EDUCATION
Working Paper Series
Number - 1

Innovation Funds for Higher Education: A Users' Guide for World Bank Funded Projects

by
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May 2006

Produced in collaboration with:
AFRICA REGION HUMAN DEVELOPMENT
WORKING PAPER SERIES

THE WORLD BANK

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This publication was produced in conjunction with the World Bank's Africa Region Human Development Department (AFTHD) as part of the Africa Region Human Development Working Paper Series (Number 107) which is produced internally to communicate findings to World Bank staff and others of ongoing work in human development.

Copies of this publication may be obtained in hard copy through the Education Advisory Service (eservice@worldbank.org) and electronically through the World Bank Education website (www.worldbank.org/education).

May 2006
Washington, D.C. – U.S.A.

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FOREWORD

The 21st century has ushered in a period of intensifying globalization in our economic, social and cultural spheres of endeavor. With it have come pressures on national governments to concern themselves with maintaining, if not increasing, productivity and competitiveness in order to ensure economic growth, poverty alleviation and social progress. This concern has fostered a growing international interest in ways of stimulating innovation as a source of competitive advantage. Some of this interest has targeted institutions of tertiary education, recognizing their role in the generation and adaptation of knowledge to produce new ideas, improved technologies and more productive human resources.

One important mechanism for encouraging institutional and national innovation within tertiary education systems is the innovation fund, also called a competitive fund or a quality improvement fund. It has been employed with consistent success by institutional systems, governments and development assistance agencies to introduce or accelerate a positive process of adaptive change within teaching, learning and research programs. Over the past fifteen years, the World Bank has acquired extensive experience in the use of innovation funds to improve the quality and relevance of tertiary education on four different continents. During the same time, other actors have also contributed to our understanding of how these funds might best be designed and implemented.

In the effort to capture the lessons of its own experience and share them with others engaged in similar undertakings, the World Bank has produced this *Users' Guide* for innovation funds in tertiary education. We commend it to Bank staff and other education professionals who seek to cultivate demand-driven processes for the improvement of educational quality.

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ACKNOWLEDGEMENTS

Innovation funds, and competitive funding approaches more generally, are accepted methods for budget allocation in higher education within a growing number of countries. Reflecting this trend, World Bank projects have made increasing use of this mechanism in recent years. This Guide is written in the attempt to summarize some of the main lessons learned from these experiences. It is derived from the author's know-how acquired by monitoring two such projects for the World Bank and is based particularly on a stock-taking workshop held on October 11-13, 2005 in Maputo, Mozambique that was graciously hosted by the Mozambique Ministry of Education. Appreciation is expressed to Dr. Ricardo Reich of Chile and Dr. Do Trung Tuan of Vietnam who served as workshop resource persons and provided many thoughtful contributions. The governments of Ghana, Mozambique and Uganda covered the costs of their participants in this exchange of lessons learned. Thanks are also due to the three country teams led by Paul Effah (Ghana), Arlindo Chilundo (Mozambique) and Samwiri Katunguka (Uganda), as well as to the Bank colleagues who accompanied them, for sharing their experiences. The workshop and the publication itself were financed by the Norwegian Education Trust Fund. Additional information and other references on this topic can be found at www.worldbank.org/afr/teia. Documentation regarding the specific projects reviewed in this Guide can be accessed at the following project websites:

Chile	www.mecesup.cl
Ghana	www.ncteghana.org
Mozambique	www.mct.gov.mz/hep/qif_ing.pdf
Vietnam	www.hep.edu.vn

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Innovation Funds as Levers for Change

Discretionary funds can be powerful instruments for change within a higher education system or institution. As flexible additions to normal operating budgets, they offer rare opportunities for experimentation and innovation. This means that relatively small amounts of discretionary funds can be effective incentives for steering an institution, or specific parts of it, towards strategic goals.

