Competitive Research Grant Programs

Financing Agricultural Research Within World Bank Loans

Competitive grant programs are increasingly used to finance agricultural research within loans supported by the World Bank. Under these programs, research providers are selected on a competitive basis, using a call for proposals and scientific peer review to allocate funding consistent with established priorities.

Competitive bidding is usually combined with establishing an agricultural research fund that is open to a variety of potential contributors who wish to finance research. Many competitive grant programs (CGPs) support both research and technology transfer activities. CGPs contrast with and complement 'core' funding or 'block grant' funding that annually allocates funds to specified public research organizations to support their overall research programs.

The popularity of CGPs arises from their potential to:

- Mobilize the best available scientific expertise, including non-governmental organizations and the private sector for work on specific high-priority projects in accordance with a national agricultural development strategy.
- Develop a pluralistic research system by drawing a wide range of participants into the research system and providing needed operating costs to better use available human and physical research infrastructure.
- Promote research partnerships and collaboration that maximize complementarities among different institutions, disciplines, or countries.
- Make research more demand-driven by involving clients in setting priorities, and financing, executing, and evaluating research.
- Increase total funding for research by mobilizing funds from farmers, industry, and other sources.

Improving livestock production and products is often a theme of agricultural research in the developing world. A Chilean woman prepares to spin wool.
• Improve research quality and innovation by selecting projects based on rigorous technical review of scientific merit, sound work plans, and expected results.

Planning for a CGP
Introducing competition into research systems unfamiliar with such procedures can involve high up-front costs. Success with competitive funding generally requires establishing realistic expectations for what can be accomplished, developing clear priorities, ensuring efficient and transparent program management, and involving stakeholders in setting priorities.

Prior to establishing a CGP, it is important to invest sufficient time in clearly identifying objectives, priorities, expected results, and desired long-term outcomes for the program. The program should then be structured accordingly (Box 1).

CGPs must have a sufficiently large number of potential research providers to ensure a competitive environment and adequate expertise for peer review and monitoring activities. Programs must enjoy strong support from research institutions and relevant government ministries to be viable and sustainable. Furthermore, isolation from political interference is crucial to maintaining program credibility.

Issues in Structuring a CGP
CGPs are flexible and can be tailored to accomplish objectives that are difficult to achieve through standard formula or block funding. CGPs can carry restrictions according to desired outcomes. For example, a CGP might be limited to specific research topics, types of research (e.g., adaptive research), projects requiring collaboration, or researchers within a single region or field. A CGP might contain these or other elements in separate ‘windows’ of funding designated to a particular purpose. This flexibility makes CGPs useful in building national agricultural research systems (NARS) by (i) providing a tool for focusing on the priorities of specific NARS stakeholders, (ii) promoting research efficiency by redirecting research in accordance with new priorities, or (iii) providing incentives for institutional reforms while promoting collaboration and networking.

Challenges in Implementation
Programs should start small and build on experience as scientists and administrators become familiar with program operations. To build synergies among projects, planners should limit the topical scope of proposals but solicit innovative, demand-driven proposals that nurture collaboration and networking. Programs must maintain operational efficiency, vitality, and transparency throughout implementation. Strict standards should be maintained for accepting and evaluating proposals. New programs should allow for a learning period as scientists come to understand and accept the proposal writing process, and as the funding body gains experience and adjusts its procedures accordingly.

Workshops and seminars are generally needed to familiarize researchers with the proposed program, help them prepare sound proposals, and provide training in proposal preparation. Workshops and seminars allow all stakeholders to understand the competitive grants concept, discuss priorities for the program, and ensure joint program ownership. Farmer participation at all levels is desirable and is probably best sustained through participation in project preparation rather than in governing and review bodies, although this depends on the objectives and level of sophistication of farmer organizations.

Steps in Implementing a CGP
Implementing a CGP requires close attention to a series of steps to ensure efficient and effective program operations and impact. These steps are important to maintain good communication with the scientific community participating in the program and enhance quality of work under the program.

