
<b>Support productivity enhancement</b>	Funds may be used for private minor irrigation, farm mechanization, and fish production. Funding in accordance with agreed cost-sharing formula.	India Assam Agricultural Competitiveness
<b>Develop institutional capacity</b>	Develop new institutions and strengthen existing ones, such as the Directorate for Agricultural Technology, Council for Agricultural Technology.	Nicaragua Technology and Rural Technical Education
<b>Develop linkages to markets</b>	Develop support facility for technical assistance for groups of small- and medium-scale farmers by enhancing marketing capacities of agricultural producers	Nicaragua Technology and Rural Technical Education
<b>Consolidate supply chains</b>	Support small producers/businesses creating commercial partnerships; offer technical assistance on new product lines, packing, and logistics innovations; fund innovation and quality management in export-oriented horticulture.	Senegal Agricultural Markets and Agribusiness Development
<b>Provide agricultural advisory services</b>	Grants are provided through farmers' forums and local governments to use in funding contracts for advisory services, including program orientation and group mobilization, participatory planning, farm advisory services, information and communications technology, and training.	Uganda National Agricultural Advisory Services
	Foster agribusiness competitiveness through increasing access to local and foreign expertise and services, including private support services (marketing, management, information, and technical experts).	Benin Private Sector (PS) Development, Madagascar PS and Capacity Building

\* In addition, numerous projects use MGs for demand-driven, small-scale subprojects on, for example, infrastructure (water supply, roads); social investments (school rehabilitation); and productive investments (processing, irrigation).

Source: Authors, World Bank Project Appraisal Documents, World Bank (2008a), and van der Meer and Noordam (2004).

## **BOX 7: Choosing the appropriate innovation fund mechanism for the context: The China Agriculture Technology Transfer Project**

### **Strategic concerns in China's agriculture**

Agriculture in China has moved from production deficits to surpluses in most commodities. Efforts to remain self-sufficient in food production and keep consumer prices low have given way to efforts directed at raising rural incomes, conserving the natural resource base, and responding to consumers' changing preferences. Farmers lack the new technologies and knowledge-intensive practices required for these efforts to succeed, however. The national extension system is unsuited for reaching large numbers of farmers or meeting individual demands. Farmers struggle to learn about and respond to market signals, especially for high-value crops. The government-based research and extension system responds slowly to new challenges and opportunities.

### **The China Agriculture Technology Transfer Project**

This project responds to strategic concerns in China's agriculture by developing innovative models to transfer and use agricultural technology. It enables poor farmers to adopt new, value-adding technologies and generate additional income by producing for high-value markets. Public investments in agriculture are leveraged with complementary private investments from agribusiness. Aside from developing new models to transfer technology, the project fosters better public-private partnerships in agriculture.

The project has two components. Under the first component, large technology transfer markets are being built in or near the Yangling Development Zone to exhibit and/or market agricultural technologies and information. The project's second component promotes commercially attractive technologies and new institutional arrangements:

- *Competitive MGs* provide partial funding to develop and test successful tripartite investment models in which researcher-investor-farmer partnerships focus on increasing farm income.
- *Grants* support researcher-company interactions to develop profitable public good technologies for sale.
- *Funding* helps farmer organizations develop strong grant proposals.

The selection criteria for grants include the type of model proposed, innovative technology, public good element, economic and financial viability, additionality of the investment (the grant will not drive out other funding), particularly strong company, and compliance with strategic policy directions. The size of grant varies. Subprojects to develop pure public goods receive a grant of 80 percent; subprojects with a partial public good nature and strong commercial orientation receive 50 percent; and subprojects for commercial production with a public good element receive 20 percent.

The project also finances technology transfer to farmers lacking capital, information, or the decision-making power to adopt technologies on their own. Through *block grants*, the project supports public programs to help the private sector commercialize innovative technologies. Public funds are also used to develop public good technologies—technologies that do not appeal to the private sector on purely commercial grounds. An Innovation Support Fund supports second-generation proposals.

### **Project innovations**

The *first innovation* of this project is that, unlike traditional public sector support projects, it combines public funding for research, extension, training, and institution building with private investment. The government funds the development and dissemination of public goods, but these activities are implemented by the private sector to foster the integration of public and private investments. For example, if an enterprise invests in a new juice factory, the project provides a grant for farmers to learn to use new varieties and technologies for fruit production, an activity that the enterprise would not otherwise undertake. The government contracts the enterprise to conduct extension and training. Another example is to grant funds to a private irrigation equipment manufacturer to develop and promote water-saving technologies. The grant enables the manufacturer to invest in technologies that are too expensive for it to develop and market on its own.

The *second innovation* of this project is to focus on technologies that increase smallholders' incomes. Often public investments in agricultural research raise smallholders' productivity but not their incomes.

The *third innovation* is to develop and fund institutions such as farmer associations as part of the "technology package," provided they improve the dissemination of new technologies.

partnerships, MGs may be more efficient at putting the knowledge to use.

MGs can be divided roughly into three groups: those that promote (i) pluralism in applied technology development, transfer, and adoption, particularly among research providers and the private sector; (ii) overall agribusiness sector development particularly through productive partnerships and technical assistance and services; and (iii) the productive activities of farmer groups, value-added activities, and small-scale infrastructure, often associated with community-driven development approaches.

The purpose and capacity define the governance and management and capacity-building activities. Table 3 indicates the purposes and corresponding activities for which the World Bank uses matching grant schemes. An example from Zambia's ASDP was given in Box 2.

### **Contextual Issues as a Guiding Factor**

The factors that influence the choice of funding mechanism operate in a particular context. Funding mechanisms, be they block funding, MGs, or CRGs, should not be construed as either/or instruments to trigger innovation. For example, CRGs are grants for the main recipients, who are often researchers or universities. Yet owing to the general scarcity

of resources, the need to diversify the resource base (for example, by attracting financial and human resources from the private sector), the need for buy-in from other actors, and enhanced attention to near-market needs and adoption, MGs have received more attention as an option to fund research.

It is important that policy makers and donors identify an appropriate mix of competitive and institutional funding for optimal performance. For example, some of the World Bank's agricultural projects<sup>1</sup> have combined the use of loans and matching grant schemes to fund innovative activities for enterprises. A grant for technical assistance may also be used as leverage to obtain a loan (Phillips 2000), or it can indirectly support access to formal finance (for example, by encouraging the development of better business plans). In addition, programs can facilitate links to financial services or make deliberate efforts to provide credit guarantees.

The China Agricultural Technology Transfer Project (Box 7) illustrates how a project can respond effectively to a context characterized by new challenges, actors, and opportunities (such as a thriving agribusiness sector). It is an instructive example of how to select a mode of funding that builds upon past lessons with public sector support and CRGs. The result is a project that combines block grants and MGs instead of CRGs.

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1 Cameroon Agricultural Competitiveness Project, Vietnam Agriculture Competitiveness Project, Ghana Community-Based Rural Development Project.





## Chapter 4: CHALLENGES OF GRANT SCHEMES AND SUGGESTIONS TO OVERCOME THEM

This section highlights many common challenges associated with grant programs and presents recommendations for overcoming them. Grant programs, especially competitive programs, are often associated with a lack of sustainability, “projectization” (which occurs when a research program degenerates into a series of ad hoc projects that serve no unifying strategy), difficulties in ensuring equal access to grant schemes, high administrative costs, and—most important—limited capacity. Challenges with equity, administrative costs, and capacity are often interrelated.

### SUSTAINABILITY AND PROJECTIZATION

Sustainability issues related to competitive grants may be viewed from different perspectives: institutional sustainability and funding sustainability. Institutional sustainability is a prerequisite for financial sustainability. Locating a grant scheme within an institutional structure that can withstand the challenges associated with its implementation is essential. A continuous effort over several years is required to build a sustainable institutional home that can seek diversified and stable funding sources. The selection of a host organization is discussed in Section 6.

### Financial Sustainability

Often a grant scheme is introduced to diversify the sources of funding for research and other activities related to agricultural innovation by eliciting counterpart funding from various AIS actors. Sustainable funding requires a mix of mechanisms for different purposes at different times. Competitive grant schemes—either for research or other activities—may introduce instability into the funding structure of institutions that compete for grants. Unless mechanisms to fund innovation are coupled with core funding of infrastructure, human resource development, salaries, and long term-research requiring continuity of funding (such as crop breeding), they may prove inadequate to elicit policy reform or sustainable transformation within the sector (Saint 2006; World Bank 2006b). Box 8 illustrates the challenges arising for universities that use CRGs.

Thus CRGs can be an effective component of a portfolio of funding mechanisms, but they must complement rather than substitute for long-term public funding for strategic research through block grants. Experience with advanced research systems suggests that when institutional block grants fall below 40–50 percent of the funding portfolio, the viability of long-term research is compromised (Embrapa, IDB, and World Bank 2000). To be able to compete, research institutions must have a minimum budget and a critical mass of staff. All institutions require some proportion of core funding in their budgets to address human resource costs and maintain and improve infrastructure. Competitive grants usually fund only operating costs, and the subprojects they finance last only two to three years (World Bank 2009a). These points were borne out in a recent evaluation of four competitive research grant programs in Latin America (World Bank 2009a) (Annex 2).

The institutional and financial sustainability of the program after the end of donor funding is another issue. In Romania’s Modernizing Agricultural Knowledge and Information Systems Project, the Ministry of Agriculture (MAFRD) confirmed that the project’s competitive research grant scheme would be mainstreamed within the ministry and that the ministry would channel a significant portion of its own sectoral research funds (about € 5.5 million equivalent) through the competitive research grant scheme after the project ended (World Bank 2004b).

### Projectization

The risk of projectization and the accompanying failure to build capacity are acute in grant schemes, especially in competitive grant schemes, which do not require the counterpart funding implicit in MGs and PPPs. Competitive grants may be used as stopgap measures to gain resources that cannot be obtained through the national research system or financial services. This inappropriate use of competitive grants yields a set of ad hoc research projects that contribute to no overriding strategy. Competitive grants can also stifle innovation if they are awarded only to established researchers.



**BOX 8: Competitive research grant schemes and the sustainability of university research**

Universities, with their role in human resource development, research production, and knowledge dissemination, are central to the functioning of AIS. Studies have found that since the 1950s universities have succeeded in expanding training capacities, but they have been less successful in achieving sustainability and in linking with national development goals.

A 1999 World Bank analysis of agricultural universities examined how these institutions might be better integrated into the AIS of which they form a part. The study found that programs with this goal could: (i) evaluate university capacities, (ii) establish mandates for university research and extension, (iii) develop university research capacities, (iv) develop capacity for supporting extension programs, and (v) focus on system-wide issues during project preparation and supervision. The analysis found that “government should remain the main financier” of research-oriented activities. Excessive reliance on competitive grant programs for research may not be advisable, however:

- Though cost-effective, competitive grant funding can undermine university research capacity by drawing matching funds and overhead from other uses, thereby distorting university agendas.
- Attention must be given to assuring that university staff can compete for the funding that is made available. Some universities bar their employees from engaging in research contracts with other institutions, including donor or private agencies.
- Competitive grant programs almost always fail to cover overhead costs. This means that university-based recipients of those grants suffer a net loss to their research programs if overhead is not paid from another source. Universities are advised to be selective in accepting outside research funding as their sole source of research support.
- University staff unfamiliar with preparing grant proposals may have a difficult time competing for funds. Many successful competitive grant schemes include a grant proposal writing workshop or seminar to help potential grant recipients improve their capacity for writing grant-winning proposals.

The World Bank analysis further noted that sustainable university research programs include support for developing research capacity—for example, support to train research staff to the doctoral level, establish electronic communication facilities, build laboratories, procure equipment, and acquire land or other facilities. Sustainable programs also supported strategic research on particular problems, such as national commodity improvement or natural resource management, and ad hoc research activities such as faculty or student thesis projects.

*Source: World Bank (1999d).*

**EQUITY CHALLENGES**

Inequitable access poses a particular challenge for grant schemes, particularly competitive ones. Grant schemes may be inaccessible for administrative reasons (for example, access could depend on paying a fee or making some other kind of investment). Some groups may lack the capacity to participate (for example, they may not be able to develop good proposals). Grant schemes can also be inaccessible because of limitations inherent in the funding, which could favor particular themes or areas and unwittingly discriminate against certain groups of applicants. Such disadvantages have the potential to disrupt or even ruin grant schemes. Given the differences in ability to respond to the requirements of grant schemes, they may end up catering for “professional”

applicants that are well aware of the schemes and capable of developing attractive proposals. The study of four CRGs from Latin America found, for example, that some schemes were viewed as less responsive to small- and medium-scale producers, that some farmers were integrated to a lesser extent than others in value chains, and that outreach to the poorest had been limited (World Bank 2009a; Annex 2).

Different approaches can be used to level the playing field for competitors. Many grant schemes train “disadvantaged” applicants before or after accepting a concept note for a potential subproject. Some schemes direct weaker applicants to service providers who can strengthen their efforts (see the discussion of capacity that follows), or they provide support

through dedicated grant helpdesks/facilities. Other schemes limit the number of times that an applicant can apply for funds. Still others limit the maximum grant amount per application or per beneficiary (for example, a cap per farmer), limit the amount of funding allowed to third-party service providers, or determine the maximum percentage of a proposal that will be covered by the grant (Authors; Saint 2006). Some grant schemes also set clear upper and lower limits on the size of the companies that are allowed to apply for funding. This strategy prevents a flood of applications and helps to exclude applicants that can acquire funding from other sources.

Some grant schemes, such as those targeting enterprises, benefit from explicit attention to development criteria (for example, benefits to smallholders, outgrower scheme participants, or women farmers). The inclusion of such criteria forces the enterprise applicants to design their subprojects from such a perspective.

### **ADMINISTRATIVE COSTS**

Significant costs can be associated with setting up and administering a grant program. Many programs set overhead costs at 10 percent of the budget, but one analysis found overhead costs of competitive grant schemes to be 25 percent or more in some cases (World Bank 1999c). The cost-effectiveness of procedures to keep overhead low must be balanced against the need to ensure accountability and transparency of operations.

Comparing grant programs is not a straightforward task, as the contexts in which they operate vary greatly. The level of administrative costs depends on several factors, including the charges associated with or imposed by the agency administering the grant scheme. High costs are often a result of weak capacity in the administering agency and among the applicants. Costs tend to be higher if no appropriate agency exists to take on the task of administering grants. The time required to establish an administrative unit and train administrators and other stakeholders may be significant, often lasting from one to one-and-a-half years. Similarly, if the grant facility conducts capacity-building activities, such as training and matchmaking services, the administrative costs increase.

Several actions can help to minimize overhead costs: (i) improve targeting to avoid processing ineligible applications; (ii) streamline application and approval procedures (including use of ICT) to avoid delays in processing subprojects; and (iii) increase the size of subprojects.

Significant costs (time, resources) may also be associated with the application and proposal development. These costs

usually are borne by the applicant and may sometimes prevent prospective applicants from participating in the grant scheme, as illustrated in Section 6 (Box 13).

### **CAPACITY CHALLENGES**

Weak capacity is one of the greatest limitations on the success of a grant scheme. The level of capacity will influence the choice of grant scheme, the choice of governance and management structure (discussed in Section 6), and a multitude of activities required to make the scheme function.

#### **Absorptive Capacity**

Absorptive capacity is important, because a grant scheme's results and sustainability depend greatly on the presence of a large pool of skilled talent among grant applicants. If this absorptive capacity is lacking, a grant scheme will have fewer participants, and those participants will use the funds less effectively. The capacity of the support service providers and grant administrator has significant implications for success as well.

The level of skill required for a grant scheme to succeed varies from case to case and depends particularly on the purpose of the scheme. Demand-driven matching grant schemes directed primarily at groups of smallholders may function well even if applicants have little capacity and are supported by relatively few capable service providers. Even so, the evidence indicates that it is advisable to build capacity among smallholders before or during the implementation of the grant scheme.<sup>1</sup>

In similar conditions of weak capacity, competitive grant schemes for research and productive partnerships might fail, because they entail greater investments and more complex partnerships. A crude rule applies: The size of the competitive portion of innovation funding is directly related to the capacity of the institutions within an innovation system to compete for and absorb that funding effectively. In weak and fragmented innovation systems, for example, competitive schemes may not necessarily improve scientific and technical capacity. If the goal of the funding is to develop research capacity rather than simply to mobilize it, institutional block/core funding is preferable to competitive research funding. A combination of core funding and CRGs is a realistic approach in many contexts.

<sup>1</sup> For example, two major findings from the Colombia Productive Partnerships Support Project were the need to pay greater attention to building sufficient capacity among producer organizations and to building partnerships between those organizations and the private sector (World Bank 2009b).

### Capacity Required for Competitive Research Grants

Compared to other funding mechanisms, CRGs are highly dependent upon the presence of capable researchers equipped to take on high-quality agricultural research as well as individuals and/or institutions versed in managing research grant systems. Other individuals are needed to facilitate stakeholder dialogue and priority setting, establish selection committees, issue calls for proposals, initiate selection and evaluation procedures, monitor and evaluate progress, and so on. The entity that administers the grants must have links to world-class scientists (either locally or internationally) who do not compete for the funds but who can serve on a technical committee of peer reviewers to identify the best proposals for funding.

Unfortunately, no hard numbers are available to define how many scientists or research institutions constitute “sufficient

capacity” in a given context. What constitutes sufficient capacity in one country might be quite different from what is considered adequate in another. However, CRGs are usually not considered a viable option for small countries that tend to have a limited number of eligible competitors. When the World Bank developed its first science and technology project based on CRGs in Uganda, critics argued that Uganda’s innovation system was not strong enough to win grants through a competitive process. Two years into its implementation, the Uganda Millennium Science Initiative is on its second round of competitive funding. It has allocated grants to 15 of 144 highly qualified scientific teams that submitted proposals.

Box 9 itemizes further challenges to getting the most from CRGs, coupled with ways to respond to them.

### BOX 9: Addressing the challenges of using competitive research grants

- **Ensure flexibility to respond to emerging research needs:** To address the perception that CRGs reduce research flexibility, provide mechanisms to respond to research needs that emerge over the course of the sponsored research. For example, a mid-term review could help to identify new needs.
- **Establish parallel support for human resource development and institutional strengthening.** CRGs rarely include support for human capital development and new infrastructure; these needs must be addressed directly through other mechanisms.
- **Foster longer-term funding streams that can coexist with shorter-term competitive research grant programs.** The short-term nature of competitive research funding renders it uncertain as a means for long-term support, which can affect long-term projects and reduce the confidence of research staff. Integrating CRGs into a funding strategy that includes other longer-term sources of finance helps mitigate these concerns.
- **Provide resources to minimize transaction costs and boost applicants’ success rates.** The transaction costs of CRGs are perceived to be high. Seeking CRGs, writing proposals, and reporting on progress will leave less time for research. Taking measures to provide resources for writing or improving proposals will go a long way toward reducing the perceived risks associated with competing for a grant.
- **Build in incentives to expand research consortia:** Applicants for CRGs perceive higher risks when their research consortia include less-well-known organizations. Adding specific requirements to include new organizations may address this challenge.
- **Ensure that the market exists.** To succeed, CRGs require a minimum “market size”—in other words, a research system with a minimum number of qualified competitors. Ensuring that this population exists constitutes an essential activity prior to implementation.
- **Establish clear expectations.** The establishment and administration of CRGs can have significant legal, financial, administrative, and technical costs. Be very clear about the level of resources required.
- **Address equity concerns.** Successful CRGs may be biased toward stronger research organizations. In fact, by definition competitive research grant schemes assign more weight to quality than to providing resources to all who apply. Taking measures to increase applicants’ capacity to compete can increase the pool of viable applicants and reduce perceptions that CRGs reward the very institutions that already dominate local research settings.
- **Avoid using CRGs in small countries.** A limited number of participants capable of participating in a competitive program often results in failure.

Source: Adapted from Echeverria (1998), as cited in Heemskerk and Wennink (2005).

**BOX 10: How to address challenges with capacity in a matching grant scheme**

Often practitioners must recognize that the participants in a matching grant scheme—be they farmers, researchers, agribusinesses, grant scheme managers, and service providers—have limited capacity. The following list provides examples of ways to address limited capacity in a grant scheme.