An innovation fund is a pool of discretionary funds that are earmarked for one or more uses. Sometimes these have been called Competitive Funds or Quality Improvement Grants. Funds are normally accessed on a phased or competitive basis using a transparent process of proposal submission, peer review and management approval. They are usually implemented through performance agreements that include previously defined measurable outcome indicators. In higher education, innovation funds have been used to improve the quality of teaching, research and community service activities, as well as to strengthen university linkages with regional and national development efforts. They have also been used to build management capacities, stimulate research, encourage cross-disciplinary or inter-institutional collaboration, and to focus institutional attention on new or emerging issues of policy importance.

World Bank know-how with higher education innovation funds spans four continents and includes 28 separate projects. A list of these is given in Attachment 1. Experience dates from 1992 when the Tunisia Higher Education Restructuring Project was approved. The size of these funds varies considerably, from a $500,000 pilot project launched in Nepal a dozen years ago, to the mammoth Argentina (1995), Chile (1998) and India (2003) funds of more than $225 million. The majority of innovation funds have been between $25 and $90 million.

Competitive or innovation funds for higher education have also been initiated and financed directly by governments. Examples can be found in Tanzania (COSTECH), South Africa (THRIP), the United States of America (FIPSE), and numerous other countries.

Innovation funds offer four main benefits. First, the competitive aspect of these funds generally makes them more efficient instruments for the allocation of public funding within higher education than more traditional approaches based on budgetary planning. Second, they have proven to be effective mechanisms for improving educational quality and relevance in higher education. In this regard, they have been particularly useful in promoting the introduction of institutional strategic planning within universities and fostering "ownership," (i.e., commitment) among institutional staff. Third, their incentive system fosters fairly rapid changes in professional attitudes and institutional culture through awards for creative thinking. The fund offers opportunities for university staff to pursue ambitions, to experiment, and to test possible solutions. In the process, they often transform planning and decision-making, leadership styles and accountability within the participating institutions. Fourth, innovation funds are very flexible and can quickly respond to changing policy priorities. Adjustments to institutional eligibility criteria and proposal evaluation criteria can easily re-orient the fund from one year to the next.

Innovation funds also possess a few notable limitations. First, they are not especially effective in promoting system-wide restructuring or policy reform. Because their incentives operate at the micro level of teaching and management, they do not offer macro rewards for system re-orientation or re-structuring. Second, they do not readily lend themselves to use in higher education systems characterized by sizeable differences in institutional capacities. Without careful attention to possible equity imbalances, strong institutions may capture the lion's share of fund resources. Third, experience indicates that innovation funds are rather slow mechanisms for management capacity building. Fourth, fund management tends to be labor intensive, to demand high levels of organizational skill, and to require competent procurement specialists.

Leadership frequently makes the difference in an innovation fund's performance and impact. But management of an innovation fund is not a common profession, and the skills required for strong performance are usually acquired through a combination of experience and formal education.

This Guide seeks to help those who design and manage innovation funds to do a better job. It strives to capture practical lessons and good practice associated with half a dozen World Bank financed innovation funds for higher education in Africa, Asia and Latin America. Staff who manage these innovation funds were brought together for this purpose in a workshop organized by the World Bank and hosted by the Ministry of Education and Culture of Mozambique in October 2005. For readers interested in more extensive exploration of worldwide experience with innovation funds, a list of additional references is provided at the end of this publication.

The next section compares the innovation funds of six countries that have directly contributed to this Guide: Chile, Ethiopia, Ghana, Mozambique, Uganda and Vietnam. Section 3 discusses how national and institutional strategies can be advanced through the use of innovation funds. Section 4 analyzes the question of whether private tertiary institutions should participate in these funds. Methods and procedures for evaluating funding proposals are summarized and assessed in Section 5. The following section describes fund management structures and implementation arrangements. A discussion of monitoring and evaluation comes next, and the Guide concludes with a short summary of general lessons gathered from these experiences.