Formulating program objectives enables planners to determine program and funding priorities and the size, structure, and duration of the grants. A successful CGP depends on clearly defined program objectives aligned with national research strategies and plans. Program objectives determine the types of grants, whether for individual research projects, institutional program development, collaborative partnership research, or other purposes. To complement the larger national research program, a CGP can provide separate windows with funding for different types of grants.

Establishing pluralistic governance under an umbrella council, board, or steering committee with strong private and
non-governmental participation is important. Members should be selected on the basis of outstanding professional skills and experience rather than by the organizations or sectors that they represent. The selection of initial members of the council is critical for success. Orientation workshops and study tours should be organized early to allow council or board members to see how established funds operate in other countries.

Establishing a management structure requires selection of an appropriate institutional base and necessary committees, administrators, and technological support to provide efficient, flexible, and transparent management. CGP management structures can take many forms and existing structures should be used whenever feasible. Whatever structure is selected, it must have a clearly identifiable grant management unit with appropriate financial management power.

Setting specific priorities for initial funding in line with national objectives avoids a dispersed portfolio. These priorities can be based on a combination of 'top down' approaches based on national strategic objectives and 'bottom up' demands from users.

Establishing eligibility and screening criteria for proposals provides the basis for proposal review and helps ensure quality proposals. Review guidelines generally cover scientific quality, clarity of work plan, timeliness of completion, relevance to priorities, experience of the proposer, adequacy of institutional support and budget, and compliance with co-financing arrangements. Review sheets with scoring and ranking systems provide a transparent basis for selection decisions and a record of selection deliberations.

Arrangements for technical review panels include preparing clear terms of reference and selection of appropriate experts for the panel. Panel members should be selected for their scientific expertise in a discipline or commodity area, not for their institutional affiliation, donor status, or senior rank in government or industry. Panel members should receive payment or an honorarium to ensure their commitment to the panel assignment. Panels should be structured so that at least three people review each proposal to ensure fair consideration and equal treatment.

The call for proposals is a key step. Calls for proposals must provide comprehensive information on program objectives and priorities, and should provide clear, detailed guidance for candidates. The call for proposals should have flexible eligibility requirements to enhance participation of non-traditional research suppliers. It should be advertised as widely as possible to ensure that the entire community of eligible candidates is aware of the program. Announcement on the internet is useful, combined with direct notification of institutions and advertisements in the local media and professional publications.

Pro-active program promotion will help ensure quality proposals that address priority farmer problems. Considerable resources must usually be invested to build capacity in on-farm diagnosis, problem definition, socioeconomic evaluation of potential solutions, and proposal development. This may include workshops, field exercises, and establishing local networks with farmer organizations and extension.

Initial screening of proposals by the CGP management secretariat ensures that proposals meet eligibility guidelines. All proposals should be acknowledged and screened for completeness. Ineligible proposals should be returned, but for others, notification of minor omissions or corrections can avoid serious delays later in the process.

Technical review of proposals should follow guidelines established in the call for proposals. Panels (assisted by specialized peer reviewers if necessary) should evaluate all proposals and develop numerical scores, rank them, and make recommendations for funding or rejection. High review standards must be maintained from the beginning, which usually implies a high rejection rate in the initial stages.

Formal award of grants is generally made by the oversight council or board based on recommendations submitted by the technical review panels. Grant awards usually follow technical panel ranking, although additional criteria may be considered such as regional equity, strategic partnerships, and funding mobilization.

Informing applicants of review results should be done regardless of outcome. All applicants should be promptly notified whether proposals are approved, approved with minor revisions, approved subject to funding availability, or rejected. Reviewer comments, scores, and rankings should be sent to all applicants, although names of reviewers should be withheld.

Negotiating agreements with grant recipients should proceed immediately after grants are awarded. Proposals should be structured to be easily incorporated into a standard grant agreement. The CGP secretariat is responsible for negotiating grant agreements, disbursing funds, monitoring projects, and evaluating results. An efficient secretariat expedites start-up of approved projects. This requires adequate support facilities, including a management information system and e-mail access.