**Before and after implementing the scheme**

- Strengthen sector dynamics and select priority themes. Sectors in the early stages of development tend to be fragmented. There may be little common understanding of the challenges and opportunities within the sector. For example, private sector participants may not be fully aware of their needs and opportunities for innovation. Sector development could be facilitated through sector forums/platforms and the use of neutral brokers. Development could also be encouraged by building or strengthening sector associations that serve as venues for building common understanding and collaboration, identifying challenges and opportunities, and developing a strategic plan for interventions. Successful intervention often requires prioritization of themes or value chains and strategic interventions that benefit the sector as a whole rather than a limited set of actors.
- Choose the main applicant carefully based on capacity. For example, farmer groups can be the main set of applicants when they have sufficient capacity or when implementation of the grant program allows sequencing and capacity-building. Agribusiness can be the main applicant when farmer groups have limited capacity. In addition, build capacity—for example, develop proposals—among the main applicants (often researchers or farmer organizations).
- Build new competencies for appropriate individuals, organizations, and institutions (knowledge, skills, and above all attitudes) to facilitate work in a partnership mode. Facilitation and partnership arrangements typically take significant effort and time.
- Train/support applicants in proposal development and/or provide access to service providers. Train successful applicants in the many activities required to administer their grants, such as reporting, disbursement, account management, and monitoring and evaluation. Helpdesks/facilities, often managed by the grant administrator, may be useful.
- Identify and train, register, and certify third-party service providers that can support applicants in the grant process and overall business development. Parallel institutional development—such as building agencies for business services—may be warranted to address long-term capacity challenges.

**Grant management**

- Consider appropriate training for staff, board members, and reviewers prior to their assignments. For example, capacity-building for staff within the grant governance and management structure can focus on strengthening management, leadership, procurement, financial management, M&E, and other professional skills (such as business understanding). Build capacity to facilitate partnerships and consultative stakeholder processes as needed.
- Consider temporary secondment to the governance structure (for example, the secretariat) to allow learning, or outsource secretariat functions until sufficient capacity has been built.
- Include additional checks and balances to the procedures, including training, field appraisals, and other actions that facilitate learning and improve quality.
- Accommodate grant winners with less capacity by requiring a smaller contribution from them to take part in the grant scheme. The contribution required on behalf of the grant recipients can increase as the pool of grant applicants increases. For example, if the initial pool is small, a smaller proportion of counterpart funding would be required. Once the pool grows, the amount of counterpart funding would increase.

Source: R. Rajalahti; World Bank 2009b; SNV BOAM ([www.business-ethiopia.com](http://www.business-ethiopia.com)); Willem Heemskerk and Peter Gildemacher (personal communication); and van de Meer and Noordam (2004).

### Capacity Required for Matching Grants

In many contexts, matching grant programs are used to diversify the funding sources available to the agricultural sector and/or encourage greater participation among a wider group of stakeholders,<sup>2</sup> such as farmers, farmer support organizations, and agribusiness. The inclusion of more stakeholders in activities to foster agricultural innovation must match their capacity to engage in those activities, however. Ascertaining how much capacity is “enough” is difficult. Often additional sector development and capacity-building are needed by all stakeholders in a matching grant system, including the applicants, service providers, and administrators. Box 10 summarizes capacity-

building options that are especially suited to matching grant schemes that focus on innovation in agribusiness. Section 6 also discusses the selection of the host organization for the grant administrator.

When matching grant schemes are demand-driven and many proposals are expected, a competitive procedure may be used to evaluate and prioritize grants based on the quality of the proposals (detailed discussions of governance and management and selection procedures follow in Sections 6 to 8). In many instances, however, this kind of competitive matching grant scheme will not be an ideal choice, because it will be a challenge to receive enough good proposals.

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2 Examples include the Uganda National Agricultural Advisory Services Project, Senegal Agricultural Services and Producer Organizations Project, and the Vietnam Agriculture Competitiveness Project.

## Chapter 5: **ENGAGING DIVERSE STAKEHOLDERS FOR BUY-IN, TRANSPARENCY, AND IMPACT**

This section discusses the rationale for and lessons learned from engaging stakeholders in designing and implementing CRGs and MGs.

### **PARTICIPATION AND POLITICAL BUY-IN**

Engagement of stakeholders can contribute to building awareness of the grant program, its objectives and opportunities, and generating political buy-in, but also to improving decision-making, responsiveness, openness, accountability, and the impact of the program. It is thus vital that communications programs, consultative processes, and governance mechanisms associated with a grant scheme allow the intended beneficiaries and other stakeholders to participate. First, participation empowers stakeholders. Second, engagement makes it more likely that a grant program will identify appropriate funding targets and adopt appropriate selection criteria (for more information on selection criteria, see Section 7). The small size of most grants and the competitive nature of mechanisms heighten the need for transparency in allocating funds. Perceptions of fraud, political influence, or opacity in setting priorities and selecting proposals diminish the credibility of these instruments as mechanisms to consolidate innovation systems. Third, the deliberate use of mechanisms to pull actors together will increase the probability of impact and sustainability. If a grant scheme seeks to trigger radical improvements in an innovation system but focuses exclusively on the demands of researchers or universities or the interests of the public sector, the scheme risks leaving a limited legacy.

That said, the design of any grant scheme must consider the transaction costs associated with these procedures against the greater participation, engagement, and expected responsiveness and political buy-in that they foster.

### **COORDINATING AGRICULTURAL INVESTMENTS**

Most countries and donors have made significant strides in coordinating their investments in the agricultural sector. For innovation funds, an important role (for example, for the

grant secretariat) is to dialogue and coordinate with other actors involved in promoting innovation and enterprise development. Coordination would contribute to effectiveness and impact by helping to: match grant schemes with appropriate applicants (through referrals, for example); prevent the same subset of applicants from receiving funding; identify potential misuses of funds; and contribute to the development of a database on grant schemes, applicants, how funds are used and allocated, and other variables.

### **ENGAGING ACTORS IN RESEARCH PROGRAMS**

Annual research workshops or regular stakeholder platforms have proven to be good for engaging stakeholders in research systems. Research workshops or platforms can be organized for many purposes, such as setting priorities for research, selecting criteria for eligibility, identifying constraints on implementation, sharing results, and discussing progress (Rajalahti, Janssen, and Pehu 2007; Saint 2006; Heemskerk and Wennink 2005).

A workshop format may have limitations when it comes to setting long-term priorities for research, however. Engaging a wider pool of stakeholders in forecasting research needs and developing scenarios may prove more useful in strategic and long-term planning (Rajalahti et al. 2006).

In Latin America, many science and technology funds specific to agriculture—especially funds focusing on adaptive agricultural research and technology transfer—have acknowledged the need to improve client orientation and participation. These funds have adopted strategies that involve farmers in identifying and prioritizing innovation needs and in developing, selecting, implementing, and funding subprojects. To reach their clients, funds have adopted decentralized strategies or are in the process of doing so. Table 4 summarizes the principal characteristics of competitive science and technology funds (many of which are closed) in five countries (World Bank 2006d). Although stronger client participation and



**TABLE 4: Client orientation and participation in science and technology funds that are competitive and specific to agriculture in selected countries in Latin America**

COUNTRY	COMPETITIVE FUND	CLIENT ORIENTATION AND PARTICIPATION
Brazil	PRODETAB	The fund's steering committee (mainly government), in consultation with stakeholders, formulates and prioritizes innovation needs. Private sector involvement in project development and implementation is an important criterion for funding. The selection of projects for funding is a centralized process managed by experts. Special attention is given to ensuring geographic equity
	FNDCT Agribusiness	The private sector has a majority vote on the board. A consultancy firm produced the priority-setting document. Project selection is centralized and managed by experts.
Chile	Several funds managed by FIA	FIA recently initiated regional consultation of farmers and other stakeholders to formulate regional priorities. It also started to issue regional calls for proposals in addition to a national call. A few small information offices have been opened to improve FIA's regional presence. Project selection is centralized and managed by experts. Most projects, depending on their particular objective, involve farmers.
Colombia	PRONATTA	PRONATTA has about 20 local nodes throughout Colombia to assemble local researchers, extension agents, farmer representatives, government officials, and other interested stakeholders. The nodes identify and prioritize local research needs and develop project profiles, which are submitted to one of five regional coordination units. Projects are selected in two stages, first by a regional panel and ultimately by a national panel (consisting of the chairs of the regional panels). In both cases, a scoring method is used. Only the highest-scoring projects are funded. PRONATTA strongly favors farmer participation in the implementation of projects
Ecuador	PROMSA	Research priorities are based on past studies and refined at a workshop, where a scoring approach is used to develop priorities in a three-way matrix of commodities, agro-climatic regions, and thematic areas. Farmers' participation in this priority setting has been low. Project selection is centralized and managed by experts, but each project has a reference group consisting of direct beneficiaries (farmers) and other stakeholders (other researchers, extension staff, agribusiness, and so on). Ideally the reference group participates in project design, planning, implementation, monitoring, and evaluation.
Mexico	CONAFOR/CONACYT	The forestry sector is asked to submit its research needs, which form the basis for the call for proposals. Project selection is centralized and managed by experts.
	SAGARPA/CONACYT Produce Foundations	Produce foundations, set up in all 32 states, strongly involve farmers at all levels. Farmers have a majority vote on the boards of the foundations and provide the board chair. The identification of innovation needs, as well as the selection of projects, are decentralized to production chains at the state level. Farmers are required to co-finance (usually in kind) technology transfer projects. Project selection is centralized and managed by experts.

*Note:* PRODETAB = Projeto de Apoio ao Desenvolvimento de Tecnologias Agropecuárias para o Brasil (Agricultural Technology Development Project for Brazil); FNDCT = Fundo Nacional de Desenvolvimento Científico e Tecnológico (National Fund for Scientific and Technological Development); FIA = Fundación para la Innovación Agraria (Agricultural Innovation Foundation); PRONATTA = Programa Nacional de Transferencia de Tecnología Agropecuaria (National Agricultural Technology Transfer Program); PROMSA = Programa de Modernización de los Servicios Agropecuarios (Agricultural Services Modernization Program); SAGARPA = Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Food); CONACYT = Consejo Nacional de Ciencia y Tecnología (National Council of Science and Technology); and CONAFOR = Comisión Nacional Forestal (National Forest Commission).

*Source:* World Bank (2006d).

orientation are generally considered positive, they may also have drawbacks (such as a bias toward short-term research, a lack of equity, and significant transaction costs).

### ENGAGING ACTORS FOR ENTERPRISE DEVELOPMENT

MGs are a common means of strengthening value chains and developing agribusiness. MGs alone rarely provide the best results for achieving these objectives, however, given that they cannot address all of the constraints on value chains and agribusiness, such as policy limitations. MGs tend to work best when the private sector has a clear understanding of its needs and opportunities, which is rarely the case when the sector is not well developed and the actors are fragmented. Efforts at building sector dynamics (interaction and collaboration among

actors) and supporting sector development through consultative processes, such as multistakeholder platforms or forums for selected value chains and sector associations, may be particularly useful in such contexts. Such forums or platforms can contribute to the development of a common understanding and collaboration, including PPPs (to deliver services or for R&D, for example), the diagnosis of challenges and opportunities, and the selection of interventions to be covered by the grant program and related support services. Box 11 summarizes a number of key lessons and interventions to consider when MGs are used to develop value chains.

In Ethiopia, the Business Organization Access to Markets (BOAM) program, supported by the Netherlands Development Organization (SNV), has successfully supported sector and value chain development through a varied set of interventions, including the prioritization of value chains, multistakeholder

**BOX 11: Key lessons and interventions to consider in using matching grants for value chain development**

**Move from single interventions toward an integrated value chain approach.** Parallel efforts to develop the entire sector and facilitate its dynamics must accompany targeted support for the private sector. Programs need to pay attention to policy, other enabling conditions, and collective action and capacity at the sector level, as well as individual investments by eligible enterprises.

**Value chain support and the use of MGs to develop value chains must be demand-driven.** The entry point is the enterprise, and the private sector must take the lead.

**Engage in extensive research, mobilization, and facilitation among stakeholders.** Stakeholders can be engaged, for example, through forums, associations, and other kinds of platforms managed by an impartial broker. This interaction can focus on developing a shared understanding of key constraints, solutions, and opportunities in value chains and on developing a strategic intervention plan that prioritizes investments for greatest effect. It is often better to take a step-by-step approach and limit activities to high-priority value chains to achieve results.

**It is usually necessary to strengthen the capacity of value chain actors.** This support can be provided directly (by program experts who offer tailor-made capacity building for clients) or indirectly (by strengthening and fostering the provision of technical assistance through coaching/nurturing business consultants, agribusiness centers, and overall business development services). It is important to consider long-term institutional sustainability—in other words, to consider what sources of support will be available after the matching grant scheme is phased out.

**Coordinate efforts among relevant programs to build synergies, avoid overlap, and perform other complementary functions** (for example to make referrals to perform particular services). With matching grant schemes in particular, it is vital to maintain a database of the programs and support provided to clients.

**Offer investment incentives, such as MGs, to encourage enterprises to take risks for improved profitability or competitiveness.** MGs work best when the private sector understands its needs and receives sufficient technical assistance.

Source: R. Rajalahti.

platforms for high-priority value chains, and strategic interventions such as MGs.<sup>1</sup> The World Bank-financed productive partnership projects<sup>2</sup> also invested in facilitating partnerships and building capacity while offering MGs to support selected partnerships in developing enterprises or value chains. It is often challenging in practice to engage and retain the interest of a diverse group of private actors, such as traders, processors, exporters, wholesalers, and retailers. In this regard, the Zambia ADSP offers useful lessons (Box 12).

### **OVERCOMING COMMON CHALLENGES WITH PARTICIPATION OF FARMERS AND THE PRIVATE SECTOR**

Besides the approaches already discussed, other strategies may be useful in eliciting the participation of diverse stakeholders and avoiding the diverse challenges cited. The

guidance offered here comes from a number of sources (authors; Hartwich, Alexaki, and Baptista 2007; Heemskerk and Wennink 2005).

#### **Facilitate the Inclusion of Stakeholders in Constructing the Grant Scheme**

It is particularly important to help resource-poor farmers to organize so that they can have a voice in managing and using the grant scheme. Their involvement is a prerequisite for strong, inclusive, and demand-driven grant schemes. The Vietnam Agriculture Competitiveness Project demonstrates one approach for securing the involvement of the farmer organizations targeted by the project's matching grant program. The project, which spans geographic areas and administrative levels, relies upon a Provincial Project Management Unit to network with potential partners, match potential partners, and screen those partnerships for viability. It relies on a Provincial Evaluation Committee to approve partnership business and investment plans. These administrative structures at the provincial level

1 For more information, see [www.business-ethiopia.com](http://www.business-ethiopia.com).

2 Colombia and Vietnam.



**BOX 12: Engaging the private sector through the Zambia Agricultural Development Support Project (ADSP)**

The Zambia ADSP promotes innovation in agribusiness development through MGs that encourage agribusinesses to interact with smallholders or business-oriented farmer groups and cooperatives. The project also supports complementary investments to develop rural feeder roads and provides market-related institutional support for the public sector. From the time the project was first being developed, careful attention was given to engaging with the private sector and understanding the issues confronting agribusiness.

- The team preparing the project held multiple small meetings with private sector stakeholders to identify their business constraints and priorities and solicit their views on the design and implementation of the grant program. The project carried out value chain analysis and, in consultation with a range of stakeholders, selected the high-priority value chains and the sites for building feeder roads.
- The grant secretariat is hosted by an autonomous entity to avoid politicization, reduce bureaucracy, and maintain a good understanding of agribusiness issues. The secretariat is in direct contact with private stakeholders, who are also represented on the board that approves proposals for funding.

**Challenges**

The main challenges encountered include:

- Agribusinesses had limited awareness of or interest in innovation. Most businesses focused on managing their operations. They were not necessarily focused on how to improve their competitiveness through innovation.
- The context and incentives for developing an agribusiness sector were challenging and had changed since the project was designed. Challenges presented by the exchange rate and the economic crisis weakened the business environment (by increasing risk) and reduced competitiveness.
- The mechanics of the grant process presented challenges. Developing concept notes and grant proposals and assembling the required documentation entailed transaction costs (time, resources). Many businesses had limited ability to develop good proposals. Many found it difficult (or were reluctant) to provide cash to match the grant.
- Limited experience and mistrust made the private sector reluctant to engage with NGOs or government-“driven” activities and thereby prevented actors outside the private sector from entering into collaborative arrangements.
- The challenges of working with smallholders in outgrower schemes limited the private sector’s interest in submitting proposals.

**Lessons and actions**

In response to the project’s challenges and lessons, the supervision team and the grant administrator took a number of actions:

- Significant consultation occurred when the project was formulated, but continued engagement with the sector actors—for example, through regular stakeholder platforms and the facilitation of partnerships—would have improved the identification of opportunities and needs.
- MGs were not directed at the most appropriate activities and value chains. Greater emphasis was needed on high-priority value chains. Grants needed to shift away from a sole emphasis on technology, extension, and studies and towards a wider set of business-promoting activities.
- Stronger communication with other actors was required. The project improved awareness of the matching grant facility among clients through direct marketing, and it improved the processing of applications by streamlining procedures and adjusting the review process.
- The administrator’s capacity to interact with private stakeholders, train clients, and manage the overall program was strengthened.

Source: R. Rajalahti.

ensure direct contact with the target stakeholders—farmer organizations. Similarly, a District Project Coordination Cell is responsible for selecting participants in the India Assam Agricultural Competitiveness Project, which was designed to increase the productivity and market access of target farmers and community groups (World Bank 2004a). This multilayered governance structure is representative of similar projects that administer demand-driven MGs in rural communities.

### **Shape Eligibility and Selection Criteria to Stakeholders' Needs and Capabilities**

To increase awareness of the grant program at lower levels of government administration and in the private sector, widen the call for proposals. This action will stimulate greater accountability to target groups and is particularly important for matching grant schemes focusing on agribusiness development. (See Section 7 for a comprehensive discussion of eligibility and selection criteria.)

### **Strengthen the Structure of the Grant Management Committee to Ensure True Participation by Diverse Stakeholders**

Representatives of the target group must be included within the governing body. If the governing body is situated within a national institution at a distance from the target stakeholders, then an additional administrative entity within their reach should be linked with the management structure to ensure a direct line of communication.

### **Provide Incentives for Participation**

*How to target funding depends on which constituency the grant scheme seeks to target.* For example, grant schemes for technology development that target poorer farmers can be organized in two ways. Funding criteria can give higher priority to technology options that are likely to be useful for poorer farmers, or the scheme can fund only applications from poorer farmers. When counterpart (matching) funding is required, the prospective counterparts often require the opportunity and ability to participate in developing the scheme, and they need to be able to avoid unnecessary bureaucracy. The reduction of transaction costs is a major incentive for the private sector to engage with smallholders in productive partnership programs.

### **Remove Disincentives to Partnership**

Explicit actions must be taken to overcome the challenges and costs of partnership. Some projects expect partnerships to

form without exerting the effort required to foster them. Not surprisingly, these partnerships often fail to deliver results.

Partners frequently discount the need for brokers and third-party actors, but often they are needed, not only to manage collaboration but to reduce competition between sectors. Brokers and third-party actors can limit the failures that occur when different interests and conflicting agendas frustrate initiatives designed to foster partnership (Spielman and von Grebmer 2004). Successful funding mechanisms reduce the transaction costs associated with collaborating and minimize the costs of managing risk. For example, risk management costs can be reduced through a joint venture approach to partnership, in which public and private collaborators create a legal entity to manage and execute research. Alternatively, risk management costs can be reduced through a quasi-corporate approach, in which public agencies establish research entities that exhibit characteristics of both a public agency and private firm.

### **Clarify Intellectual Property Rights**

Concerns related to competition are often the biggest obstacle for innovation funds with PPPs, and they may color such issues as the ownership and use of scientific knowledge and technology, the scarcity of financial resources for research, or access to markets, clients, and beneficiaries. When a funding mechanism is introduced in a context lacking the intellectual property infrastructure and capacity required to clarify challenges related to intellectual property ownership, funds may be required to develop this capacity. The Turkey Technology Development Project described in Section 2 offered support to build capacity in intellectual property rights (IPRs) at the same time that it offered support for MGs and research. Some of the issues related to intellectual property that must be clarified are (Byerlee and Fischer 2000, as summarized in Spielman and von Grebmer 2004):

- Agreement must be reached regarding who will own the intellectual property that emerges from research, technology development, or any commercial activity financed by an IFM.
- The beneficiaries of the intellectual property produced through a partnership financed by an IFM must be clearly defined.
- Asset complementarities must be articulated. In other words, the question of who brings what to the table (for example, scientific assets, knowledge assets, and institutional and other assets) must be answered for each particular partnership.



## Chapter 6: INSTITUTIONAL ARRANGEMENTS

This section primarily discusses the institutional arrangements for establishing and operating grant schemes. It discusses the features of common management units for CRGs and matching grant schemes, the roles and responsibilities of these units, and issues related to decentralization.