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Innovation Funds in Six Countries

Innovation funds have been introduced with positive results in countries with different characteristics. For example, the six country experiences that inform much of this Guide have varying economies, higher education systems, and means of financing. Table 1 compares some indicative characteristics.

TABLE 1. *Comparative National Higher Education Profiles*

	Chile	**Ethiopia**	**Ghana**	**Mozambique**	**Uganda**	**Vietnam**
Population	15.6 m	70 m	21.1 m	19.1 m	25.9 m	82.2 m
Per capita income	$4,910	$110	$380	$250	$270	$550
Gross Enroll. Ratio	33	2	4	1	4	3
Enrollment	423,557	147,000	90,000	20,000	90,000	800,000
Unit expenditure *	$1,800	$886	$2,240	$1,400	$827	$400
Private enrollment	42%	23%	6%	30%	32%	10%
No. of institutions	64	29	38	10	17	200
Student fees/year	$1000 – 5000	$150	$80	$100	$500 - 1000	$100-200

* 2003 or closest year; public expenditure only.

The structure of innovation funds from each country varies considerably (Table 2). The size of the funds ranges from $5 million to $226 million. The maximum financial award per approved proposal goes from $150,000 (Ethiopia) to $2 million (Chile). In some cases, funds are accessed through a phased process designed to demonstrate increasing institutional capacities. The participation of private institutions and non-university tertiary institutions in the fund is another point of divergence. Also, the length of time allowed for sub-project implementation stretches from one year to three years. Notably, innovation fund managers report that funding proposals tend to underestimate the amount of time that will be needed to implement the sub-project, particularly when international procurements are involved.

TABLE 2. *Comparison of Innovation Fund Characteristics*

	Chile	**Ethiopia**	**Ghana**	**Mozambique**	**Uganda**	**Vietnam**
Fund amount	$226 m.	$15 m.	$33 m.	$5 m.	$10 m.	$80 m.
Maximum award	$2,000,000	$150,000	$200,000	$250,000	$63,000	$5.6 m.
Phased access	No	No	No	No	Yes	Yes
Private institutions eligible	Restricted	No	Restricted	Yes	Yes	Restricted
Non-universities eligible	For some activities	No	Yes	Yes	Yes	No
Maximum time period	36 months	24 months	24 months	12 months	18 months	18 months
Time of existence	7 years	1 year	2 years	3 years	4 years	7 years

Where should an innovation fund be institutionally housed? An institutional location within the Ministry of Education (Higher Education Division) may help to ensure integration and consistency with current public policies for education. But the associated potential for bureaucratic impediments is an unavoidable disadvantage. Attaching fund implementation to the office of individual authorities such as Vice Ministers for Higher Education is generally not a good option. Although it can speed up administrative procedures, it can isolate the program by identifying it excessively with a single individual or those of associated special interest groups. Location within a semi-autonomous public agency such as a National Council for Higher Education can be appealing because of its sustainability, stability and efficiency over time. If possible, it should be regulated by law to ensure appropriate transparency of organization and operation in its relationship with the Ministry of Education in matters involving public policies and their implementation.

3

Strategic Frameworks

The main reference points for the design of an innovation fund are national policy objectives and/or institutional strategic plans. They provide the content for setting goals, defining decision criteria, and establishing performance indicators for assessing cumulative project impact. The involvement of diverse end-users or stakeholders in project design is one way to ensure that these strategic frameworks receive adequate attention.

As a way of directing funding awards towards national policy objectives, the funds are usually sub-divided into allocations earmarked for certain purposes. These are called funding "windows." Most commonly, such windows target qualitative improvements in undergraduate programs, graduate programs, and management (Table 3). However, in Ghana two small additional windows were included – for capacity building in distance education and HIV/AIDS prevention within universities – because of their particular relevance to new policy initiatives. In Uganda, a single window is used to stimulate university involvement in training local government employees for increased responsibilities under a governmental decentralization program.