Project monitoring should be based on milestones specified in the proposal. Semi-annual and annual reports should enable the secretariat, together with the technical advisory committee, to review the performance of individual projects. Site visits are an important monitoring method, and annual scientific meetings and field days, including farmer participation, can also be useful.

On-going program evaluation allows continual adjustment to ensure efficiency, accountability, and quality. Program evaluation must be planned early and focus on project outputs and impact. Criteria for program evaluation and a methodology to evaluate performance should be developed during the planning stage of the program. Evaluation should track intermediate results, long-term outcomes, and project impact.

Balancing Supply and Demand
One attraction of competitive funding is that it can help promote demand-driven research by involving key stakeholders, especially users. However, purely demand-driven approaches have some limitations. If each individual proposal is considered in isolation it can lead to a fragmented portfolio that lacks synergy and does not address national priorities. Important technological or market opportunities can be lost because farmers lack information, and long-term opportunities and environmental problems may be overlooked in preference to short-term results. For these reasons, a major challenge for CGPs is
to balance bottom-up, demand-driven approaches with setting specific priorities that respond to national or regional strategic objectives. Therefore, setting priorities and screening projects in relation to those priorities is an important activity for the governing body and secretariat.

**Program Sustainability**

Most World Bank programs that use CGPs plan them as permanent features of agricultural research funding systems. This can present challenges on two levels:

**Institutional sustainability.** Planners need to make the institutional structure of a CGP efficient enough to win on-going support from researchers and clients, and also avoid becoming a target during future budget cuts. Maintaining operational efficiency is critical. An independent, influential, and respected governing board can help defend the program and sustain its institutional vitality.

**Financial sustainability.** When a CGP is to continue beyond the end of a donor-funded program, planners must consider the need for future funding. CGPs are amenable to several strategies that enhance financial sustainability, including:

- Phasing-in government funding for the CGP over the life of the program, with donor financing gradually declining as a percentage of total program funding.
- Building the CGP into existing national research programs so that competitive funding is used to complement the core research program.
- Establishing a trust fund, endowment, or agricultural research fund that will continue to support the CGP on a sustainable basis from a variety of funding sources.
- Creating mechanisms for the private sector (farmers, NGOs, and agribusiness) to finance competitive grants in areas of special interest to the financier.

**Limitations of CGPs and World Bank Experience**

CGPs aim to capture the advantages offered by a competitive system, however, the competitive structure alone does not ensure outputs that optimize resource use (Echeverría, 1998). Competitive grants are being introduced where there is no history of competitive funding, where there are poor incentive systems in research organizations, and where producers—especially smallholders—are not well organized to express their demands. Introduction of a CGP into such an environment must be carefully planned within a wider context of institutional reform of research organizations. Even with the most careful planning, establishing a CGP is very much learning on the job and programs should be kept small until their reputation and credibility have been established.

Gill and Carney (1999) report on a series of case studies that highlight problems experienced by various CGPs which have not lived up to expectations. This study suggests that the popularity of competitive systems is due to inadequate traditional funding methods rather than the ability of competition to deliver on its promises. Reforms in NARS are essential for national systems to evolve and for competition to reach its potential as a component of the system. Government commitment to reform is essential for competitive grant programs to work, however, institutional reform is a long-term process that can be painful for all concerned. Competitive funding can be an important tool in the reform process, gradually changing the mentality of traditional research systems.

Many funds have not achieved the high level of transparency needed, and overhead costs can be high—often more than 25 percent. In well-established funds, overhead costs are often less than 5 percent. Also, monitoring and evaluation of funds has tended to be weak, focusing on financial performance rather than technical achievement and impact. Clearly much stronger efforts are required to evaluate the efficiency and impacts of programs.

Case studies of World Bank loans that finance competitive grant programs confirm the potential for these systems when issues presented in this Note are addressed (George, 1999). Government commitment, efficient administration, and well-structured and flexible management are common ingredients of successful programs. Thus, use of competitive financing can be one tool to develop sustainable research capacity, but it is not a panacea. It requires commitment to change and a willingness to invest adequate resources in planning, management, and evaluation. The World Bank will need to closely evaluate its growing investment in competitive research programs.

**References**