### GOVERNANCE TO SUPPORT AND SUSTAIN INNOVATION

The role of governance in innovation systems is to guide actors through the network of rules and incentives that foster the creation, application, and diffusion of knowledge and technologies (Hartwich, Alexaki, and Baptista 2007). Effective governance and strong management in the innovation system make it likely that a funding mechanism can be implemented successfully and that its impact will be sustained.

Governance has three dimensions: power structures (for example, public and nonpublic agents, their particular roles, and the power invested in them); their modes of interaction (for example, through funding, priority setting, and administrating); and their spatial organization (for example, their inclusion of local, regional, and/or national entities).

The good practice for governing and managing CRGs is to maintain separate units for policy setting,

technical evaluation, management, and governance. The main governing responsibility in CRGs resides with a *board of directors* (also called an “advisory board” or “coordinating committee”) that ideally consists of a distinguished group of senior decision-makers. The good practice for appointing members to the board is to strike a balance among the stakeholder groups pertinent to the competitive research grant scheme and the wider innovation system. All too often, boards can be taken hostage by one interest group that dominates discussions and skews decisions in favor of its constituency at the expense of others. Similarly, boards can be held hostage by politicians. This practice is particularly damaging given the complex and multisectoral nature of funding for agricultural innovation systems. Table 5, drawn from a review of World Bank competitive research grant programs, describes the layers and roles of a typical governance and management structure for a competitive research grant scheme.

### LEVEL OF DECENTRALIZATION

Good governance principles can be incorporated into the structure that administers and manages an innovation fund in many ways. One important consideration is the level of decentralization that will be associated with the management

**TABLE 5: A generalized governance and management structure for a competitive research grant scheme**

UNIT	RESPONSIBILITIES
<b>Governing Board</b>	Responsible for overall program policy. Oversees operations, establishes program priorities, awards grants, and represents program with funding agencies. Ensures close connection between the selection criteria used to evaluate proposals and the system-level objectives to which the competitive research grant scheme should contribute.
<b>Technical Advisory Committee</b>	Provides technical input for planning programs and setting priorities, advises on peer reviewer selection, and monitors technical quality of research subprojects. This committee may be a subcommittee of the governing board or may be combined with the technical review panel described below.
<b>Secretariat</b>	Responsible for managing programs and carrying out daily operations. Provides support for governing and technical bodies and facilitates communications about program operations.
<b>Technical Review Panel</b>	Responsible for evaluating, scoring, and ranking proposals. Makes funding recommendations.
<b>Appeals Body</b>	Responsible for handling any petitions that may arise from the decisions by the reviewers or the approval committee.

Source: Adapted from World Bank (1999a).

structure. In other words, at which level should schemes be used and managed? Should management reside within communities? In regional offices? In the central government? In practice, the degree of centralization or autonomy will depend on the conditions and demands presented by each situation.

### More Decentralized Management

If the innovation fund aims to stimulate innovation and address specific challenges at the regional/zonal or local level (for example, by funding small, demand-driven activities with numerous grantees, such as private enterprises or producer organizations), a more decentralized management structure may be more appropriate. A trade-off can exist between the level of decentralization and the efficiency of administering the grant program, however. Decentralized funding mechanisms can be more relevant to their beneficiaries than centralized programs, but their management and implementation can have relatively higher transaction costs (higher overhead costs, for example). The legacy of decentralized management arrangements can also be an issue. Once project grant funds are used up, the administrative office may close and leave little mark on local institutional capacity. Often, project staff in regional offices are recruited locally and may remain in the neighborhood after the project has shut down. In that case, the project may still have a long-term, local impact on institutional capacity, as skills acquired under the project are applied to other initiatives (World Bank 2009a).

A study of five innovation funds that support local innovation for rural development revealed that it was common to have a decentralized management structure linked by a central management unit or committee (Friis-Hansen and Egelyng 2007). The study further revealed that early in the process of designing the funding mechanism it is critical to decide whether to target particular groups or institutions. For local innovation funds, a pilot phase could be oriented to the most decentralized level, prioritizing involvement of the target stakeholders active at that level (van Veldhuizen, Wongtschowski, and Waters-Bayer 2005).

### Centralized Management

If an innovation fund aims to reach stakeholders with a relatively high skill level, if it seeks to fund strategic research, or if it will operate in an agricultural sector with limited technical and administrative capacity (for example, in a small country), a more centralized management structure may be more appropriate to administer the program. Under more centralized

management, participation in the grant program may be more limited, the understanding of the local context may be more narrow, and potential challenges with M&E may be greater.

### MANAGEMENT OF COMPETITIVE RESEARCH GRANT SCHEMES

Aside from the governance body (board/committee), many competitive grant schemes are administered through a *secretariat* that is responsible for day-to-day management. The secretariat's efforts are complemented by the work of a stand-alone *technical review committee/panel* or peer reviewers. This committee, drawn from eminent leaders in the areas of scientific research or technology development covered by the competitive grants, identifies the research proposals to be funded. Box 13 summarizes lessons on the composition and operation of technical review committees, and Box 14 describes governance arrangements for a grant scheme in Ghana, which features a grant secretariat and technical review committee. Uganda's Millennium Science Initiative has also established a successful governance and management structure for implementing CRGs, described in Annex 3.

### MANAGEMENT OF MATCHING GRANT SCHEMES

A review of matching grant schemes reveals that their management mechanisms are more varied than those for competitive grants. Although there is little substantive difference in the guiding principles for good management in matching and competitive research grant schemes, the organizational and managerial configurations can differ widely depending upon the stakeholders involved and on whether the grants are administered by a public or private entity or an NGO.

MGs are distinct from other innovation funds in their insistence on direct complementary contributions, in cash or kind, from grant recipients. A major role of the management bodies of matching grant programs is to ensure that the complementary contributions are made. MGs also often deal with a more diverse set of stakeholders than other IFMs. These stakeholders are often spread across a wider geographic area and possess more varied levels of capacity. Under these conditions, additional managerial capacity and oversight are essential.

A matching grant scheme usually has a *secretariat* serving as the day-to-day administrative unit, a *technical review panel/reviewers* to assess proposals and make funding recommendations, and a *body to handle appeals*. Schemes for MGs, like those for CRGs, have a *board/committee* for oversight and for

**BOX 13: Lessons on the composition of technical or peer review committees for grant proposals**

- When few local scientists have the credentials to qualify as peer reviewers, access to ad hoc reviewers (national, international) with the capacity to perform reviews must be ensured.
- To ensure that all stakeholders are aware of the diverse aspects of the IFM, both the review committee and the criteria it uses to score proposals must be chosen carefully and widely publicized.
- Members of the technical review committee cannot compete for grants themselves. Nor can they engage in the daily tasks associated with administering the grants, which are under the purview of the secretariat.
- It is vital to adhere to peer review protocols. Peers from the scientific discipline or sector for technology development must review submitted proposals anonymously, providing detailed comments and using a scoring system.
- The final and most general lesson related to technical review committees cannot be emphasized too strongly. *Although the composition of committees that select the best grants for funding may differ from one context to the next, their independence and integrity are essential.* The weak capacity for scientific and technical innovation in many developing countries—which derives from their small research and technology development communities—is often aggravated by outmoded methods of allocating resources. Resource-strapped innovation systems frequently rely on tacit rules of seniority and gender to allocate funds for research and technology development. Competitive funding mechanisms are rarely introduced without debate and even strong objections from those who have benefited from the previous system. For this reason, it is vital to safeguard the technical committee’s independence.

Source: Adapted from World Bank (1999a).

**BOX 14: Grant governance and management in Ghana’s Agricultural Services Sub-Sector Investment Program (AgSSIP)**

Ghana’s Agricultural Services Sub-Sector Investment Program (AgSSIP) relies upon a competitive grant scheme to allocate funds for both research and technology development and dissemination. Constructed to support NGOs, farmer and commodity organizations, agribusiness concerns, and other stakeholders, the AgSSIP is governed through three units:

- National Agricultural Research Policy Sub-Committee.
- Research Grant Board. The primary task of this five-member board is to select the proposals that best serve the objectives approved by the Agricultural Research Policy Sub-Committee.
- Research Grant Scheme Secretariat. Based in the Council for Scientific and Industrial Research, the secretariat is headed by the deputy director general of the Agriculture, Forestry, and Fisheries Sector. The secretariat’s tasks include disseminating information about the grant scheme, publicizing calls for proposals, organizing administrative and technical prescreening, conducting monitoring and evaluation, liaising with stakeholders, and identifying potential new sources of funding.

Source: Adapted from World Bank (2000).

approving subprojects. Table 6 summarizes the composition and responsibilities of each unit.

How centralized, by and large, are the management structures for matching grant schemes? In those funded by the World Bank, the degree of centralization (decentralized,

less centralized, more centralized) is related to the guiding objectives of each particular program (Table 7). One should note that in most schemes the management structure and particularly the implementation procedures evolve in response to contextual issues and emerging challenges.

**TABLE 6:** A generalized governance and management structure for a matching grant scheme

UNIT	COMPOSITION	RESPONSIBILITIES
<b>Governing Board/ Approval Committee</b>	Often consists of representatives of key stakeholders associated with the grant scheme, such as government, farmers, agribusiness, and finance. A nonvoting representative of the secretariat usually participates.	Responsible for ensuring that overall directions and objectives of the grant scheme are aligned and met; providing strategic guidance to the secretariat; setting overall scheme priorities; awarding grants; and enhancing transparency in the approval process.
<b>Secretariat</b>	Composition depends on the type and size of grant scheme. The secretariat should have administrative capacity, including capacity to manage contracts and procurement; technical expertise (for example, in agribusiness); and M&E experience. The capacity and stability of the secretariat are often crucial for the success of the matching grant scheme.	Responsible for managing programs and carrying out daily operations. Provides support for governing and technical bodies and facilitates communications about program operations. See Box 18 and Annex 6 for details and examples.
<b>Technical Review Panel</b>	Often composed of 3 members selected from a pool of approved experts, including technical and financial experts. The size and complexity of the proposals will determine the number of experts required. Proposals for small subprojects may require one reviewer, whereas larger or technically new or more complex proposals may require 2–3 reviewers.	Responsible for carrying out a pre-investment study of financial, economic, technical, environmental, and social aspects of the proposed work. Scores and ranks proposals and makes funding recommendations. Reviewers typically receive a small honorarium or a set fee for services.
<b>Appeals Body</b>	Often managed by the grant secretariat. Appeal decisions are made by steering committee or governing council associated with the project or host institution.	While it is rarely needed, a scheme must put in place to handle any petitions that may arise from the decisions by the reviewers or the approval committee.

Source: R. Rajalahti.

**TABLE 7:** Variation in centralization of management for matching grant schemes: Lessons from the World Bank AIS portfolio

DEGREE OF CENTRALIZATION OF MANAGEMENT STRUCTURE	DESCRIPTION	EXAMPLES
<b>Decentralized</b>	<p><b>Program objective is to foster inclusion:</b> When the driving motivation behind the matching grant program is to widen the pool of contenders for innovation funding to include farmers and farmer organizations, governance structures often become more complex and decentralized.</p> <p><b>Consider country size and level of autonomy.</b> Decentralized governance may also be indicated because of the size of the country (the larger the country, the more decentralized the project may need to be to reach all of the critical stakeholders) and the level of autonomy enjoyed by the subregions (decentralization can still permit good management). In other words, decentralization is a relative term—a country's size matters.</p>	<ul style="list-style-type: none"> <li>• Most community-driven development operations applying demand-driven matching grant schemes</li> <li>• Senegal Agricultural Services and Producer Organizations Project</li> <li>• Ghana Agricultural Services Subsector Investment Project</li> <li>• China Agricultural Technology Transfer Project</li> </ul>
<b>Less centralized</b>	<p><b>Program objective is to deepen linkages and strengthen value chains:</b> Programs to foster stronger collaboration between public entities (service providers, institutions) and the private sector often have governance structures that include representation from both sectors and may be based in either sector.</p> <p><b>Consider the local context.</b> Less centralized governance is often used when attention to particular agro-ecological zones or an area with competitive potential is desirable.</p>	<ul style="list-style-type: none"> <li>• Colombia Productive Partnerships Support Project</li> <li>• Vietnam Agriculture Competitiveness Project</li> </ul>
<b>More centralized</b>	<p><b>Program is technology focused, with an intention to scale up programs and practices nationally:</b> Grant programs that promote agricultural technology adaptation and adaptive research are often integrated into projects that include support for institutional strengthening. Institutional strengthening often falls under the aegis of the Ministry of Agriculture, whereas the technology and research objectives may better be advanced through a governance structure with national reach. In such cases, a centralized governance structure is common.</p> <p><b>Consider country size and capacity.</b> Other important reasons to maintain a centralized governance structure include capacity challenges, which tend to be greater in decentralized structures, and the size of a country (decentralization is not strategic or necessary in a small country).</p>	<ul style="list-style-type: none"> <li>• Colombia Agriculture Technology Development Project</li> <li>• Nicaragua Agricultural Technology and Rural Technical Education Project</li> <li>• Ethiopia Rural Capacity Building Project</li> <li>• Zambia Agricultural Development Support Program</li> </ul>

Source: Authors.



## GRANT SECRETARIAT/ ADMINISTRATOR

The key role and responsibility of the secretariat or administrator is to implement the grant scheme. The capacity within the secretariat and the host institution will significantly affect the scheme's success. While each grant scheme is different, a number of responsibilities are commonly associated with a grant secretariat (Box 15). The bulk of the administrative costs (often running at 10–25 percent) are associated with the secretariat. Costs issues are discussed in Section 4.

The governance and management of both competitive and matching grant programs can be complicated and difficult. In many cases, international consultants are recruited to assist in developing these grant schemes. After consultants depart, professionals must often ascend a steep learning curve before they master the various administrative, managerial, financial, legal, and procurement skills required to implement a grant scheme effectively.

## SELECTING AN ORGANIZATION TO HOST THE SECRETARIAT

Another important decision in designing a grant scheme is where to base the secretariat. Should it be housed within an institution that already exists (often a government institution)? Alternatively, should it be housed within a public but autonomous institution? Or should the secretariat be a wholly new institution? The appropriate choice again depends on many considerations, including the capacity available, institutional sustainability, overhead costs, the need to separate the financing and implementation of activities, the potential for political interference and conflicts of interest, and the interests of the key stakeholders.

## BOX 15: Main responsibilities of a secretariat/administrator of a grant facility

The size of the secretariat and the capacity required depend on:

- The number of anticipated proposals and the size and complexity of those proposals.
- The extent to which the secretariat's responsibilities (such as technical expertise and monitoring and evaluation) are handled internally or outsourced to other organizations or individuals.
- The extent to which the secretariat supports sector development and provides services, such as capacity building.

Often a rather small secretariat will be responsible for the day-to-day management, coordination, and fund management of the overall grant facility. The secretariat often has the following main functions:

- Facilitate overall sector development by engaging with stakeholders and providing overall guidance (either a responsibility of the secretariat or another organization).
- Manage the communication and networking aspects of the facility. For example, organize a nationwide information campaign or directly solicit proposals.
- Coordinate collaboration with other similar facilities and funds, and maintain a database of subprojects and clients.
- Screen concept notes for eligibility and organize field appraisals.
- Inform stakeholders of decisions that affect them, and arrange for training on the grant program's requirements and proposal development.
- Arrange for a comprehensive review by the technical reviewers.
- Coordinate the awarding of grants and appeals.
- Arrange for agreements to be signed, disburse grants, and manage the fund.
- Arrange for M&E of subprojects.
- Act as secretary to the other governance structures, such as the board.

Source: R. Rajalahti.

A good choice is to situate the grant scheme inside the institution that has the highest probability of sustaining the scheme. When a government institution is being considered to fill this role, it is imperative to assess the potential advantages and challenges. If government hosts the project management unit,<sup>1</sup> the biggest challenges are that it will be overwhelmed by bureaucracy or that political bias will enter decisions related to grant allocation and administration (van de Meer and Noordam 2004; Embrapa, IDB, and World Bank 2000). Government bodies are not always an appropriate choice for grant schemes that require an understanding of agribusiness. On the other hand, situating the management unit

1 Donors, however, often strive to avoid separate project management units.



within a government entity may favor institutional sustainability, reduce costs, ensure political buy-in, and make it possible to leverage available capacity for financial management, procurement, monitoring, and evaluation. Proximity to government may also be desirable to the extent that public institutions are key stakeholders within the grant and innovation system.

Other options are to house the grant scheme within an autonomous unit of government or in a public–private unit in an independent institution with government oversight. These

options may offer more flexibility (for example, in procedures and hiring practices) and less political interference than the option of situating the grant scheme in a government body.

The choice to base the grant scheme within a private entity or NGO speaks to the desire for greater flexibility and a better understanding of business, but it may entail greater overhead costs. Table 8 presents the rationales and challenges associated with locating the governance structure for a matching grant scheme within a public, autonomous, or private institution or NGO.

**TABLE 8:** Considerations in deciding where to place the implementation unit for a matching grant scheme

TYPE OF ORGANIZATION AND RATIONALE FOR SITUATING THE IMPLEMENTATION UNIT THERE	CHALLENGES	PROJECTS THAT HAVE CHOSEN THIS OPTION
<p><b>Public agency, such as a ministry or local government agency</b></p> <ul style="list-style-type: none"> <li>• If a key aim of the grant scheme is to scale up best practice as national policy, situating the administrative structure within a public agency with the mandate to move policy forward is important.</li> <li>• If an objective is to build partnerships between public and private entities and scale them up across other ministries, an administrative structure with sufficient visibility to permit cross-ministerial dialogue should be designed. Placement in a centralized public agency also has the advantage of indicating government's seriousness in prioritizing innovation.</li> </ul>	<ul style="list-style-type: none"> <li>• Rigid and bureaucratic structure.</li> <li>• Capacity issues.</li> <li>• Greater potential for political interference.</li> <li>• Greater likelihood that business understanding will be lacking.</li> </ul>	<ul style="list-style-type: none"> <li>• Vietnam Agriculture Competitiveness</li> <li>• Colombia Productive Partnerships Support</li> <li>• Most community-driven development operations</li> </ul>
<p><b>A public but autonomous unit</b></p> <ul style="list-style-type: none"> <li>• Appropriate for decentralized programs that focus on mobilizing farmer groups, participatory planning, creating partnerships, farm advisory services, and/or information and communications.</li> <li>• Appropriate when grants are provided through farmers' forums and local government contributes financing for agricultural services.</li> <li>• Public entities at lower levels may be better positioned to implement subprojects that rely upon local government ownership.</li> <li>• Examples of public autonomous units: a foundation (Nicaragua) and a project management unit (Romania, Niger), which may be supported by consultancy services.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for political interference, but less than if within the ministry.</li> </ul>	<ul style="list-style-type: none"> <li>• Uganda National Agricultural Advisory Services</li> <li>• China Agricultural Technology Transfer</li> <li>• Ethiopia Competitiveness Facility</li> <li>• Peru Agriculture Research and Extension</li> <li>• Nicaragua Agriculture Technology</li> <li>• Romania Agriculture Support Services</li> <li>• Most grant schemes in Sub-Saharan Africa</li> </ul>
<p><b>Private entity.</b></p> <ul style="list-style-type: none"> <li>• Appropriate when business understanding, business effectiveness, avoidance of bureaucracy, and engagement with the private sector is needed.</li> <li>• Appropriate when politicization is a potential concern.</li> <li>• Examples include a private, not-for-profit bureau (Madagascar) or an association of exporters and government (Benin).</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for greater overhead costs.</li> <li>• At outset, often less capacity to meet donor requirements (for example, for procurement or fiduciary practices).</li> <li>• Potential challenges with long-term institutional sustainability and conflict of interest.</li> </ul>	<ul style="list-style-type: none"> <li>• Senegal Agricultural Markets and Agribusiness Development (both private and public entities contracted)</li> <li>• Madagascar Private Sector Development and Capacity Building</li> <li>• Benin Private Sector Development</li> <li>• Ethiopia Private Sector Development Capacity Building</li> </ul>
<p><b>NGO</b></p> <ul style="list-style-type: none"> <li>• Useful for autonomy and experience in working with participants at the grass-roots level; this option thus performs well in decentralized projects.</li> <li>• NGOs often have experience with donor requirements for reporting, procurement, and fiduciary issues.</li> <li>• For demand-driven subprojects focused on rural services, an NGO's perspective tends to be more empathetic to smaller stakeholders than to big business or government.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for greater overhead costs.</li> <li>• Potential challenges with long-term institutional sustainability and conflict of interest.</li> <li>• Greater chance that business understanding will be lacking.</li> </ul>	<ul style="list-style-type: none"> <li>• Senegal Agricultural Services and Producer Organizations</li> <li>• Ghana Agricultural Services Subsector Investment</li> </ul>

Source: Authors; World Bank (2008a); World Bank Project Appraisal Documents; van der Meer and Noordam (2004).