TABLE 3. *Principal Investment Objectives of Innovation Funds*

	Window 1	**Window 2**	**Window 3**	**Window 4**	**Window 5**
Chile	Undergraduate	Graduate	Technical Training		
Ethiopia	Undergraduate	Graduate	Management		
Ghana	Polytechnics	Graduate	Management	Distance Ed	HIV/AIDS
Mozambique	Academic programs	Management	Research		
Uganda	District Gov CB				
Vietnam	Smaller grants	Medium grants	Larger grants		

In general, fewer windows are preferable to more. They simplify fund management and reduce the chances that funds allocated to more narrow windows may remain unspent due to lack of demand. But if new priorities emerge during the life of the innovation fund, its

windows can be re-defined in response to these shifting needs. For example, if the strengthening of graduate programs has reached an acceptable level, then this window could be re-directed in support of research capacity building within these upgraded graduate programs.

Institutional eligibility to compete for funds is another design aspect that can be used to reinforce certain policy goals. This is normally determined through the definition of "eligibility criteria" that must be fulfilled in order for universities to be permitted to submit funding proposals. The most common eligibility criteria are listed in Table 4.

TABLE 4. *Comparison of Fund Eligibility Criteria*

Eligibility Criteria	Chile	Ethiopia	Ghana	Mozambique	Uganda	Vietnam
Institutional strategic plan	X	X	X		**	
Accreditation	X		X	X	**	
Enrollment of 2,000+					**	X
Institutional endorsement		X	X	X	**	X
Counterpart funding	In-kind*	In-kind	In-kind	No	No	0 - 20%

* Earlier fund (1999-2004) required 10 – 20%.
** Institutional participants are formally defined in credit agreement.

Accreditation guarantees that the institution has met its government's minimum quality standards. An institutional strategic plan ensures that the university has systematically analyzed its needs and established priorities that can be used to orient funding proposals. Where strategic plans are lacking, an endorsement of the proposal by the head of the institution may be used instead. Vietnam insists on a minimal university enrollment of 2,000 students as part of its efforts to encourage mergers among its smaller and presumably less efficient institutions.

In most cases, innovation funds began by requiring universities to commit a certain percentage of the project costs (e.g., 10 or 20%) as counterpart contributions. This was intended to provide some guarantee of project sustainability upon completion. In most cases, experience soon showed that such contributions were not feasible in light of the institutions' limited budget flexibility. In short, this requirement often restricted a

university's capacity to submit funding proposals. As a result, the majority of the innovation funds in our sample now ask for in-kind contributions in lieu of counterpart funding. Examples of in-kind contributions include staff time, dedicated facilities, use of institutional vehicles and equipment, and so forth.

The need for mechanisms to safeguard the quality and relevance of each institution's proposals has been addressed in different ways. In some cases, such as Ghana and Ethiopia, universities have been asked to establish Project Review Committees to assess their institution's funding proposals before they are submitted to the fund's management unit for evaluation. The Committees' task is twofold: to ensure the quality and feasibility of the proposal, and to make certain that it reflects the institution's strategic priorities. The Committees also have been delegated the authority to approve small planning or pilot grants of $20,000 or less on their own authority.

The Project Review Committee is comprised of five or six academic staff from representative disciplines and is chaired by a senior university officer. To ground the review process in the institution's strategic plan, one or two members of the university's strategic planning task force may be appointed to the Project Review Committee. In practice, these Committees have important screening and feedback functions. On the one hand, they ensure that only strong proposals are submitted to the fund for consideration. On the other hand, they provide guidance to proposal authors on how they might strengthen their proposals so as to improve their chances of obtaining funds.

In other cases, such as Mozambique and Vietnam, proposals are submitted directly to the fund by the institution without first undergoing internal review. In these cases, an endorsement letter from the head of the institution is generally required as assurance that the institution has knowledge of the proposal and that it reflects current institutional needs and priorities.