## Chapter 7: **LESSONS ON GRANT ELIGIBILITY, SELECTION CRITERIA, AND APPROVAL PROCEDURES**

This section discusses the importance of identifying and funding strategic themes and of determining which activities and expenditures grants should fund, including setting limits on grant subsidies and subprojects. The section then examines issues related to selection criteria, including questions about eligibility.

Significant preparatory work is required to identify appropriate themes and activities and the actors to be supported, as well as funding levels. For a checklist of information and characteristics to consider when defining the parameters of a matching grant program for an investment project, see Annex 4.

### **SPECIFYING STRATEGIC NEEDS**

Incoherent priorities and funding rules at the local, regional, and national levels often reflect an inadequate vision of how an innovation fund is intended to support agricultural innovation. To avoid this problem, one of the first activities in designing an innovation fund should be to identify the strategic vision and the themes and needs to be funded. It is important to use the available resources effectively and not spread them too thinly. A useful practice is to assess the main themes and strategic interventions to be supported by the grant scheme and then allocate most of the funding for priority themes and interventions, allowing limited funding for innovative activities outside the priority themes.

There are many ways to prioritize the themes. A thorough analysis of research and technology development needs and opportunities in a particular context may help clarify the kinds of activities that an innovation fund should support. As part of this analysis, it is essential to define how to include other providers of knowledge and technology that have been left out of an innovation system and to build their participation into the governance structure. Other means include value chain analysis (see Webber and Labaste 2010) and prioritization with or without a consultative stakeholder process (see Section 5 on engaging stakeholders).

### **THE IMPORTANCE OF CLARIFYING WHO CAN APPLY FOR A GRANT**

For a grant scheme to be effective, it is important to specify very clearly who, among the key stakeholders in the scheme, is eligible to apply for funds. For example, applicants might have to belong to organizations that have existed for some time or that are formally registered or incorporated. They may have to possess a certain level of capacity (resources) or size (upper and lower limits). The role of each actor must also be specified. Is the actor eligible to be the main applicant for funds, a partner, or a third-party service provider? Are public and private actors both eligible to apply for funds? Experience with administering grant schemes highlights the problems that can arise when the eligibility of all of the stakeholders is poorly defined or when calls for proposals are not properly targeted. Significant delays and costs can occur in awarding grants if vast numbers of ineligible applicants (including applicants without the required capacity) submit proposals.

### **SPECIFYING APPROPRIATE EXPENDITURES**

Clarity about eligible activities and expenditures will prevent unnecessary delays in the development and review of proposals. What are the appropriate expenditures to fund through grants? Appropriate expenditures reflect the rationale for using grants. As observed previously, many grant schemes are used to stimulate new activities or to induce particular processes. Generally they *give higher priority to investing in know-how rather than equipment*—in other words, they favor expenditures on technical assistance, capacity building, services, and studies over expenditures on operating costs (such as salaries, inputs), or large and/or costly equipment and infrastructure.

MGs targeting enterprise development should especially place a premium on funding know-how over equipment. Know-how is often considered an investment of a public nature, whereas equipment is an investment of a private nature (unless equipment expenditures are directly associated with processing technology, for example). There may be a case for unbundling

the know-how component of loans (for example, feasibility studies, installation services, and follow-up expert services) and funding that component separately through this innovation fund. A combined loan/matching grant package, provided through one or more financial institutions, may be feasible if safeguards are in place to prevent misuse of the MGs (Phillips 2000). CRGs typically fund incremental costs associated with the research subprojects and often exclude regular salaries.

Although each grant program must define which specific expenditures are eligible and ineligible, most grant programs follow the broad guidelines listed in Box 16.

### SETTING LIMITS ON FUNDING AMOUNTS

For effectiveness, it is important to clearly define the appropriate size of subprojects supported by the grant scheme, the size of the grant subsidy (minimum and maximum, and as a percentage of subproject expenses), as well as any specifications associated with the target group. A useful practice is to map the capacity and needs of the target group (types, amounts) and assess the diverse grant systems and other related programs in a given country. The objective is to harmonize the grant subsidy levels (maximum size of grant, percentage of matching funds to be supplied by the beneficiary) and requirements for counterpart funding across grant schemes to prevent grant schemes from crowding out one another. A significantly higher grant subsidy and a lower counterpart funding requirement will tend to attract more applicants.

#### Subproject Size

The size of subprojects supported by grants, including the size of the grant

subsidy, will vary depending on the objective, context (including country) and stakeholders involved. Subprojects supported through CRGs tend to be larger, particularly when designed to support universities or public research institutions. For example, the Uganda Millennium Science Initiative supports research through two funding windows, one for emerging research teams (US\$ 100,000–250,000 over three years) and another for established research teams (US\$ 500,000–800,000 over three years).

Subprojects supported by matching grant programs vary greatly and are significantly affected by the objective and context. They can range from smaller grants of a few thousand, targeting smallholders, farmer groups and associations, to large grants of US\$ 100,000–500,000 or even a few million dollars per subproject, involving farmer groups and companies (as in the Vietnam Agriculture Competitiveness Project and the China Agriculture Technology Transfer Project).

### BOX 16: Typical eligible and ineligible expenditures in grant schemes

#### Eligible expenditures

Priority is often given to activities that generate knowledge or to knowledge-based services.

- Technical assistance and the purchase of knowledge-based services (such as training, business services and plans, material preparation, studies and demonstrations, technology development).
- Payments of salaries, wages, and overheads directly related to the proposed technical assistance or additional activity promoted by the grant scheme.
- Consumable materials, inputs, and capital equipment. Grant schemes often allow limited funds for these items if they are directly related to the proposed technical assistance or knowledge generation. The applicant is usually expected to provide a rationale for how these expenditures contribute to the objective. Grant schemes usually set a maximum limit for these expenditures (a percentage of the total cost).
- Minor civil works and small structures directly related to the proposed technical assistance. The grant scheme may elect to cover civil works up to a maximum percentage of the expenditure.

#### Ineligible expenditures

- Regular operating expenses not directly associated with the scheme.
- Expenditures for consumable materials, inputs, and capital equipment may not include the purchase of large capital equipment such as large field machinery, construction equipment, vehicles, large-scale processing and handling equipment, and agrochemicals (including fertilizer) and other agricultural inputs.
- Large civil works such as buildings and roads.
- Land purchases.
- Retroactive payments for expenditures prior to the date on which the grant agreement is signed.
- Financial participation in a firm's capital.

Source: R. Rajalahti.

### Grant Size

As noted, the size of the actual grant also varies significantly, depending upon the type of innovation fund selected, the objective pursued with the grant scheme, and the absorptive capacity of the target beneficiaries. Generally, grant schemes targeting research, investment of an overall public nature, small-holders, or small, demand-driven subprojects require lower contributions from the recipients, whereas grant schemes that involve the private sector tend to require higher contributions.

The appropriate size of a grant is influenced by evidence of beneficiaries' capacity to use the additional funds effectively and quickly. Injecting too much money too quickly into a system will not necessarily ameliorate the challenges related to underfunding. Generally speaking, if the capacity of an intended beneficiary is low, then the grant size is overall lower and the proportion of the matching funds is smaller. The converse is also true: The greater the capacity, the greater the matching funds. Even in the context of one project, the proportion of funding may differ depending on critical differences among beneficiaries. The Zambia ADSP reflects the positive correlation between beneficiary capacity and grant size. It uses three separate ratios, depending upon the specific activities and beneficiaries that it supports. Enterprises are eligible for a 50–60 percent grant subsidy, whereas capacity-building support to organized producer associations is eligible for a 75 percent subsidy.

In World Bank projects with matching grant programs, beneficiary contributions extend from a symbolic contribution of 5 percent to a substantial 60 percent. The actual match requirement can be in cash or kind. A cash requirement may be a means of selecting committed applicants. Table 9 provides examples of grant allocations in various matching grant schemes.

### ESTABLISHING SELECTION CRITERIA

A well-articulated grant selection process, including the definition of selection criteria, is vital to the success of a funding mechanism. If the criteria and procedures are not relevant or responsive to wider national goals and purposes, the introduction of an innovation fund will appear irrelevant to those goals as well. Experience in Croatia with the national agricultural research system's Fund for Applied and Development Research (a matching grant program) suggests that the biggest contribution to success is the establishment of appropriate criteria and procedures for evaluating proposals (Havranek, Bozic, and Dordevic 2000).

Selection criteria should match the objectives for which the grant scheme was constructed, emphasizing relevance, quality, diversity, and economic considerations. A review of the World Bank portfolio of competitive research and matching grant programs suggests that the responsibility to

**TABLE 9: Beneficiary contribution in matching grant schemes of World Bank-funded projects**

PROJECT	GRANT/SUBPROJECT SIZE	BENEFICIARY CONTRIBUTION
<b>Peru Agricultural Research and Extension</b>	For extension, a maximum of US\$ 150,000 (95%). For research, a maximum of US\$ 300,000 (75%).	Farmers to pay 10–15% and private sector 0–15% on extension; farmers pay 5–10% and research organizations 30% on research.*
<b>Armenia Rural Enterprise and Small-scale Commercial Agriculture Development</b>	Grants between US\$ 8,000 and US\$ 20,000, of which a max of 10–15% may be allocated for technical assistance by a third-party service provider.	25–50% (in cash or kind).
<b>China Agricultural Technology Transfer</b>	Not specified, but the total costs of many subprojects were a few million US dollars.	20–80%. Subprojects with commercial emphasis receive a 20% subsidy. Subprojects of a high public good nature receive a higher subsidy (up to 80%).
<b>Colombia Productive Partnerships Support</b>	A cap of US\$ 2,000 per small-scale farmer.	A minimum of 60%.
<b>Vietnam Agriculture Competitiveness</b>	A maximum of US\$ 100,000–500,000 subprojects, of which a maximum of US\$ 20,000 goes to support agribusiness partnership with R&D, staff training, marketing.	A maximum of 40%.
<b>Zambia Agricultural Development Support</b>	A maximum of US\$150,000–600,000 subprojects.	25–50%. A 75% subsidy targeted at farmer associations.

\* Most demand-driven small-scale subprojects require a 5–10% contribution in kind or cash from beneficiaries.

Source: Authors, based on Project Appraisal Documents, World Bank 2008a, and van der Meer and Noordam (2004).

establish eligibility and selection criteria is shared among various institutions engaged in administering the project to which the innovation fund belongs. Most often the governing body charged with maintaining the relevance of the project with national or sectoral themes and priorities takes the lead. However, stakeholders that are not represented directly on the governing body may also play a role in establishing the criteria. For examples of how selection criteria were chosen in two World Bank projects, see Box 17.

### **Selection Criteria for Competitive Grants**

Four criteria dominate almost every list of selection criteria for CRGs: relevance; scientific excellence and technical considerations; diversity (for example, diversity among subproject actors); and economic and financial considerations. Increasingly, partnership is another specific criterion. The prospects for sustainability increase when selection criteria include the development of plans to sustain the research when the subproject ends, plans for disseminating results, and/or plans for technology transfer—criteria that are rarely adequately weighted in the selection of proposals. The more stakeholders an innovation fund aims to support (as in a matching grant program for supply chain development), the more evidence a proposal should demonstrate that dissemination activities are within the capacity of the applicants and the other beneficiaries. Annex 5 provides examples of criteria for evaluating applicants for CRGs.

Additional information submitted with proposals for CRGs does not strictly constitute “selection criteria” but is necessary nevertheless: a clear indication of which individual, group, or agency is legally responsible for accepting

and using the grant under the agreed terms, a contact address, a letter of authorization for applicants employed by an institution that is not the applicant, and CVs of the researchers involved.

### **Specifics with Matching Grants**

Eligibility and selection criteria for participation in matching grant programs may not differ widely from those used for CRGs. Criteria for many MGs emphasize the local context, the additionality of the investment, the inclusion of diverse groups of stakeholders, and characteristics that suggest an aptitude for cooperation and collaboration (partnership)—often a key condition for successful use of MGs as a form of innovation funding. Criteria for MGs often include or demand:

- Legal requirements, rights, and obligations (for example, the legal registration of the grant recipient or the contractual arrangements for the partnership).
- Financial requirements (for example, information on assets and bank accounts or a jointly prepared business and investment plan).
- Evidence of potential impacts on institutional development. Evidence of plans to strengthen participating farmer organizations, a guarantee that participating farmer organizations have a minimum number of members, or gender considerations can help to ensure that the selected proposals are likely to stimulate productive partnerships and successfully elicit matching funds from the grant recipient.
- Evidence that grants for enterprise activity do not create market distortions.

### **BOX 17: Partnering with stakeholders in Vietnam and China to identify criteria for funding subprojects**

#### **Vietnam Agriculture Competitiveness Project**

Three constituencies helped guide the articulation of eligibility and selection criteria for the matching grant program: the Ministry of Agricultural Research and Development, the National Steering Committee, and a Technical Advisory Panel, which was established at the ministry, consisting of representatives from the ministry’s concerned technical departments.

#### **China Agriculture Technology Transfer Project**

A multistage process was used to develop selection criteria. During the preparation of the project, the State Office for Comprehensive Agricultural Development (SOCAD) and the Provincial Offices for Comprehensive Agricultural Development (POCAD) invited companies and institutions to present investment proposals in a competitive process against the selection criteria. A large number of proposals were screened on the basis of their commercial, financial, and marketing merits as well as on their potentially innovative technical and institutional merits. A World Bank team, together with SOCAD and POCAD, assessed proposals and developed a set of investment criteria.

*Source: World Bank 2005a, 2008b.*

**BOX 18: Eligibility criteria with an emphasis on partnership for the Vietnam Agriculture Competitiveness Project**

- A farmer group and an agribusiness (the partners) will have entered into a contractual arrangement (such as a memorandum of understanding or the like) outlining the respective roles of the partners in carrying out the proposed activities.
- A partnership business and investment plan will have been jointly prepared by the partners and will be based on a vision for longer-term collaboration between the partners. The scope of investment activities shall allow for implementation within 12–18 months by the partners. *(Note: This period is exceptionally long because of the context and nature of partnerships explored in the Vietnam Project.)*
- The partnership must have mobilized and demonstrated that it has secured full co-funding through the partners' own resources and/or commercial banking credit.
- The partnership business and investment plan shall include activities supporting the institutional development of the farmer organization.
- The minimum number of farmer members in a given farmer organization is 10.
- The partnership business plan shall be innovative in at least one dimension (that is, innovative technologically, socially, or in terms of the proposed business model).

Source: World Bank (2008b).

Eligibility criteria for the Vietnam Agriculture Competitiveness Project are typical for matching grant programs (Box 18).

**Weighted Criteria**

A useful practice is to weight the criteria rather than to rely on simple scoring. Weighting reduces the chances that poor scores for some criteria will be compensated by good scores on others. An even stricter practice is to use a multistage screening process, in which proposals must meet certain requirements (for example, they must show some degree of innovation) before others (such as quality criteria) are considered. Simple decision trees or flow charts facilitate this process. Annex 5 presents the criteria, weighting, screening approaches, and appraisal formats used in the Zambia ASDP.





## Chapter 8: **LESSONS ON PROCEDURES FOR SUBPROJECT SELECTION AND APPROVAL**

A number of procedures are involved in selecting and approving subprojects (aside from establishing the selection criteria, discussed previously). This section examines the communications and awareness aspects of grant programs and describes other processes and actors required for subprojects to be selected and approved transparently and effectively:

- Building awareness of the grant program, including calling for proposals or soliciting them directly.
- Providing capacity building and support for applicants.
- Using a two-stage process to evaluate proposals.
- Final approval.
- Managing transaction costs and timelines.

The main processes and procedures associated with a grant scheme, starting with the prioritization of grant activities, are summarized in Figure 1.

### **AWARENESS RAISING AND COMMUNICATIONS CAMPAIGN**

An essential part of a successful grant scheme is a rigorous awareness raising and communications campaign. When innovation funds are used in innovation systems for the first time, awareness and trust must be established if competition-based mechanisms are to succeed. Political interference or a lack of transparency destroys trust. If applicants believe that favoritism will skew selection procedures, interest in competing will fade.

Often the grant administrator is expected to manage communications for the grant scheme—for example, by arranging for a nationwide information campaign or by applying a more targeted marketing approach to guarantee that eligible stakeholders learn about the purpose, potential activities, procedures, and requirements of the innovation fund. The applicants must also be made aware of capacity-building opportunities. Communications campaigns may use diverse means, such as mass media, a specific internet site, and/or more targeted communications (such as stakeholder meetings and face-to-face contact).

### **CALLING FOR PROPOSALS OR DIRECT SOLICITATION**

As part of the awareness and communication campaign, the grant administrator makes calls for proposals. The call for proposals can target the entire nation, specific regions, and/or stakeholders. Its purpose is to generate awareness of the innovation fund among potential applicants.

#### **Competitive Research Grants**

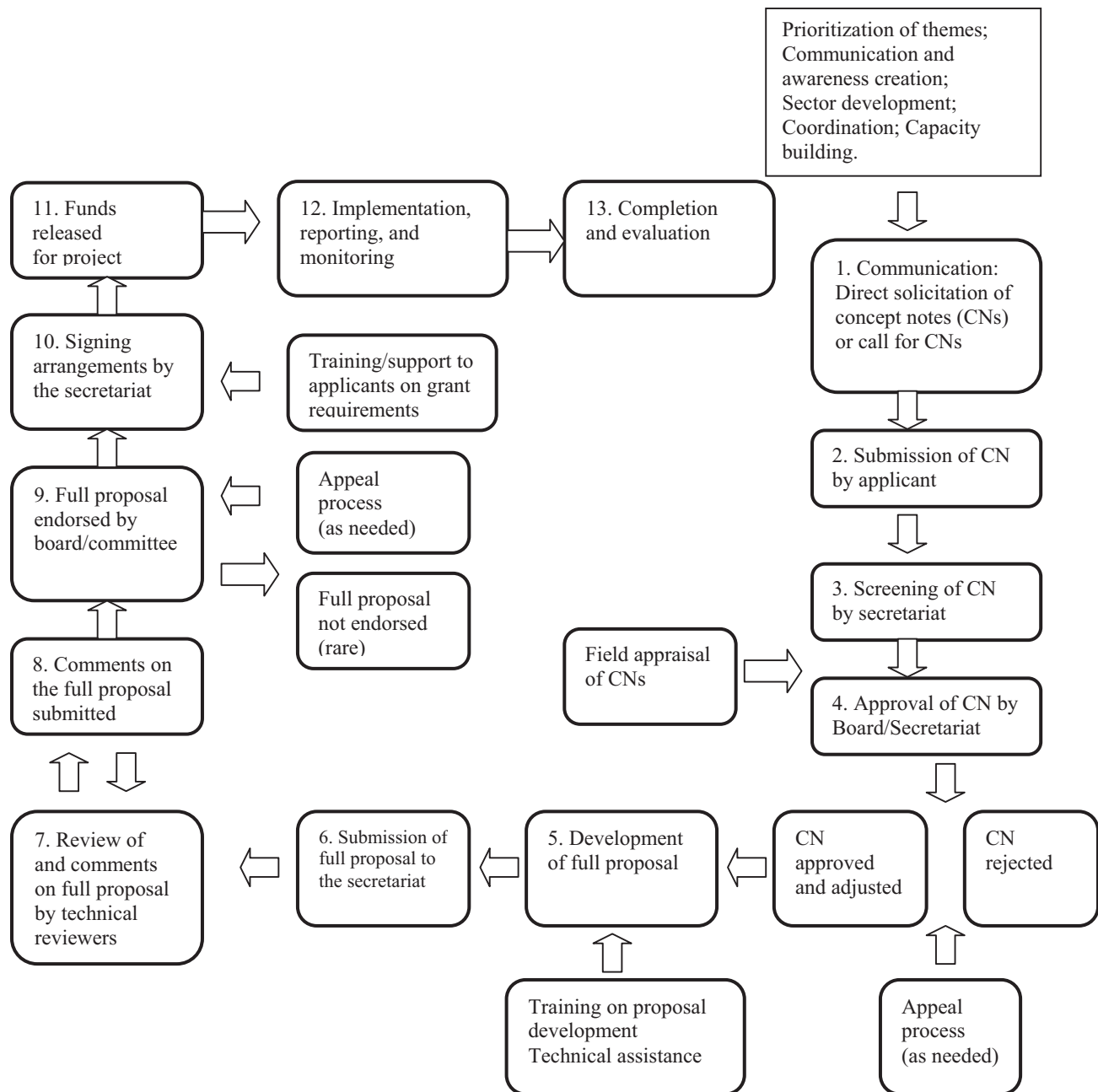
Calls for proposals at regular intervals (quarterly, biannually, annually) are a common practice with CRGs, which are by definition competitive, often fund large subprojects, and set funding limits for each call. Such intervals also facilitate the selection of reviewers and better use of resources. In some cases, particularly when scientific capacity is limited, research proposals may be solicited directly (Authors; Saint 2006).

#### **Matching Grants**

Although calls for proposals can be periodic, an open call for proposals is common for MGs, particularly when the grant amounts are small. A continuous call for proposals requires sufficient management capacity to administer the proposals and often makes use of designated reviewers. Some matching grant programs, such as those directed at enterprises, may need to take a more targeted approach to ensure sufficient participation, ensure that applicants have the required capacity or meet other criteria, and vet the claims presented in concept notes. Often a technically competent person(s) with sufficient knowledge of the grant scheme and local context is needed for this targeted marketing approach to be effective. Stakeholder forums and sector/commodity and producer associations also serve as good venues for a targeted approach.

The potential applicants for many matching grant schemes may be distributed over a wide area, or the agricultural sector may be relatively fragmented. In that case, a sequenced approach for soliciting proposals—for example, beginning with areas having greater agricultural potential—may be a better strategy for success, because it permits the processing of successful applications, fosters learning, and allows



**FIGURE 1:** The main steps and actors associated with a grant scheme

Source: Rajalahti, R.

adjustments to be made before scaling up the target area. Some schemes include processes to scout for candidates. Promising applicants are identified and encouraged to apply, whereas others with less apparent capacity may not be encouraged (in this sense, favoritism is built into the scheme). India's National Innovation Fund relies on a grassroots innovation and traditional knowledge network, the Honey Bee Network, to scout for applicants (Box 19).

### CAPACITY BUILDING AND SUPPORT FOR APPLICANTS

As discussed in Section 4, limited capacity to participate in and manage the innovation fund is often a significant challenge, although it can be overcome. Some otherwise well-qualified applicants may have little experience in writing winning proposals. Just as the capacity to administer other aspects of an innovation fund must be developed with training and time, so

**BOX 19: Tools for pre-selecting applicants for grants: India's Honey Bee Network**

The Honey Bee Network is a grassroots movement to encourage creativity and innovation. Composed of students, volunteers, and civil society organizations, it operates an online database (with 12,000 entries) of documented innovations and traditional practices ([www.sristi.org/honeybee.html](http://www.sristi.org/honeybee.html)). The Honey Bee Network has worked through India's National Innovation Fund (NIF) to create innovative solutions to local problems by blending traditional and modern approaches.

Through the Honey Bee Network, the NIF launches national campaigns to scout for "Grassroots Unaided Technological Innovations." Students, rural colleges, vocational training centers, grassroots functionaries in rural development and other departments, teachers, development workers, and so-called "nongovernmental individuals" all play a part in the NIF campaigns. The role of students has been particularly important. Every year, the Honey Bee Network selects about 100 student volunteers from "Ghandian" institutions to scout for innovations and indigenous knowledge during their summer vacation. The scouting process is formalized, with survey forms and incentives for scouts, including prizes and trophies.

The scouted innovations are submitted for formal technical review through a vetting strategy that guides the allocation of resources awarded through the NIF. A Research Committee with two subcommittees (one consisting of institutional scientists, designers, and technologists and the other including "informal" grassroots innovators and traditional knowledge-holders) leads the peer review and recommends proposals that should receive awards.

*Source: Friis-Hansen and Egelyng (2007).*

must the capacity to put together a good proposal or concept note. Providing workshops and training to help prospective applicants hone their proposal writing skills constitutes good practice and increases the number of fundable proposals. Other kinds of technical assistance (for example, training to develop competencies in innovation processes) may be required for applicants with less capacity, such as farmers or agribusiness operators. Uganda's Millennium Science Initiative is a good example of the kind of support offered through a "Better Proposal Writing" workshop (other examples include projects in Colombia, Vietnam, and Zambia, discussed earlier).

Some innovation funds provide additional support to applicants through a helpdesk or similar facility. Box 20 describes the key features of the helpdesk funded through the National Agricultural Innovation Project (NAIP) in India. Briefly, the NAIP Helpdesk raises awareness of the project among prospective partners, supports the formation of partnerships, assists in developing concept notes and proposals (including an electronic submission and tracking system), and supports the implementation of subprojects associated with three multistakeholder research consortia.

**A TWO-STAGE REVIEW PROCESS**

A two-stage process managed by the grant secretariat is frequently recommended for submitting and reviewing

proposals for CRGs and MGs. In this process, applicants first submit a short concept note or expression of interest, using a specified format. Authors of promising concept notes are then invited to submit full proposals for further review and possible funding. By reducing the number of full proposals that are developed and rejected, the two-stage approach uses the grant program's resources more effectively and reduces the transaction costs for the secretariat and applicants.

Concept notes are usually screened by the secretariat against a checklist, set criteria, and screening format. The approved concept notes are endorsed by the board and subsequently developed into full proposals. The full proposals are submitted to the secretariat and peer reviewers (technical experts, who are either members of a permanent panel or outsourced by the secretariat). Based on the technical and other selection criteria and appropriate review formats, the reviewers evaluate the proposals, suggest changes in approach or budget as appropriate (few proposals are accepted without alterations), and approve the proposal, reject it, or recommend changes.

**Competitive Research Grants**

With CRGs, the objective is to fund only the highest-quality, most competitive proposals, so the role and composition of the technical review panel/reviewers (discussed in Section

**BOX 20: An ICT-enabled Helpdesk supports agricultural innovation in India**

India's National Agricultural Innovation Project (NAIP) uses research consortia and CRGs to speed the collaborative development and use of agricultural innovations by public research organizations, farmers, the private sector, and other stakeholders. In the process, NAIP has developed an innovation of its own. Its Helpdesk assists prospective partners in understanding NAIP's philosophy and requirements and presenting effective concept notes and full project proposals. It helps the successful grantees to run an effective research consortium.

The Helpdesk portal ([www.naarm.ernet.in/naiphelpdesk.html](http://www.naarm.ernet.in/naiphelpdesk.html)) offers:

- *E-learning and multimedia modules* on writing convincing concept notes and proposals.
- *An online system* for submitting concept notes and proposals and tracking their status, including reviewers' comments.
- A database of organizations, information, and experiences related to national and international agricultural and rural development projects operated through consortia, highlighting potential links.

Direct support by the Helpdesk has included:

- *Fostering partnerships.* The Helpdesk contacted and informed prospective partners, including partners from the private sector and civil society, about the research consortia and organized visits to foster participation.
- *Forming research consortia.* The Helpdesk conducted local interactive workshops or sessions (including six sensitization workshops), with extensive participation from public and private organizations, including NGOs, and civil society. Following the sensitization workshops, at least 60 concept notes were developed.
- *Facilitating reviews of prospective consortia.* The Helpdesk facilitated reviews of proposed consortia. Reviews provided guidance to strengthen proposals by including more/fewer partners or changing the emphasis on specific research areas.
- *Supporting the response to the call for proposals.* Through dedicated mobile phone and land lines, the Helpdesk provided round-the-clock support for issues or queries arising from the second call for proposals.
- *Supporting the implementation of subprojects.* The Helpdesk has focused on understanding and solving operational challenges in implementing subproject. Most queries pertain to monitoring and evaluation and the submission of periodic reports. Once a query is received, it is analyzed and an appropriate solution suggested through email.

Selected results and findings include:

- During three calls for proposals, the Helpdesk supported the submission of more than 230 concept notes, mostly through extensive email interaction, which greatly helped geographically dispersed partners to develop and integrate their proposals.
- The online submission system, coupled with the online learning modules, helped many groups to develop concept notes for the first time. In a spin-off of this assistance, the Helpdesk is providing an online system to the Indian Council for Agricultural Research to invite proposals for competitive grants in basic and strategic research.
- Online processing, together with changes in the peer review process, reduced the average time for approval from 14 months to 7 months from Call 1 to Call 3.
- The Helpdesk encouraged many partners and field units in remote areas to acquire mobile wireless internet connections, although the impact of this effort has not been formally assessed.
- During the first two years, consultants played a critical role in shaping the Helpdesk. Continuing this support through the same or another provider would have helped in analyzing and assessing many subproject experiences and impacts.

Source: Adapted from World Bank (2006c) and Progress Report by NAIP Helpdesk.

6) is of great importance. Identifying a large enough pool of technical reviewers (with appropriate capacity in science, markets, and other areas) may stretch the capacity of a small innovation system. Peer reviewers do not need to be based in the country in which the innovation fund is launched, however. ICT enables peer reviewers to conduct their reviews at a distance and submit their comments (via email, for email), and it increases the likelihood that proposals will be screened by world-class experts, regardless of their locations.

### **Matching Grants**

With most MGs targeting farmer groups or enterprises, all proposals that meet the minimum eligibility criteria will be funded. Therefore a useful practice is to carry out a field appraisal after the initial screening but before accepting a concept note for further development. The field appraisal is helpful for verifying the information and identifying needs for technical assistance (for example, for developing the full proposal). In large and/or new and technically complex projects that use MGs, a second field appraisal may facilitate progress with the grant scheme.

With MGs, proposals are also subject to full feasibility studies consisting of technical and financial appraisals using previously identified, weighted criteria. As the technical complexity and value of the proposed subprojects vary, the number of reviewers per proposal may also vary. Smaller and relatively less complex proposals may require only one reviewer, whereas larger and/or more complex ones may require two to three reviewers. Annex 6 provides examples of concept note and full proposal formats used for MGs targeting innovation among agribusinesses.

### **Capacity Assessment**

Some grant programs assess the procurement, administrative, and financial management capacity of applicants as part of the subproject preparation and approval process. The proposed two-stage process is ideally suited to meet this need. It provides an opportunity to assess capacity and arrange a one- or two-day training course for representatives of subproject teams that have made it through the concept note screening. The training should include information on the basic objectives of the grant scheme, including the types of support and restrictions in expenditures; the subproject approval process (peer review, secretariat budget negotiations, and board approval); the consequences of inappropriate or corrupt contract implementation; guidelines for preparing proposals, including the required proposal outline and draft grant agreement format; procedures for disbursement; and

procurement and audit rules. This training will greatly improve the quality of proposals, eliminate unnecessary confusion, and enhance the quality of implementation (Sehgal et al. 2002).

### **FINAL APPROVAL**

As noted, final approval of subprojects for funding is usually the responsibility of the board/committee. Each approved subproject requires a legal agreement, usually a memorandum of understanding between the winning applicant and the grant secretariat. This binding legal agreement between the grant management and the executing agency stipulates the responsibilities of the respective parties, which usually include the submission of reports, disbursement schedules and limitations, procurement guidelines, arrangements for M&E, and regular subproject audits. For comprehensive, practical guidance on procurement, disbursement, and financial management procedures in competitive grant programs, see Sehgal et al. (2002) and the summary in Section 9.

### **MANAGING TRANSACTION COSTS AND TIMELINES**

Subproject processing times vary significantly with IFMs. To permit yearly calls for proposals, the selection process for CRGs often does not exceed 12 months. For MGs directed at enterprises, a selection cycle of a few months is the norm. Activities that support sector development, capacity building, and the formation of partnerships are useful and often necessary, but they typically delay implementation of grant programs. Experience with productive partnership programs indicates that an 18-month cycle, which includes activities to form partnerships, is too long.

Electronic submission and processing of concept notes, proposals, review process, as well as financial management, can significantly eliminate transaction time and costs (as described in Box 20). ICT-enabled processing may not be appropriate in many contexts and with all stakeholders, however.

To retain applicants' interest in an IFM, it is also vital to strengthen subproject processing, commit to a timeframe, and improve communication with applicants (including timely updates on the status of applications). Box 21 offers practical suggestions to speed approval. After grants are approved, timely disbursement of funds is crucial. Most enterprises cannot wait for funding for long periods.

**BOX 21: Practical suggestions for accelerating the approval process**

- Use feedback from clients to systematize and speed up application, proposal development, and screening processes. Develop guidelines and formats (for business plans, proposals, and screening criteria) and adjust them, regularly and as needed.
- Using an ICT-enabled subproject application and processing system.
- Ensure that technical expertise and administrative capacity are available to guarantee smooth appraisal and the submission of good proposals.
- Provide support for full proposal development and subproject implementation, as needed.
- Continuously accept concept notes and approve proposals at set intervals.
- Difficulties in convening physical meetings with a large and diverse group of representatives can delay the approval of concept notes and proposals. Multistakeholder committee meetings and approvals may be more efficient if they can be done virtually. It may also help to determine the minimum number of representatives required to make valid decisions.

Source: R. Rajalahti.

## Chapter 9: LESSONS ON IMPLEMENTATION

The main issues arising when subprojects are implemented include disbursement, financial management and audits, procurement, and safeguard management. The sections that follow discuss these issues briefly, but they must all be described in considerable detail in the operational manual for the grant scheme. For a more thorough review and examples of formats, refer to Sehgal et al. (2002) and Srivastava et al. (2003).

Effective implementation of subprojects largely depends on the capacity of the applicants, the support they receive, and the clarity of the procedures. A good practice is to assess the procurement, administrative, disbursement, and financial management capabilities of the applicants and train them in the main skills and procedures required under the grant scheme, including reporting requirements, account management, and M&E.

### **DISBURSEMENT AND FLOW OF FUNDS**

Funds usually are disbursed in tranches specified in the memorandum of understanding, following the achievement of agreed milestones (indicators of progress) and expenditures. The number of tranches and the amount of each tranche are determined case by case, depending upon the amount of the grant and the nature of the subproject.

A good practice is to require the grant recipient to establish a separate account, solely for the purpose of the grant, with the required matching funds. Some grant recipients may encounter challenges in acquiring the full counterpart funding at the start of the subproject. In these instances, the grant agreement could require counterpart funding to be provided when the tranches of the grant are paid. Payments out of the subproject bank accounts should be made exclusively for eligible subproject expenditures specified in the grant agreement.

Regular verification through field supervision and subproject M&E, followed by a formal audit, are essential. Practices vary to some extent, but usually it is up to the applicant to

implement the subproject, including the procurement of capital items, consulting services, and goods. Additional checks and balances may be needed. Some subprojects use a third-party service provider to verify the delivery of services and goods before the secretariat disburses funds. The secretariat itself may handle payments for consulting services, equipment, and works. Box 22 illustrates how efficiency and transparency of grant management may be enhanced by outsourcing the activities following full proposal endorsement to independent third-party organizations.

### **FINANCIAL MANAGEMENT**

Grant schemes normally require each subproject to maintain a financial management system, including records and accounts, to reflect its operations, resources, and expenditures. The financial management system must clearly identify all of the subproject's receipts and expenditures and distinguish them from other receipts and expenditures. Financial records should include the accurate, current, and complete disclosure of grant income and expenditures, supported by the appropriate documentation (such as purchase orders, invoices, receipts, or justifications for selecting a specific vendor) to substantiate all costs incurred by the grant recipient in carrying out the subproject. The subproject is expected to prepare financial statements as specified in the grant agreement. Financial books, records, financial statements, any substantiating documents, and other records related to the subproject should be retained by the grant recipient, often for at least one year after the audit report is made (Sehgal et al. 2002).

### **PROCUREMENT**

Experience demonstrates that efficient and effective implementation of a subproject depends to a large extent on timely procurement of small items and adequate and dependable funding of subproject expenditures. However, the use of international or national competitive bidding may not be the most appropriate methods of procurement to achieve the economies of scale and efficiency desired in procuring the generally small-value

**BOX 22: Increasing efficiency and transparency in grant management**

To increase the efficiency and transparency of managing grants, some grant schemes outsource the activities following full proposal endorsement to independent organizations/entities, which assume responsibility for preparing contracts (including the verification of required documentation), disbursing funds, and dissolving contractual arrangements. This division of labor between the secretariat and the outsourced entity permits the secretariat to focus on critical functions related to creating awareness, targeting grants effectively, delivering the required training, and providing advice. This division of labor is particularly relevant when the size or amount of resources to be assigned in each particular call for proposals is relatively large and/or when a vast number of proposals is expected, which exceeds the capacities of the secretariat.

To illustrate, the Colombian National Training Agency (SENA, Servicio Nacional de Aprendizaje)—a public entity in charge of technical and professional higher education in Colombia—often makes use of independent “project management” organizations to strengthen the transparency and effectiveness of its operations. These organizations are responsible, for example, for contractual arrangements (including signing the grant agreement and detailing the responsibilities of the parties), grant disbursement, and overseeing the management of the funds assigned through a specific call (or several calls during a specific period).

Usually a third party (a designated university, for example) oversees the agreement and verifies that progress has been made before the entity managing the funds disburses them. Similarly, the grant agreement is dissolved only after the third party provides written notification of satisfactory completion of the project.

The engagement with external institutions and/or entities for the management of grant funds and monitoring implementation is often seen as a mechanism to increase grant efficiency and to bring about a higher level of transparency in the management of the funds. However, the success of these arrangements greatly relies on effective communication and coordination between the secretariat, the entity managing the funds, and the third party verifying the implementation. If those elements are not in place, these well-intended efforts may result in the duplication of functions, over-reporting, additional costs, delayed disbursements, and a lack of benefits.

*Source: Luz Berania Diaz Rios (personal communication).*

goods, works, and services included in small grants. In such cases, simplified procurement procedures, such as commercial practices and “national shopping,” are acceptable.

Because the procurement capacity of grant recipients varies, an assessment of their procurement capacity can help to determine how much procurement assistance, oversight, or training they require. This information should be available before the final terms of the grant agreement are negotiated so the necessary arrangements can be made.

The many details of procurement procedures and needs vary greatly and cannot be discussed here. Briefly, recommended practices include:

- When substantial procurement of goods and services is involved, the subproject proposal should include a dated procurement plan, developed with assistance from the grant administrator/service providers as needed.
- Establish a register of potential suppliers, contractors, and consultants.
- Create a unit price reference database.

For more specific information, practitioners should consult the procurement guidelines that are relevant for their particular context. Another useful reference is Sehgal et al. (2002).

**AUDITING**

The grant administrator or outsourced service provider should make regular on-site visits to grant recipients, not only to monitor and supervise the technical management of subprojects and verify progress in relation to established milestones, but to ensure that subproject finances are in order. Financial audits are vital to ensure that grant funds are used by the recipient only for the purposes for which the grant was made. Such monitoring is often done on a random basis. All subproject grantees must be made aware that an unsatisfactory or incomplete audit frequently causes the subproject to be canceled and may prevent the grantee from competing for any other financing from the innovation fund.

Grant recipients are expected to cooperate fully with the auditor and provide any records, documentation, and other information requested in connection with the audit, including



the financial books, records, and financial statements related to the subproject (Sehgal et al. 2002). As mentioned, all financial and procurement documentation concerning subproject implementation must be retained for a specific period to be available for auditing.

## SAFEGUARDS

Subprojects may be required to adhere to specific practices to prevent or mitigate any environmental or social problems that may arise from their activities. Subprojects funded by the World Bank, for example, are subject to World Bank environmental and social safeguard policies. Because innovation funding is demand-driven, the specific subprojects that will eventually be funded—and their potential environmental and social impacts—cannot be identified in advance. In such

cases, it is advisable to prepare a framework for managing any environmental and social impacts that may arise. The framework should provide a detailed assessment of the potential environmental and social effects of the types of subprojects that are likely to be funded, with detailed guidelines for monitoring their impacts and mitigating any negative impacts. The mitigation measures will be an integral part of the development and implementation of subprojects to ensure compliance with local and international guidelines and standards. The innovation fund and its administrator (or the administrative agency of the larger project that supplies the innovation funding) will need to allocate resources to assess, monitor, and offer training in environmental and social safeguards. Safeguards will vary and will be implemented differently in different contexts. Box 23 describes how safeguards were managed in India's NAIP project.

### BOX 23: Safeguard management in a demand-driven grant scheme in India

India's NAIP project, funded by the World Bank, provided competitive research grants to consortia representing multiple stakeholders working on a range of topics. The project developed generic safeguard protocols for the subprojects to be funded under the grants. These protocols consisted of a safeguard management framework and a checklist of likely social and environmental impacts. The potential safeguard issues were identified through a rigorous, multi-stage, consultative process that involved representatives of academia, scientists, NGOs, and the private sector, with support from external consultants.