A higher level strategic review is normally conducted following proposal evaluation. It looks at the aggregate implications of all proposals recommended for funding in a

particular round to make sure that the outcome is generally aligned with policy priorities for higher education and national development. This oversight group, often called a Steering Committee or Governing Council, holds the authority to adjust the overall priorities of the Innovation Fund and modify its future calls for proposals as may be necessary to maintain appropriate balance over time between approved funding and the fund's objectives. This Committee or Council is generally quite small. It is usually comprised of 3 or 4 senior officials from the Ministry of Education, the Ministry of Finance, the Ministry of Planning, and/or the National Council for Higher Education. In Chile, the Council has 9 members, 6 of whom are external higher education professionals. The manager of the innovation fund may serve as secretary to this Committee.

A common strategic element in the organization of all innovation funds is that they place a strong emphasis on institutional capacity-building. In many cases, this is achieved through "learning by doing." Universities are expected to manage their approved projects, monitor performance, administer project financial awards, and undertake any associated procurement in accordance with national regulations and World Bank guidelines. To the extent possible, this is achieved through the use of existing institutional systems for procurement, monitoring and financial management. The creation of special ad hoc units to carry out these responsibilities is normally minimized in the quest for permanent institutional capacity-building.

Some innovation funds have explicitly incorporated capacity-building steps within their structure. In Vietnam, for example, a university must have obtained and implemented a proposal award of $500,000 or less before it becomes eligible to submit a proposal for $500,000 to $750,000. Universities that have successfully passed through both of these steps are eligible to compete for financial awards in excess of $1,000,000. In Uganda's comparatively smaller innovation fund, selected proposals are first funded as feasibility studies. If the results of this study are encouraging, support may be provided for a pilot project to test the proposed methodology. If the pilot experience proves successful, funding may then be given for full implementation of the original proposal. Chile's new innovation fund will test a two-step process of proposal development awards following by

competitive selection of the best of these for implementation. Notably, these and other capacity-building elements associated with innovation funds can help to offset initial inequities in institutional capacities by helping weaker universities to improve their capability for the submission of well-prepared funding proposals.

Notably, innovation funds are often associated in Bank-financed projects with initiatives to establish capacities for quality assurance in higher education. Institutional and program accreditation exercises allow universities to identify weaknesses and needed corrective measures. In this context, the innovation fund provides the means by which remedial action can be taken. The combination of the two instruments ensures that the innovation fund targets key weaknesses and that quality assurance becomes a meaningful exercise that can lead to quality improvement.

4

What Role for Private Institutions?

Private institutions are legitimate members of any national higher education system. The potential for private universities to help expand student access to higher education and address notable gaps in skills should be recognized as a policy variable by government policymakers. With appropriate incentives provided within the right policy framework, private provision can help to achieve national policy goals for higher education at little or no cost to the public purse. For example, private provision predominates in Indonesia, Japan, Korea and the Philippines where private institutions enroll at least 70 percent of all higher education students. Other countries, such as Brazil, the Netherlands, Jordan and Chile, have more balanced systems in which the shares of public and private student enrollments are roughly equal. In principal, therefore, ways should be sought to incorporate private institutions into the activities of innovation funds.

But educational policymakers are often inclined to view the participation of private universities in innovation funds as more of an ideological issue than a policy variable. In some countries, public officials may believe that public funds should be used only for public undertakings. The idea of transferring public monies to a private institution may be viewed as an unjustified subsidy for the personal benefit of private entrepreneurs. This is presently the case in Vietnam and Ethiopia, for example, where private institutions have been largely denied participation in their innovation funds.

Other countries hold a different perspective on this issue. They view private educational providers as potential collaborators with government in the development of a larger and stronger national higher education system. Consequently, they may believe that it is in the national interest to allow private institutions to compete for Innovation Fund awards. Chile, Mozambique and Ghana have all found ways for private universities to participate in their innovation funds. But in all cases, significant positive externalities should be generated by such investments.