Under these protocols, activities were excluded from subprojects if they required involuntary land acquisition; damaged wildlife, forests, and other natural habitats; excluded or adversely affected local people in general and vulnerable populations in particular (such as particular ethnic groups, landless people, or marginal or very small-scale farmers); could cause flooding and landslides; promoted the use, storage, manufacture, and distribution of banned hazardous agrochemicals; resulted in the elimination or replacement of indigenous flora and fauna; or harmed sites of religious and cultural significance.

A research consortium could not receive a grant if it failed to comply with the safeguards mandated by national law and World Bank policies. Each consortium was required to prepare a safeguard management note as part of its overall project proposal (the first six subproject proposals were shared with the World Bank for comments before approval). The safeguard management notes were expected to include:

- *Baseline information* on the proposed project's social, economic, demographic, cultural, ecological, and related environmental aspects.
- *A stakeholder analysis* identifying the key stakeholders, their views, and level of acceptance of the proposed project.
- *Impact assessments* identifying the positive and negative social and environmental impacts likely to occur as a result of the interventions and detailing specific measures to enhance the positive impacts and mitigate the negative ones.
- *Monitoring and evaluation arrangements*, along with specific indicators.

As part of its overall monitoring of subprojects, NAIP designed a strong program to monitor environmental and social effects and promote adaptive management when needed. Twice during NAIP's implementation, the Indian Council for Agricultural Research enlisted the services of an external consulting agency to conduct a safeguard assessment. Information related to all research consortia, as well as NAIP as a whole—including information on safeguards—was disclosed publicly.

Source: Adapted from World Bank (2006c).



### **SUBPROJECT CLOSURE AND COMPLETION REPORT**

Certain procedures are recommended for closing subprojects that have used innovation funds. Such procedures include obtaining and approving all required financial and progress reports, disbursing any outstanding grant payments, and ensuring that any unexpended grant funds are refunded to the grant administrator. All grant requirements remain in full force and effect until the grant recipient receives a close-out letter from the grant administrator indicating that all obligations have been satisfied (Sehgal et al. 2002).

Aside from following these administrative procedures, it is important to document the subproject's impact. A subproject completion report links all findings derived from the

subproject so that its overall achievements and impact can be assessed. Achievements should be discussed in terms of the subproject's specific scientific and/or business accomplishments, contribution to human resource development, the relevance of its findings to development, how the information and technology emerging from the subproject is being disseminated, what the present and expected future degree of adoption is, and (where relevant) the actual impact on productivity, farm incomes, competitiveness, and other indicators. In other words, the completion report does not simply repeat or summarize information in the regular progress reports submitted by the subproject but presents a broader and deeper assessment of impact. No regular progress report is submitted when a completion report is due (Srivastava et al. 2003).

## Chapter 10: MONITORING AND EVALUATING ACTIVITIES

Monitoring and evaluation (M&E) are central for tracking and capturing the specific knowledge and innovation emerging from the use of innovation funds. Key aspects of M&E include identifying appropriate indicators, establishing appropriate M&E arrangements, following common monitoring practices, and evaluating impacts. A host of specific details must be considered in monitoring and evaluating grant systems (see, for example, Srivastava et al. 2003 and Rajalahti, Woelcke, and Pehu 2005). This synthesis provides a brief overview of tested monitoring practices and describes evidence on the impact of matching grant schemes for developing near-market technology or enterprises. Most of the examples come from projects that are still underway. A more comprehensive impact study on MGs and CRGs, such as the one by carried out by IEG on CRGs in Latin America (Annex 2), would provide additional valuable lessons on what does and does not work in innovation funds.

“Monitoring” is defined as the continuous assessment of how a subproject is being implemented in relation to agreed schedules and the use of inputs, infrastructure, and services by the subproject’s beneficiaries. “Evaluation” is the periodic assessment of a subproject’s relevance, performance, efficiency, and impact in relation to stated objectives. Table 10 presents the complementary roles of monitoring and evaluation.

In the implementation of innovation funds, M&E activities are essential but often underestimated and underresourced.

**TABLE 10: Complementary roles of monitoring and evaluation**

MONITORING	EVALUATION
Routine collection of information	Analyzing information
Tracking project implementation progress	Ex post assessment of effectiveness and impact
Measuring efficiency	Confirming project expectations
Question: “Is the project doing things right?”	Question: “Is the project doing the right things?”

Source: Alex and Byerlee (2000), as cited in Rajalahti, Woelcke, and Pehu (2005).

Establishing an adequate M&E system before implementing an innovation fund is imperative for success, however. Although each innovation fund is unique, good M&E practice entails a few essential steps: (i) clear objective and design, (ii) indicators that capture the outcomes and processes, and (iii) M&E arrangements for collecting, reporting, disseminating, and using data for decision-making. Effective M&E also requires the development of a concise M&E plan for each subproject, the establishment of a management information system (MIS)—an internal system for collecting, analyzing, storing, and disseminating pertinent information—and good institutional and human capacity to implement the required actions (adapted from Rajalahti, Woelcke, and Pehu 2005).

### SETTING INDICATORS

Indicators are one of the crucial aspects of any project’s design. They are quantitative and qualitative variables that provide a simple and reliable means to measure achievement, reflect changes connected to an intervention, or help assess the performance of an organization against the stated targets. Indicators serve as incentives to stakeholders who must provide accurate and timely information to the grant secretariat to receive continued funding during implementation. Elliot and Echeverría (2000) use four criteria to measure the performance of innovation funds, particularly competitive schemes: increased effectiveness, increased efficiency, the promotion of favorable institutional change, and the observance of accepted public finance criteria.

For CRGs, it is essential to evaluate performance against indicators of research effectiveness (for example, the impact on factor productivity, rate of return to research, and adoption of results) and research efficiency. In other respects, CRGs can be evaluated like any other public finance mechanism—in terms of the revenue implications (additionality), allocative efficiency (distortion of expenditures), and administrative burden (costs of collection and disbursement). Examples of

**TABLE 11:** Possible criteria and indicators for measuring performance of competitive research grants and matching grants

CRITERION	EXAMPLES OF INDICATORS (BENCHMARKS)
Impact of research results attributed to research projects financed by competitive grants  or  Impact of grant-enabled partnership or business	<ul style="list-style-type: none"> <li>• Factor productivity (crop yields, labor productivity)</li> <li>• Trend in natural resource degradation (soil erosion rates)</li> <li>• Social rate of return to research (percentage)</li> <li>• Absolute and relative poverty rates (percentage)</li> <li>• Scientific quality and spillover benefits (publications, citations, peer evaluations)</li> <li>• Increase in the value of sales/farmer value-added/increase in the quality of produce of farmers engaged in partnerships</li> <li>• Increase in the income/profitability or competitiveness of target actors (agribusiness, farmers, and others)</li> <li>• Increase in innovation (technical, organizational, and other) among the target actors</li> </ul>
Costs of doing research (efficiency) attributed to research subproject financed by competitive grants	<ul style="list-style-type: none"> <li>• Outsourcing for efficiency: Share of contracted research within subproject activities (percentage of total)</li> <li>• Delivery: Number of subprojects terminated within a year after the planned date</li> <li>• Success rate: Number of subprojects that have achieved the planned milestones</li> <li>• Punctuality: Ratio of realized and planned time for subproject execution</li> <li>• Length of subproject cycle (number of months)</li> </ul>
Institutional change	<ul style="list-style-type: none"> <li>• Partnerships: National, regional, and international research joint ventures in a given year; partnerships (including public–private partnerships) or technologies developed in partnerships; performance of partnerships; technologies developed and tested in interaction with target groups; diversity in partnerships; number of collaborative (research or extension) subprojects implemented</li> <li>• Institutional capacity: Staff qualification index, annual turnover rate, capacity to engage in partnerships, strengthened organizational practices</li> <li>• Ownership: Stakeholder participation in governance, priority setting, and program planning events (numbers, share in total, level of responsibility); farmer organizations/private sector engaged in implementing collaborative research or farmers engaged in outgrower schemes</li> <li>• Importance: Trend of national research budget allocated to competitive grants and to direct institutional funding (percentage over time)</li> <li>• Confidence: Share of private sector funding in total research expenditure (%) and number of joint ventures</li> </ul>
Public finance criteria	<ul style="list-style-type: none"> <li>• Additionality of resources attracted by mechanism (from clients, government, private sector, and partners)</li> <li>• Allocative efficiency of resources and impact on research priorities in relation to national goals (change in resource allocation to new goals)</li> <li>• Administrative costs of collection and disbursement of funds relative to total grant activity</li> <li>• Transaction costs and preparation costs for applicants, reviewers, and the panel</li> </ul>

Source: R. Rajalahti; Elliot and Echeverria (2000).

these criteria and additional criteria related to MGs are summarized in Table 11.

## MONITORING AND EVALUATION ARRANGEMENTS

Institutional arrangements and institutional and human capacity must be adequate to support M&E for an innovation fund and its subprojects (not to mention the larger project or program to which the innovation fund may belong). M&E arrangements must include a functioning MIS. A good practice is to hire specialized M&E staff for the grant administrator (and other M&E units as discussed below) and/or outsource the M&E activities to experts. Many grant recipients are not adept in M&E, including defining quantitative and qualitative output and outcome indicators (which are also needed for setting milestones and disbursement of funds) and developing M&E plans and frameworks. They would benefit from specific M&E training on indicators and

reporting requirements as well as hands-on support at the beginning of a subproject.

## M&E Units and Levels for Projects with Grant Schemes

Projects with grant schemes often have to establish M&E at three levels. Three steps may be helpful in determining the appropriate institutional arrangements for M&E in projects with grant schemes (see Figure 2 for a summary).

1. **Establish a centralized M&E unit.** Innovation funds that are part of larger projects often either establish an M&E unit that is integrated into the project implementation unit, or they choose to share M&E tasks among the implementing partners and primary stakeholders. For complex projects, it is recommended that a centralized M&E unit be established within the main implementing institution (often the Ministry of Agriculture). Obviously

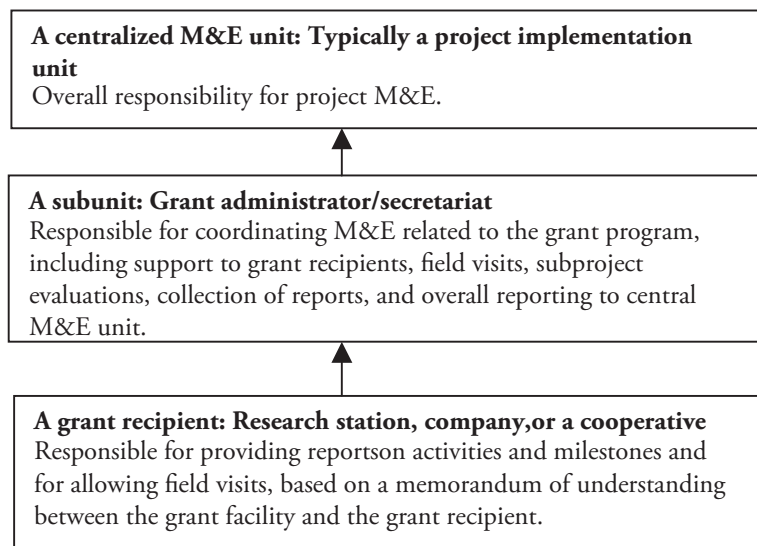
the project implementation unit needs a competent M&E specialist, preferably with experience in monitoring grant components with numerous subprojects.

2. **Link the centralized project M&E unit to subunits (with innovation funds, often a secretariat).** The centralized unit should collaborate with M&E units in other co-implementing institutions (for example, grant facilities or secretariats, extension agencies, research centers, private sector implementers, enterprise development centers) and in decentralized regions (provinces, districts, county-level centers) where project activities take place or have influence.

These first two steps aim to guarantee that all project components will (i) provide sufficient project level M&E links and scope for effective communication between and within projects; (ii) ensure adequate reporting at the national or program level, and pinpoint any gaps or shortfalls that may not be detected by the M&E system of a single project; and (iii) provide an avenue for various subproject teams or team leaders of projects under the Ministry of Agriculture to collaborate, share lessons, and ensure desired results (Rajalahti, Woelcke, and Pehu 2005). Despite their complexity, M&E budgets should not exceed seven to nine percent of the total project budget (“Competitive Grant Scheme for Agricultural Research and Development in Sub-Saharan Africa,” no author, 2002).

3. **Link the subunit M&E to subprojects managed by the main grant recipient** (a researcher/research unit, agribusiness, farmer association, partnership, and so on). Each

**FIGURE 2:** The three monitoring and evaluation levels associated with grant schemes, with a summary of the responsibilities



Source: R. Rajalahti.

subproject needs to be linked to the overall M&E system, with specific requirements laid out in the memorandum of understanding between the innovation fund and the grant recipient (that is, that the main applicant is responsible for M&E and reporting). The grant administrator’s M&E unit will be responsible for integrating these requirements into the overall system as well as carrying out field visits and performing related functions.

Matching grant programs that target farmer associations and/or individual farms often have large numbers of grant recipients. It is recommended that such schemes be monitored by both the responsible grant recipient (for example, through specific book-keeping) as well as by the secretariat (for example, through random checking).

### Management Information Systems (MIS)

Used to manage and analyze data on subprojects or programs, an MIS helps to ensure that data on the projects and subprojects can be fully utilized by the project management unit and the technical secretariat. A well-designed MIS facilitates the collection, storage, management, and analysis of the large volume of data and information generated in implementing an innovation fund. Box 24 lists factors that must be taken into account when designing an MIS.

## EARLY AND CONTINUOUS MONITORING

### Early Supervision

M&E arrangements, specialized human resources, and a proper MIS all contribute to subproject monitoring. Usually the grant administrator or the outsourced

**BOX 24:** Essential aspects to consider in establishing and operating a management information system (MIS) for a grant scheme

The primary purpose of an MIS is to support management in making timely and effective decisions for planning, monitoring, and managing the grant scheme. An MIS is essentially a system that uses formalized procedures to provide management at all levels with appropriate information from internal and external sources.

An MIS generally consists of accounting software and a database system for managing nonaccounting information and information related planning. Besides its software and hardware, an MIS comprises four elements: (i) the actors who take decisions on the grant scheme; (ii) the data and information that are useful for decision-making; (iii) the procedures that determine how the actors relate to the data; and (iv) the tools that facilitate the collection, analysis, storage, and dissemination of the data.

One essential feature of any MIS is that it should operate using the regular client processes as much as possible, so the design and planning of an MIS requires systematic dialogue with the stakeholders. Other key desired features of an MIS in general, and of an MIS for a grant scheme in particular, are:

- The accounting system should be linked with subproject monitoring.
- The MIS tools should be organized modularly (different functions of the system are managed by distinct modules, which in turn are integrated into a common, central database).
- The MIS should adapt to the decentralized organization and operation of the grant scheme.
- Any new grant scheme components should be managed by the MIS to prevent the multiplication of management tools.
- The MIS should facilitate the management of impact information.
- MIS tools should facilitate decision-making.
- Information management should be secure.

*Source: Rajalahti, Woelcke, and Pehu (2005).*

experts monitor financial and technical implementation of the subprojects through regular progress reports and field visits. It is essential that approved subprojects are monitored closely from an early stage onward and that any problems encountered, such as problems with the adequacy and continuity of funding, smoothness of procurement arrangements, and so on, are resolved quickly. The lessons learned should also be incorporated into the grant procedures.

#### **Milestone-based Subproject Progress Reporting**

A clear subproject design with explicit objectives, a time-bound implementation plan with key milestones for all activities, and/or a results framework with specific indicators and targets contribute to monitoring implementation and achievement of targets. It is customary to establish disbursement agreements with grantees that connect disbursement to a subproject according to a schedule of expected deliverables and demonstrated progress against pre-established benchmarks. Milestone-based disbursement constitutes good practice and discourages corruption.

Grantees are often required to report on expenditures (related to procurement and other inputs) and technical progress toward scientific or technological goals. Progress reports by subproject grantees, tied to tranche disbursements where appropriate, should provide adequate information on implementation progress, which is usually measured against agreed indicators. Although the reporting frequencies across subprojects may vary (as the length of the subprojects may vary significantly), the grant administrator should make at least one visit to each of the approved subprojects during the first six months after contract signature, to review progress on the ground and if necessary, agree on required modifications in the implementation arrangements. Follow-up reviews of subprojects in the field should be organized at least once every six months. Box 25 illustrates M&E practices of a competitive grant scheme in Ecuador.

#### **Innovation Fund Progress Reports**

An important role for the grant administrator is to aggregate grantees' progress reports and to synthesize the findings

**BOX 25: Key features of the monitoring and evaluation system for the Agricultural Services Modernization Program (PROMSA) in Ecuador**

The PROMSA Project Implementation Unit, in collaboration with Natural Resources International (NRI) and the Competitive Fund Management Unit (UEFC, Unidad Ejecutora del Fondo Competitivo), has developed a state-of-the-art M&E system for a competitive funding scheme in Ecuador. For individual subprojects financed under the competitive fund, a simple system of objectives and milestones (for inputs, activities, and outputs) was established, with monitoring based on information in quarterly reports. The annual evaluation of subprojects is based on annual reports by researchers; the establishment of a participatory reference group of users and other interested individuals for each subproject; and bi-annual visits by UEFC to each subproject. In addition, the UEFC has recently solicited feedback from subproject leaders through a survey of their opinions about the processes employed in the first three calls for proposals. Data on all subprojects and milestones are recorded in a database managed by UEFC. The PROMSA Competitive Fund uses “alerts” to indicate when a subproject is experiencing serious problems. A subproject under alert status is not eligible for payments from the fund.

Monitoring and evaluation of the competitive fund as a whole is based on several mechanisms, which include:

- The annual operating plan of the UEFC, combined with quarterly reports on implementation according to the proposed work plan.
- The subproject database established by UEFC, which provides the PROMSA Project Implementation Unit direct access to data on implementation of subprojects and overall performance of the subproject portfolio.
- Visits by the PROMSA Project Implementation Unit officer to subprojects and other UEFC-organized activities to observe first-hand the processes employed in administering the competitive fund.
- Special studies and external evaluation of the operation of the competitive fund and its outcomes and impacts.

Source: World Bank (2006a).

in annual M&E progress reports. Such reports should include assessments derived from site visits to grantees. For some innovation funds, members of the technical review committee perform these annual or mid-term site visits. For others, members of the scientific community in a particular context may do so. The objective of the visits is to generate as accurate a picture as possible of the progress against stated objectives achieved by every grantee. Since an individual innovation fund is often just one intervention designed to strengthen an innovation system, it is imperative that actors across the system learn how the intervention is progressing. Even for those actors not directly involved, the opportunity for learning and for attracting the interest of a wider pool of potential applicants should not be missed.

**Learning Opportunities**

Given the objectives and processes promoted, it is recommended that regular M&E activities be supplemented with opportunities to exchange experiences and lessons and portray views on the entire process (in other words, opportunities to facilitate learning and accountability).

**Problem Subprojects**

An important function of an M&E system is to identify “problem” subprojects and help to resolve the problems. For example, Ecuador’s PROMSA project has a well-developed system of alerts for problem subprojects and criteria for assigning them (Box 26). Most subprojects will encounter some problems owing to external factors (such as the weather or unexpected economic changes) or internal factors (such as funding difficulties), but when serious problems occur, the M&E system should assign a “warning flag” to the subproject until the problem is corrected.

Depending on the extent of its problems, a subproject with a warning flag might not be eligible for subsequent financial disbursements or might receive additional visits or other technical assistance. However, a system must be designed to resolve problems in implementing subprojects and eliminate the “problem” status. If subproject grantees do not address problems on a timely basis despite repeated requests, the subproject should be terminated (Srivastava et al. 2003).

Grants can be terminated for several reasons. The grant recipient may not follow the provisions of the memorandum

**BOX 26: Alerts for problem subprojects in PROMSA's Competitive Fund**

The competitive fund in Ecuador's PROMSA project uses "alerts" to indicate when a subproject has encountered serious problems, usually when:

- Its quarterly or annual reports are overdue by more than a month.
- It has achieved less than 80 percent of the milestones for a given quarter.
- Its visit rating is less than 2.5 out of 4.0.
- It has a serious problem in the quality of implementation.

While in alert status, a subproject is not eligible for additional payments from the competitive grant fund. If the subproject does not clear its alert status by correcting deficiencies or rescheduling milestones within a specific timeframe, it is cancelled.

*Source: Srivastava et al. (2003).*

of understanding or may encounter such significant delays in implementing the subproject that the grant administrator believes that the subproject will not achieve its objectives. The recipient may fail to submit a complete financial report or to submit copies of financial documents to complete its financial reporting. No proper accounting may exist in the recipient's financial records, or the recipient may provide false documents or information. The recipient may have used the grant to finance expenses not approved by the grant administrator or to conduct activities other than those approved for funding. The grant may also be terminated if the main applicant cancels its participation in the subproject or if financial support for the grant scheme itself is terminated.

**Unauthorized Sales of Goods and Equipment**

When a grant is canceled, the normal practice is to require that all unused funds are returned to the grant scheme account and that all equipment purchased under the grant is returned to the grant scheme. Some grant schemes have suffered from unauthorized sales of goods and equipment purchased with grant funds. An option for avoiding this problem is to create a trust that physically holds all registration documents, titles, and other ownership documents for goods and equipment acquired with grant funds. For example, in the Zambia ADSP, ownership of any single good or piece of equipment valued at more than US\$ 25,000 equivalent, or any equipment with registration documents or a title, is held by a special trust created by the secretariat. The National Project Steering Committee serves as the trustees, and the committee (as a group) has the authority to repossess or liquidate assets purchased using matching grants if recipients fail to follow guidelines specified in the contract to access

the grant. If a recipient is found to have abused the terms of the matching grant contract, the trustees reserve the right to repossess and liquidate subproject assets purchased using the grant.

**EVALUATING GRANT SCHEMES**

Grant schemes can be evaluated in different ways and for different purposes. In the World Bank, for example, evaluations can be divided roughly into interim evaluations and impact assessments. Interim evaluations constitute an early warning system; they are done to prevent adverse effects and take corrective action midway. Impact assessments are done when a grant scheme ends or even several years later to assess changes in overall societal goals, such as improved incomes, reduced poverty, and environmental conservation.

An innovation fund should be evaluated against its impact on its stated goals. A sample of subprojects should be evaluated for impact when activities are nearing completion. Impact assessments often have not been a priority, however. The study of four competitive grant schemes in Latin America (Annex 2) revealed that only Peru had conducted rigorous evaluations to determine whether the various small subprojects had increased agricultural productivity or farm incomes. Nor had the grant schemes made sufficient provision for assessing the short-term performance of individual subprojects. The subprojects may have had an impact, but as there was no systematic specification of baselines and targets, it was not possible to verify it. The Colombia Productive Partnership Project illustrates the kinds of impacts that can be achieved through a matching grant scheme as well as lessons for implementing similar schemes (Box 27).



**BOX 27: Colombia Productive Partnerships Project: Incentivizing market inclusion through matching grants**

The Colombia Productive Partnerships Project, now in its second phase, builds on lessons from the initial phase to increase the incomes of small-scale farmers by improving their relative position in the market. The project creates favorable conditions for large buyers and small sellers to establish mutually beneficial and sustainable relationships. It offers matching grants to complement producers' own resources and/or funding from other sources (local governments, municipalities, commercial partners). Producer organizations use the grants to obtain technical assistance and build their capacity (for example, to meet quality standards, bargain, or enhance their entrepreneurial and negotiating skills). Through the grants, producer organizations gain the ability and incentive to invest in collective goods such as storage facilities and packing facilities. The grants also enable individual small-scale producers to invest in productivity-enhancing infrastructure and gain start-up capital to meet buyers' requirements. By the end of its first phase, the project had demonstrated the following results:

- Of 136 partnerships financed initially, 118 were sustainably operating in a wide range of markets (such as cocoa, coffee, blackberries, mangoes, plantains, dry beans, milk, honey, and fish).
- The types of partnerships varied: over half were food processors, one-third wholesalers, and the remainder supermarkets and retailers (for domestic and international markets).
- The average income of small-scale producers increased by 77 percent and their employment by 70 percent.
- Over 60 percent of the sample partnerships resulted in an internal rate of return of 12 percent (based on a random sample of 23 partnerships).
- Success varied, but the relationship between the buyer and producer was terminated only in 13 percent of partnerships (18 of 136) (for diverse reasons, including constraints in establishing social cohesion within the producer organization; inadequate technical assistance; degradation of local market conditions; and poor feasibility studies, which prevented technical constraints from being discovered before the grant was made).

A particular set of incentives, infrastructure, and market conditions is needed to create and sustain well-functioning, productive partnerships. The key lessons for success are:

- A stronger producer organization yields a more successful partnership. Social cohesion and business skills were difficult to achieve and are emphasized more strongly in the second phase of the project.
- A rigorous, transparent, and competitive selection process ensures the credibility and integrity of the grant scheme.
- Technical service providers as facilitators are fundamental to building trust with the commercial buyers.
- Outsource management and support of partnerships to local service providers at the end of the project.
- Enhance market access for small producers by encouraging private sources of credit in addition to the revolving fund.
- Measuring the project's success leads to clear assessments both during and after the project. The long-run goal of the project is to increase agricultural incomes. When it is not possible to measure the project's precise impact on incomes, alternative indicators that can be directly attributed to the project, such as sales volumes, were used. One of the output indicators—the strength of producer organizations—is difficult to measure, so proxies such as the capacity to maintain accounts and manage the revolving fund were used instead.
- Crop selection should be targeted to producer organizations' financial and technical capacities.

This project was the first World Bank project of its type in Latin America and the Caribbean. Since its inception, similar projects have been initiated in Brazil, Bolivia, Guatemala, Honduras, Jamaica, Panama, and Peru.

Source: Collion, M-H. (forthcoming).

Box 28 summarizes the main steps in evaluating the economic impact of CRGs. While somewhat different from CRGs, economic evaluations of MGs—either for small, demand-driven subprojects implemented by farmer groups,

for productive partnerships between farmer associations and agribusiness, or for technology generation and adaptation subprojects among diverse actors—follow similar principles and procedures.

Aside from economic impacts, innovation funds should be evaluated against their set objectives, their impact on institutions and beneficiaries, and their other social and environmental impacts. They should especially be evaluated to capture valuable lessons on process. For example, many innovation

funds aim at addressing market failures. It is important to determine the extent to which they have succeeded. More generally, the growing global demand for agricultural innovation makes it vital to assess the characteristics that separate effective from ineffective innovation fund mechanisms.

**BOX 28: Economic evaluations of subprojects funded through competitive research grants**

Several methods can be used for the economic evaluation of subprojects funded through CRGs, but the most common method is to determine the internal rate of return (IRR) of the investment. The IRR is a key indicator of research efficiency. Benefits (changes in productivity induced by the research effort) are identified and compared to the cost of the research. Because competitive grants fund many subprojects, it is necessary to sample those subprojects; the final IRR is an average of subproject IRRs. It is highly recommended to hire an expert for this assessment. The main steps and considerations in conducting an economic assessment of CRGs are:

- At the beginning of the project, collect baseline data and allocate sufficient resources for the economic assessment.
- Sample subprojects with identified target groups.
- Measure benefit streams:
  - Identify technologies/innovations generated in a subproject.
  - Estimate the diffusion and adoption of each technology/innovation ( $x$  years into the future).
  - Estimate the productivity impact (for example, the effects on yield, cost, quality)—the incremental net benefit per unit of analysis (farm/hectare) from adoption of the technology.
- Measure research costs.
- Estimate the IRR.
  - Estimate annual benefit flows and cost flows in the future (projections are needed).
  - Separate nonproject effects.
  - The overall IRR for the competitive grant scheme is the sample average of the subproject IRRs.

Source: Summarized from Rajalahti, Woelcke, and Pehu (2005).

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## Annex 1: PROVIDING PUBLIC FUNDS TO ADDRESS MARKET FAILURES

### DEFINITION OF A MARKET FAILURE

Market failure occurs when the market for a good or service fails to include all economic costs and benefits in the price of that good or service. Since the price of goods or services does not reflect all of the costs and benefits, the use of these prices results in the misallocation of resources and suboptimal economic outcomes. Market failures generally occur for the following reasons: (i) abuse of market power (for example, when a company has a monopoly); (ii) failure to account for externalities; (iii) provision of public goods (for example, knowledge which when released cannot be limited to certain users); (iv) asymmetric information (one party to a transaction has more information on the real value of the good or service than the other party); (v) uneven initial wealth distribution; and (vi) factor immobility.

### CORRECTING MARKET FAILURES IN TRANSITION ECONOMIES

Market failures are common even in developed market economies but are often corrected through legislation, institutional arrangements, or public investments. They are even more common in transition economies which, by definition, do not have the advanced market mechanisms, legal structures, institutional arrangements, or public funds to counteract them. In addition to the usual market failures found in developed market economies, transition economies experience some temporary market failures. After a short period of government or private intervention to correct these market failures, the market will develop, and market interventions will no longer be needed.

### EXAMPLES OF MARKET FAILURES

*Public goods* are goods that, when provided, cannot exclude users. As a result the price drops and private producers do not have the incentive to produce these goods at an optimal level. To counteract this kind of market failure, public funding has to be used to produce public goods, or legal rights have to be established to protect providers of those goods. Examples

of goods typically provided with public funds include public roads or extension services (which communicate information about new technologies that can be transferred from one individual to the next and are therefore nonexclusive). Drug formulations with patents are examples of public goods that have been altered through additional legal protection.

*Externalities* occur when costs or benefits of a particular good or service accrue to third parties. An example of a negative externality is pollution. An example of a positive externality may be the establishment of a private meat-processing factory that results in secondary employment in the area, because now workers have more wages to spend, thus creating more jobs outside the plant. Negative externalities are sometimes controlled by regulations or through financial incentives. Governments sometimes try to encourage the creation of positive externalities by providing incentives (such as tax benefits or grants) to private companies. An example of this kind of intervention is the use of a matching grant to locate a factory in a remote village where new jobs would have a significant economic impact.

*Market power distortions* result from institutional structures that develop in such a way as to prevent competition, such as monopolies. Market power distortions that most often affect small scale producers are the barriers to entry created by the high transaction costs of association. Farmers' inability to form associations results in their inability to aggregate their products and thus achieve economies of scale that would make their businesses profitable. A group of small-scale farmers may not be able to overcome such barriers to entry, even though in the longer run it would be extremely profitable for the group to do so. To help small-scale farmers overcome these barriers, a government or private facilitator may provide a one-time grant to help farmers set up the appropriate institutional structures, such as associations or cooperatives, that would allow them to aggregate and jointly market product.

*Asymmetric information* occurs when one party to a transaction has more information on the real value of the good or

service than the other. For example, a small farmer produces organic vegetables that could sell for a premium in the market. The farmer knows that they are organic, but the buyer may not be confident that the produce is really organic. As a result, the buyer is only willing to pay the lower price for non-organic produce. This market failure could be corrected by providing grants or information on how to establish an organic certification process at the farm level or install a pesticide residue testing facility at the market. With pesticide residue testing equipment at the market, consumers could verify that the produce was organic and the higher price would be paid. Another common asymmetric information problem faced by small-scale farmers is knowledge about what markets exist. For example, small-scale producers may be in an area that is excellent for producing nutmeg, but they may not know that the area is suitable for nutmeg production, how to produce it, or that there is a high-value global market for nutmeg.

*Initial endowments (wealth) of market participants*, particularly the difference in initial endowments, can result in market failure, since poorer individuals cannot participate in some markets without a minimum endowment. This type of market failure is common among the poorest of small-scale producers. A grant or partial grant program to acquire productive assets such as livestock, targeted at the poorest subgroups, is often effective in providing the minimum equity endowment needed to compete in the market. An important aspect of market failure related to initial endowments is the inability of poor small-scale farmers to absorb risk. Without sufficient initial endowments to absorb risk, small-scale farmers are reluctant to take the risk of adopting new technologies. One-time grants to encourage the adoption of new technologies can offset this market failure. Once the new technology has been adopted, there is no need for further grants or subsidies.

*Factor immobility* occurs when assets used in production are fixed in a particular location for a period of time and cannot be moved to a location that would yield higher returns. This is a common problem with household farm labor, which has a very high cost associated with moving. One way of reducing the effective factor immobility of remote rural locations is to

improve transportation to markets or to change to products of higher value on which transport costs have less of an impact.

### **ACHIEVING THE MAXIMUM BENEFIT (TO SMALL-HOLDERS) FROM A PUBLIC SMALL GRANTS PROGRAM**

Since the funds available under the projects are often limited, they cannot address all market failures for all small-scale farmers. It is therefore important that subprojects financed through grants provide the largest benefits to the largest number of farmers. This outcome may be achieved by (i) prioritizing the types of market failures to be addressed; (ii) selecting subprojects that are the most innovative and are expected to provide the largest incremental benefit per farmer; (iii) ensuring the participation of large numbers of small-scale farmers; (iv) ensuring that commercial subprojects are financially viable after the grant is disbursed; and (v) ensuring that pure public goods investments are expected to yield sufficient net economic benefits to justify the public investment.

### **AVOID CREATING MARKET DISTORTIONS THROUGH GRANTS**

The most difficult aspect of managing a grant program is determining how much grant funding is required to overcome a particular market failure. If the grant is too small, the market failure may not be overcome, and the objective of the grant will not be met. If the grant is too large, it could create its own market distortion. In evaluating a grant proposal, it is important to estimate the minimum grant that is required to overcome the market failure. This is the amount that should be given as a grant to the beneficiaries. The rest of the investment should be made by the beneficiary. Objective and subjective evaluations of the economic benefits and costs of the proposed project are required to determine the minimum grant amount. Evaluations could include an assessment of economic rates of return, financial rates of return, short-term cash flow requirements, and subjective assessments of externalities and other market failures.<sup>1</sup>

<sup>1</sup> The text of this annex is drawn from World Bank (2005b).



## Annex 2: **AGRICULTURAL RESEARCH AND COMPETITIVE GRANT SCHEMES: AN ASSESSMENT OF FOUR PROJECTS IN LATIN AMERICA BY THE WORLD BANK'S INTERNAL EVALUATION GROUP (IEG), 2009**

The World Bank's IEG undertook a comparative analysis of the performance of four agricultural projects that used a similar approach to support agricultural research in Brazil, Colombia, Nicaragua, and Peru (World Bank 2009a). Competitive grant schemes are typically nationwide contests in which a wide range of potential service providers are invited to submit proposals for technical review. Transparent procedures and rigorous criteria are used to select proposals for funding. The aim of competitive grants is to bring greater contestability and increased efficiency to bear on the creation of agricultural knowledge. Competitive grant schemes complement the traditional block funding allocated every year to specified public research organizations for their core research programs.

Since the early 1990s, Latin America has pioneered the use of competitive grant schemes, with significant support from the Bank, including the four projects assessed here. The main findings are:

1. Although the projects were designed to be responsive to clients, outreach to the poorest groups and regions was problematic.
2. An IEG poll of persons knowledgeable about the projects found a widespread conviction that the rigor and transparency of subproject selection was enhanced by the competitive model, but IEG found no evidence that this model led to higher quality and more cost-effective research than alternative approaches.
3. To varying degrees, the assessed projects sought to promote decentralization to be more client responsive and to balance regional priorities. But progress was uneven. Brazil made the greatest progress in developing research capacity in the individual states.
4. Although the projects were generally conducive to the diversification of service providers, they did not lead to a significant increase in participation by the commercial private sector. On the other hand, to the extent that the projects helped to improve skills, increase capacity, and elicit co-payment funding involving farmers and their organizations as well as other private nonprofit organizations, they contributed to a broader process of private sector development.
5. With the exception of Peru, there is no evidence from rigorous impact evaluations to show whether the various small subprojects led to higher agricultural productivity and increased farm incomes, and the assessed projects made insufficient provision for assessing the short-term performance of individual subprojects (there was no systematic specification of baselines and targets).
6. While there are doubts about how long support for the competitive fund model will continue in all four projects, it is equally important to recognize the support these projects gave to strengthening the broader public research and extension apparatus. Where there is a strong public sector apparatus, there is likely to be a sound enabling environment for competitive funding over the longer term, which may offset short-term downturns in government and donor support for competitive funds.

Comparative analysis of the four projects yielded the following lessons:

- **There is a clear need for stronger monitoring and evaluation of research projects.** The lack of hard evidence about the results of competitive grant investments in research and extension is a considerable shortcoming of all but one project. In each of these countries, agricultural productivity has risen since the mid-1990s, with growth increasingly based on intensification rather than area expansion. Potentially the assessed projects contributed to this expansion, but with the exception of Peru, no robust survey evidence links productivity and income changes to project interventions.
- **It is important to strengthen the capacity of research organizations, not just to finance research.** A competitive grant scheme can be an important vehicle for financing research and can have a strategic



role to play in piloting new ways of working or focusing research on new topics. These schemes are most likely to make a sound and lasting contribution, however, when they complement a relatively strong public sector framework for research.

- ***To be able to compete, research institutions must have a minimum budget and a critical mass of staff.*** All institutions need a portion of the budget that is core funded to cover the costs of maintenance and upgrading their physical and human resources. Competitive grants usually fund only operating costs and finance subprojects of only two to three years' duration.
- ***The competitive grant model is more likely to strengthen the strongest agencies providing research and extension services than it is to reduce the disparities between the strong and the weak.*** The principle of competition between alternative service providers breaks down where the range of providers is limited (a problem at the municipal level and

for small countries) and when many of the potential providers lack the skills to prepare viable subproject proposals.

- ***The competitive grant model has not by itself led to large growth in the role of the private (for profit) sector as a provider of agricultural research and extension, but it has contributed to the broader process of private sector development.*** In these countries, to the extent that commercial firms have played a role, they have largely done so outside the framework of competitive grant schemes. On the other hand, under the competitive schemes, through the medium of subproject co-payments, producers have provided private funds as a complement to public sector grants. They have received training in the preparation of business plans, and they have become more market-oriented owing to partnerships with producer associations that have been facilitated by competitive funding agreements.

## Annex 3: **GOVERNANCE EMBODIED IN MULTIPLE ACTORS: UGANDA'S MILLENNIUM SCIENCE INITIATIVE**

Specific roles and responsibilities of the various actors in the governance and management structure for Uganda's Millennium Science Initiative (MSI) and the MSI's operating principles are described below.<sup>1</sup>

### **ROLES AND RESPONSIBILITIES OF THE UGANDA NATIONAL COUNCIL ON SCIENCE AND TECHNOLOGY (UNCST) EXECUTIVE COMMITTEE**

The Executive Committee (EC) oversees the implementation and provides policy guidance for the MSI Project. The EC articulates national priorities and government policies for science and technology and communicates them to the Technical Committee. Based on these priorities, the Technical Committee writes the calls for proposals and submits them to the EC for clearance. The EC also reviews project annual reports and forward them with comments to the Ministry of Finance, Planning, and Economic Development and the World Bank. The EC is responsible for confirming that the implementation of the MSI is proceeding according to agreed procedures defined in project documents.

### **ROLES AND RESPONSIBILITIES OF THE TECHNICAL COMMITTEE**

The functions of the Technical Committee include:

- Preparing the call for proposals for MSI grants in consultation with the EC.
- Reviewing initial subproject proposals and shortlisting finalists for each grant category.
- Identifying competent peer reviewers for full proposals, with assistance from the UNCST Secretariat.
- Selecting the best proposals for grant awards in accordance with the criteria detailed in the MSI Project Implementation Plan.

- Reviewing reports and other outputs of MSI grant activities to determine progress toward stated research, capacity-building, networking, and outreach objectives and targets.
- Reviewing a consolidated annual report of MSI grants compiled by the UNCST Secretariat, based on annual program reports from research teams and other sub-project participants.
- Forwarding the consolidated annual report with comments to the EC.
- Facilitating international and national networking goals consistent with MSI Project objectives as appropriate.

In carrying out these functions, the Technical Committee fosters a culture of scientific integrity and promotes mechanisms for quality assurance.

The Technical Committee is composed of eight distinguished scientists of international stature (four must be Ugandan, and four must come from elsewhere). Two non-Ugandan alternates are asked to participate when primary non-Ugandan members are not available. Technical Committee members have an appropriate diversity of backgrounds, with balanced representation across scientific, technological, and entrepreneurial experience. At the same time, all Technical Committee members have sufficient expertise in science and technology to make informed judgments on the scientific and technical merits of subprojects, in conjunction with the opinion of expert peer reviewers. Candidates for Technical Committee membership were solicited from a variety of national and international sources through a collaborative effort of the ministry responsible for science and technology, the Ministry of Finance, UNCST, and especially the Ugandan National Academy of Sciences. Technical Committee members serve for the duration of the project. They receive honoraria in accordance with established professional rates of compensation. The Technical Committee maintains a budget for performing these functions and relies on the UNCST Secretariat for administrative support. The Chairperson of the Technical Committee serves as the liaison to the EC.

<sup>1</sup> This annex draws on World Bank (2006f).