The forms of such participation naturally vary from one country to another. In Mozambique, private institutions may receive funding for research and staff development since these are perceived to be in the national interest. But funding for the acquisition of laboratory equipment or classroom construction is seen to provide private benefits to the extent that these physical goods have a market resale value. Thus, funding for these latter items is treated as a loan that must be repaid to the government over a five year period at one percent interest. Likewise, awards for staff development are treated as loans and charged ½ percent interest.

In Ghana, private institutions are permitted to compete for innovation fund resources, but they are entitled to receive no more than 2 percent of total innovation fund allocations in any given year.

In Chile, the innovation fund has been open to private technical training institutions from its inception. Beginning in 2005, private universities may compete for funds to improve the quality of teacher training and PhD programs, but civil works are excluded.

In most cases eligibility criteria are applied to private institutions to ensure that they meet minimum standards of quality. Formal government accreditation of the private institution is a common requirement. In some cases, the institution's years of operation and/or number of students enrolled may also be considered.

5

The Proposal Review Process

The legitimacy and credibility of the innovation fund depend heavily on the principles that guide the proposal review process. Foremost among these are equal opportunity, transparency of process, and technical competence in its evaluations. The response by institutions to the call for proposals as well as their willingness to undertake quality improvements based on feedback generated by the proposal review process will be determined by adherence to these principles. Fund management staff capable of generating trust through behavior consistent with these principles and the adequate public dissemination of the fund's objectives and procedures will strengthen the fund's credibility.

Transparency is probably the most important of these principles. The call for proposals, the guidelines for application, the criteria and process for assessment, and the results of the evaluation should be consistently transparent. Standard criteria and procedures for proposal evaluation should be developed and provided to all members of proposal review panels, along with an orientation session on how they should be used. Also, a detailed Operations Manual for the fund should be developed, tested and given to all participating institutions in addition to the fund management staff. Ideally, all of these documents can be made available for public access on a fund-specific website.

Transparency and anonymity in the proposal review process are essential. This is a major challenge that calls for professionalism, integrity, responsibility and will power on the part of the proposal reviewers and the fund management staff. The goal should be independence from outside influence in the evaluation methods as well as the choice of evaluators. The authors of proposals should be confident that their submissions will be judged fairly and on their merits. Conflicts of interest, favoritism or susceptibility to outside influence – or even perceptions of such – should be avoided at all costs if the integrity of the fund is to be preserved.

Fairness and equal treatment may not be easy to guarantee where significant differences in institutional capacities exist. For historical reasons, universities often develop at different rates and achieve varying levels of capability. As a result, some will likely be more competitive than others. The challenge is how to affirm the stronger institutions without penalizing the weaker ones.

The competitive playing field can be leveled in various ways. One means of ensuring a degree of equity in resource allocation is to set a ceiling on the total amount of funds that can be received by any single institution, as is the case in Mozambique and Vietnam. Another is to define this limit as a percentage of fund resources, as is done in Chile. An effectively designed innovation fund will extend assistance to weak institutions while limiting strong institutions without depriving any of them from the chance to benefit from the fund.