## THE UNCST SECRETARIAT

The UNCST implements the MIS Project. The Executive Secretary of the UNCST has overall responsibility for project implementation. The Executive Secretary interacts with the EC and the Technical Committee on project matters and oversees the UNCST Secretariat.

The UNCST Secretariat supports the management and administration of the MIS Project. It is staffed by UNCST permanent employees. The UNCST Secretariat follows the normal procedures for reporting to the Executive Secretary of UNCST. The UNCST Secretariat is responsible for general administration and for facilitating all functions (annual work plan preparation, financial management, procurement) relating to the Project. UNCST Secretariat tasks include:

- Preparing consolidated annual work plans and documenting achievements.
- Tracking the physical goals of the project through close monitoring and evaluation of project inputs, process, outputs, and outcomes (as outlined in the Project Monitoring and Evaluation indicators) and conducting social/beneficiary assessments.
- Preparing cash projections to ensure timely and required levels of withdrawal of project funds from the Special Account.
- Preparing withdrawal applications for appropriate signatures of Government of Uganda approved signatories for submission to the World Bank and preparing supporting documentation to demonstrate that funding proceeds have been used for the purposes for which the funding was granted.
- Maintaining records for project implementation.
- Completing project evaluation/review at mid-term.
- Preparing the Project Completion Report.

The UNCST Secretariat is also responsible for the financial management of the grants administered under the project, as well as the procurement responsibilities entailed in the MIS Project.

## OPERATING PRINCIPLES OF THE INITIATIVE

**Transparency and rule-bound operating procedures.** Project rules and procedures will be widely and readily disseminated, and information on the fund will routinely be made available publicly in a timely manner.

**Merit-based selection.** Grants will be chosen according to clearly defined criteria, disseminated ex ante to all potential grant proponents. Selection will rely on the use of qualified scientific peers for grant proposal review. Substantive feedback on proposals will be provided to all applicants.

**Human capital formation closely connected to research.** Funded research must involve training, especially in ways that promote the long-term development of high-quality domestic graduate and undergraduate science and technology degree programs.

**Relevance to national needs.** Relevance to national needs, including the need for improved fundamental science, shall be a principle selection criteria.

**Avoidance of conflict of interest.** Members of the Technical Committee and other decision-makers will not decide on issues in which they have a material interest in the outcome. Members of the UNCST Executive Committee, the Technical Committee, and the UNCST Secretariat are not eligible to compete for or participate in Funding Facility grant activities.

**Safe and ethical research.** Funded research teams and other participants will adhere to appropriate project-specific and national guidelines on safe and ethical conduct of research.

**Accountability.** All sponsored participants will be accountable for scientific and technological results, progress toward activity objectives, and use of resources. Regular reporting following the predetermined formats described in this manual is mandatory for all participants.

**Confidentiality.** All those involved in the review and/or administration of the fund will respect appropriate guidelines for confidentiality of proposals and related information.

**Promotion of public understanding of science and technology.** The fund will promote widespread understanding of and appreciation for the potential for science and technology to contribute significantly to national and individual development.

**Strengthening of institutions and sustainability.** The fund will seek to strengthen the institutions involved in its implementation in preparation for an eventual transition from a collaboratively funded project to a nationally funded science system.

## Annex 4: **CHECKLIST OF CHARACTERISTICS OF A MATCHING GRANT PROGRAM IN AN INVESTMENT PROJECT**

Minimum requirements to consider:

- Rationale for grant use.
- Target group: main beneficiary, including eligibility criteria.
- Eligible activities and expenditures.
- Anticipated grant demand (volume and time schedule).
- Subproject size, grant range, and match requirement (as relevant).
- Implementation arrangements, including implementation units and their roles, and administrative costs.
- Basic implementation procedures, including procurement.
- Monitoring and evaluation arrangements.
- Cost-benefit analysis, using representative examples.

Additional recommended activities for an efficient and sustainable grant program:

- Prioritization of themes/activities targeted by the grants.
- Client and stakeholder engagement throughout the design and implementation.
- Capacity-building and partnership facilitation arrangements (for example, to grant implementing units, applicants, potential service providers).
- Parallel supporting activities to build synergies between infrastructure, regulatory and market development activities.
- Coordination with other programs and actors.



## Annex 5: **EXAMPLES OF SELECTION CRITERIA FOR COMPETITIVE RESEARCH GRANTS AND MATCHING GRANTS**

This Annex presents examples of selection criteria, issues to consider in developing selection criteria, and formats that show how such criteria are weighted and used in evaluating proposals.

Table A5.1 lists the criteria and corresponding weights used to assess grant proposals in Nepal's Hill Agriculture Research Program.

**TABLE A5.1:** Grant selection criteria and weights, Hill Agriculture Research Program, Nepal

CRITERION	PERCENTAGE OF TOTAL SCORE
Alignment with national and regional policies	4%
The extent to which the proposal clearly shows it addresses a farmer-identified priority	7%
The extent to which the literature review of past work supports the proposed project	9%
How much consideration has been given to social and economic conditions of target farm households	15%
The logic and technical content of the proposal, and its feasibility	30%
Who will benefit from the project and how	14%
Whether the impact of the project outputs upon the environment has been considered	6%
The extent to which the technology adoption processes and the uptake pathways have been identified	6%
The adequacy of the budget to achieve the project purpose	9%

Table A5.2 provides examples of issues to include in criteria for selecting proposals submitted for competitive research and development funding. Note that these scores should be associated with weights.

**TABLE A5.2:** Examples of issues to include in the selection criteria, National Agriculture Research and Development Fund, Uganda

CRITERIA	STANDARD	SCORE AVAILABLE
<b>GENERAL CRITERIA</b>		
Interpretation of the terms of reference	Demonstration that applicants understand the issues and that methodology and team will address the research opportunity in a relevant way.	8
Monitoring indicators	Monitoring indicators identified in terms of quantity, quality, and time.	7
<b>TECHNICAL CRITERIA</b>		
Scientific merit and quality	Based on good scientific research practice.	10
Appropriateness of the research methodology	Methodology should be suitable for the task.	8
Likely achievement of objectives within the time frame and budget indicated	Proposals should not be unrealistically ambitious in terms of targets set.	4
Availability and suitability of the necessary research facilities	Facilities need to be appropriate for the research to be carried out. Where facilities have to be hired, written confirmation of their availability is required.	4
Proposed approaches to hazardous procedures and ethical considerations	Methods and results should minimize any harmful byproducts and/or deleterious effects on the environment.	4

continued

**TABLE A5.2:** Examples of issues to include in the selection criteria, National Agriculture Research and Development Fund, Uganda (*continued*)

CRITERIA	STANDARD	SCORE AVAILABLE
<b>SOCIAL AND INSTITUTIONAL APPRAISAL</b>		
Poverty focus	Research should be undertaken for the principal benefit of poor farmers.	5
Deepening decentralization	Research should be conducted in conjunction with farmer organizations at decentralized levels of administration.	5
Targeting market opportunities	Proposals should show the link to market opportunities for the improved product.	5
Gender focus and gender-responsiveness	Proposals should be designed to ensure a fair opportunity for women to share in the benefits of the research.	3
Quality and diversity of participation	Participatory processes followed, multidisciplinary, diversity and complementarity of roles, evidence of agreements and consensus.	3
Sustainable natural resource management	Research should not result in any long-term reduction in the productive potential of natural resources	3
Capacity development of research institutions	Proposal should include provision for young professionals to gain research experience.	3
<b>ECONOMIC CRITERIA</b>		
Expected economic benefits	Research outputs should benefit a large number of farmers. Benefits should also include projected increase in farm incomes.	4
Proposal is cost-effective	Low-cost research techniques are preferred.	4
High level of benefits relative to costs	Ratio of benefits to costs should be high. High-cost proposals can be justified only by very large benefits.	8
<b>COMMUNICATIONS CRITERIA</b>		
Assessment of communication needs of target group	Proposal should include plans to assess communication needs of target group for the dissemination of results.	4
Provision to develop appropriate materials for intended beneficiaries	Proposal and budget need to provide for production of communication materials.	4
Provision for dissemination of information on results with partners	Proposal and budget need to provide for program and dissemination of research results.	4



## SELECTION CRITERIA AND SCREENING FORMAT USED AT THE PROJECT CONCEPT NOTE (PCN) STAGE FOR THE ZAMBIA ADSP'S MARKET IMPROVEMENT AND INNOVATION FACILITY (MIIF)

The secretariat uses the screening format reproduced here to assess whether the PCN meets the mandatory criteria (I - overall eligibility) and to what extent the PCN meets the technical/financial criteria (II - PCN appraisal). Those PCNs that receive a minimum of 70 percentage points are automatically approved for further development (with endorsement from the board).

A useful practice is to carry out a field appraisal after the initial screening but before accepting a PCN for further development. The field appraisal is helpful for verifying the information and identifying needs for technical assistance (III – field visit).

Project Title:

PCN #:

Applicant's name:

Applicant's contact details:

### I. Overall eligibility

CRITERIA	STANDARD	CHECK	REMARKS
Applicant	Agro-enterprise interacting with smallholders		
	Farmer association		
	Other:		
Registration	Evidence of registration		
Incremental, innovative activity	The proposed activity is of innovative nature		
Eligible activity	Extension services		
	Studies and pilots		
	Support to farmer associations		
Location	High-potential area?		

### II. PCN Appraisal

CRITERIA	WEIGHTING (%)	SCORE (OUT OF 10)	WEIGHTED SCORE
Innovativeness	30		
Qualifications of the applicant:	30 (15+15)		
Technical capacity	15		
Financial and managerial capacity	15		
Impact on numbers of smallholders	20		
Sustainability-business sense	20		
<b>TOTAL</b>	<b>100</b>		

\*The score shall be out of 10, which will then be converted into a percentage.

### III. Field visit/appraisal to be carried out by (whom):

**Questions/comments to the applicant:** (for example, eligibility—applicant, activities, and expenditures; expected impact; proposed budget; innovation and rationale; potential collaborators)

## SELECTION CRITERIA, WEIGHTING AND APPRAISAL FORMAT USED AT THE PROJECT PROPOSAL STAGE IN THE ZAMBIA ADSP'S MIIF

Proposals are also subject to full feasibility studies and review by technical and financial experts. The following appraisal format is filled out by the secretariat (I – overall eligibility for mandatory criteria), one to two technical experts (II – technical appraisal), and a financial expert (III – financial appraisal). Besides scoring the proposals against the criteria, the experts are expected to provide written feedback and recommendations for strengthening, approving, or rejecting the proposal.

Project Title: \_\_\_\_\_ Reviewer: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Date: \_\_\_\_\_  
 Applicant's name: \_\_\_\_\_  
 Applicant's contact details: \_\_\_\_\_ Signature: \_\_\_\_\_

### I. Overall eligibility (by the MIIF Administrator)

CRITERIA	STANDARD	CHECK	REMARKS
Registration	Evidence of legal status		
Eligibility of activities	Extension services		
	Studies and pilots		
	Support to farmer associations		
Eligibility of expenditures	Are the proposed expenses eligible?		
Matching grant	Evidence of applicant's own contribution		
Monitoring and evaluation	Is sufficient attention paid to the M&E arrangements?*		

\* Final arrangements will be done with the help of the ADSP M&E specialist.

### A. Technical Appraisal (by the Technical Expert)

CRITERIA	STANDARD	CHECK	REMARKS
Overall eligibility	Is the appraisal in section I valid?		Further remarks may also be provided in the feedback section
Field appraisal	Have the questions raised by the field appraiser been met		Further remarks may also be provided in the feedback section

CRITERIA	STANDARD	SCORE (OUT OF 10)	WEIGHTING (%)	WEIGHTED SCORE
<b>TECHNICAL</b>				
Innovativeness	Are the activities of innovative nature?		25	
Technical quality	Is the proposal technically sound?		20	
Qualifications of the applicant:			20 (10+10)	
Technical capacity	Are the applicant or proposed resources technically capable?		10	
Resource allocation	Are sufficient resources allocated for the project?		10	
Partnership arrangements	Quality of the partners and the arrangements		15	
<b>IMPACT AND SUSTAINABILITY</b>				
Impact on smallholders	Likelihood for long-term impact on helping smallholders commercialize		20	
<b>TOTAL</b>			<b>100</b>	

\*The score shall be out of 10 and will then be converted into percentage.

**FEEDBACK AND RECOMMENDATIONS: TECHNICAL APPRAISAL**

Please provide written feedback to the applicant at least on the following issues:

1. Overall eligibility, including eligibility of the activities.
2. Technical quality (including the activities and actors), sensibility and sustainability of the proposed project activities (including M&E).
3. Other.
4. Please write your recommendations as to the approval, conditional approval, or rejection of the project:

**B. Financial Appraisal (by the Financial Expert)**

CRITERIA	STANDARD	CHECK	REMARKS
Overall eligibility	Is the appraisal in section I valid?		Further remarks may also be provided in the feedback section
Field appraisal	Have the questions raised by the field appraiser been met?		Further remarks may also be provided in the feedback section

CRITERIA	STANDARD	SCORE (OUT OF 10)	WEIGHTING (%)	WEIGHTED SCORE
<b>FINANCIAL</b>				
Financial viability	Are cost assumptions sensible?		30	
Financial viability	Are revenue assumptions sensible?		20	
Applicant's financial capacity	Is the proposer financially sound?		15	
Resource allocation	Are sufficient resources allocated for the project?		15	
<b>IMPACT AND SUSTAINABILITY</b>				
Impact on numbers of smallholders	Sensibility of the costs and activities vs. number of small farmers that could benefit		20	
<b>TOTAL</b>			<b>100</b>	

\*The score shall be out of 10 and will then be converted into percentage.

**B. Feedback and Recommendations - Financial appraisal:**

Please provide written feedback to the applicant at least on the following issues:

1. Overall eligibility, including eligibility of the expenditures.
2. Financial viability and sensibility of the project.
3. Other.
4. Please write your recommendations as to the approval, conditional approval, or rejection of the project:



## Annex 6: **EXAMPLES OF CONCEPT NOTE AND FULL PROPOSAL FORMATS FOR A MATCHING GRANT SCHEME FOR AGRIBUSINESS**

### **PROJECT CONCEPT NOTE FORMAT – MIIF, ZAMBIA**

1. **Introduction:**
2. **Description of the applicant** (profile): Provide a brief description of the applicant's business, main activity, ownership, experience to date, and personnel. Provide evidence of the legal status of the applicant.
3. **Project title:** Briefly state the project title.
4. **Location of project:**
5. **Contact person and address:** Provide the name of the main contact person, including the role of the person as well as the contact details of the applicant (full address, phone number, email address)
6. **Project aim:** What is the project aimed at achieving?
7. **Objective:** Provide brief specific objective of the project.
8. **Project innovation:** Provide a brief explanation as to why the proposed project and its activities should be considered innovative.
9. **Project description and rationale:** Provide a brief description of the proposed project. This description should include, but not necessarily be limited to, the rationale for the proposed project and its activity, description of the business idea, the main activities carried out by the project, the main actors and their respective roles, location of the applicant and applicant's current business, and the location of applicant's proposed project and the project duration. It is important that you demonstrate a good understanding of the current market and the likely impact of the proposed project. Any additional evidence you may provide (agreements, market, etc.) will strengthen your application.
10. **Target beneficiaries.** Who are the beneficiaries? How many are they?
11. **Targeted catchments area:** Give the location of the project implementation
12. **Inputs:** What are your expected inputs in relation to the objectives and its key activities?
13. **Expected outputs and impact:** Briefly state what are the specific out puts and the expected impact of the proposed project. Provide information on the current and target numbers of smallholders and the benefits to the smallholders.
14. **Outcome:** The overall expected outcome/impact of the project for small-scale farmers.
15. **Market analysis:** Analysis of the market potential and linkages of the project. Show the financial benefits of the project.
16. **Timeframe:** The projected timeframe—start and ending. Duration of the project.
17. **Estimated budget:** Provide information on the key inputs required to implement the proposed activities, timeframe, and the budget requirements. The budget should list the all the inputs required to implement the project.
18. **Summary cash flow:** Give a brief indication of the cash flow of your agribusiness projections.
19. **Matching grant:** Provide information on the size and allocation of the proposed matching grant activity, with emphasis on eligible activities. Provide information and evidence on the applicant's contribution toward the applicant's matching fund. Indicate the MIIF window you are applying in. Please note that the applicant's contribution must come from internally generated funds or equity—MIIF does not support projects that are co-funded by other donors or Government.

**Note:** *The PCN must not be over 4 pages and must be submitted to Secretariat for screening and approval by Decision Committee. Where necessary the Secretariat will provide/ identify Technical Assistance to develop the PCN of the Full Business Proposal.*

## FULL BUSINESS PROPOSAL FORMAT – MIIF, ZAMBIA

### 1. Introduction:

Why, how, and what is the Business Proposal for?

### 2. Project title

Briefly state the project title.

### 3. Contact person and details

Provide the name of the main contact person, including the role of the person as well as the contact details of the applicant (full address, phone number, email address).

### 4. Applicant's profile

Provide a description of the applicant's current business and its main activities, ownership status (with evidence), financial status (evidence), experience to date, and operational structure. Provide evidence of the legal and ownership status of the applicant.

### 5. Project objective

Clearly state the project's innovative objectives. These must be SMARTS (= Specific, Measurable, Attainable, Realistic, Timeframe, and Sustainable) (Not the organizational objectives!) Clearly advise under which grant category your Proposal falls (1: Extension and Technology Development, 2: Studies and Pilots, and 3: Support to Farmer Association/organizations).

### 6. Project description

Describe the rationale for the proposed project, the implementation strategy, including activities, actors and their roles (lead and collaborators); partnership arrangements; the location; and project duration. Submit supporting evidence.

### 7. Business plan

Describe the business plan, including a brief description of the business idea, market analysis (current market, demand analysis, competition analysis, customer base, and agreements), the estimated cash flow (five years), and action taken to address the risks. Provide rationale for and description of the innovative activities of the project. Submit supporting evidence on the above agreements, market, and cash flow. Include here your financial analysis which backs your decision on why this project shows financial viability and should be funded. This should include such analysis as the break-even analysis, including the Internal Rate of Return (IRR), project/beneficiaries cost ratio, etc.

Include a statement on the environment in relation to the project, i.e., environmental impact, risks, mitigation

strategies, etc. ***(This is a must for large-scale projects and all those that deal with agrochemicals).***

### 9. Expected impact

Briefly state what is the expected impact of the proposed project. Provide information on the current and target numbers of smallholders, the actual benefits to the smallholders, and costs per beneficiary.

### 10. Budget and the proposed matching grant

Provide information on the size and allocation of the proposed matching grant activity, with emphasis on eligible activities. Use the format to show each activity's expenditure. (Carefully refer to # 2 d, e, and f above). The Budget shall be quoted in Zambian kwacha (K) at a projected US dollar rate (K 5,200/US\$: Feb, 2009)

It is important to submit information and evidence on your (applicant's) own contribution toward the MIIF matching fund.

PROJECT TITLE:		GRANT CATEGORY		
BUDGET ITEM	ACTIVITY-ITEM COST (K)	BUDGET CONTRIBUTION (K)		REMARKS
		GRANT	APPLICANT'S CONTRIBUTION	
<b>MAJOR ACTIVITIES/ITEM</b>				
Description of the activity-item				
Description of the activity-item				
Description of the activity-item				
<b>OTHER</b>				
Description of the activity-item				
Description of the activity-item				
<b>TOTAL:</b>				

### 11. Supervision and monitoring arrangements

The applicant must indicate in the proposal how the applicant plans on supervising and monitoring the proposed activities. In order to facilitate project monitoring, the activities, the expected outputs, and the associated indicators of success (i.e., how to know that activity has been successfully implemented) should be stated, using the format below. The indicators are expected to be linked to

the original project activities and how many small-scale farmers the activity impacts on over time.

Approved projects will develop M&E arrangements with the help of the M&E specialist which will enable these indicators and outputs to be regularly monitored.

ACTIVITY DESCRIPTION	START DATE	PLANNED FINISH DATE	INDICATOR OF SUCCESS

Attach copies of legal Registration, Title, Ownership, where applicable, drawings, maps, evidence of the Matching Grant-Counter Part Funding, Environmental Impact Assessment (EIA) Report, etc., to support the application

*NB: Grant Secretariat shall where necessary provide Technical Assistance to viable innovative concepts that may require further development to become bankable Business Proposals. Information on progress and processes shall be communicated regularly to the applicant. All applicants should be ready for a field appraisal when requested.*







A G R I C U L T U R A L   A N D   R U R A L   D E V E L O P M E N T



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