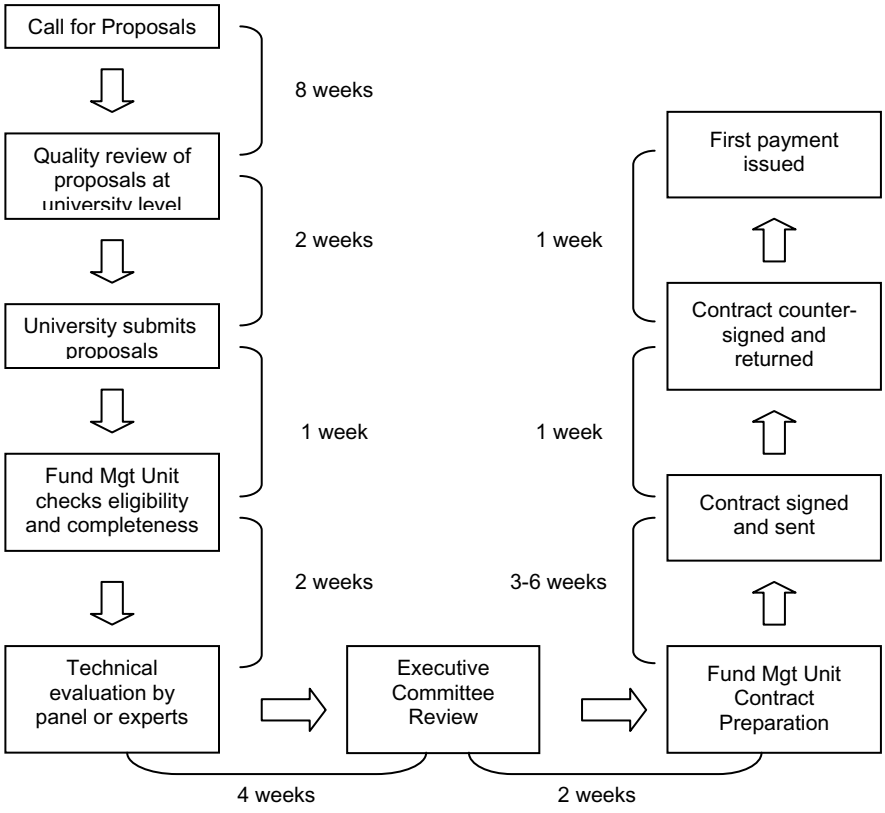
The capacities of weaker institutions can be nurtured through proposal writing workshops and written feedback from reviewers on proposal shortcomings. It is often helpful for fund management to arrange for technical assistance and training for proposal preparation on a request basis at no cost to the institution. In such ways, the fund can play the role of a coach who seeks to enable all competitors to "get over the bar" rather than that of a gatekeeper whose job is to eliminate all but the best. In fact, time and resources invested in raising the quality of funding proposals for all institutions generally produce dividends that justify the additional effort in terms of impact and cost-effectiveness.

A different matter is the question of whether to establish limits on the number of project proposals that each institution can submit in response to each call for proposals. This decision is ultimately a political and strategic matter that should be evaluated in terms of institutional capacities and other experience in the country. Two options exist. One is to limit the number of proposals per institution in order to encourage eligible institutions to establish priorities and adhere to their strategic plans. The other option is to allow unlimited submissions in order to encourage participation and creativity. But this approach transfers to innovation fund management the responsibility for prioritizing proposals. This

creates the risk that review at this level may be less informed concerning an institution's strategic vision and needs, with consequent loss of strategic control by university level management.

The timing of innovation fund activities can be varied to fit local circumstances. In some cases, a nationwide call for proposals is issued twice a year (Ethiopia, Ghana, Mozambique). In other cases, proposals are accepted and reviewed on a continuing basis (Uganda). A structured approach with submission deadlines seems more appropriate when award amounts are large, competition is encouraged, and the review process is based on specialist panels convened specifically for this purpose. A continuous process may be preferred when award amounts are modest, and their review is undertaken by a standing committee or by designated reviewers selected from a pre-identified pool of qualified specialists. A schematic flow chart for proposal review and approval activities is presented below.

Flow Chart for Proposal Review



When a proposal submission deadline is used, experience suggests that eight weeks should be allowed for academic staff to conceive relevant ideas and transform them into funding proposals. The deadline should be set in relation to the calendar of academic activities and be strictly observed. Response rates seem to be the highest when the deadline follows the break period at the end of a semester or an academic year. Deadlines should not fall within the final weeks of the semester when staff are fully engaged with examinations and grading. Neither should they fall within the preparation period of the annual budget cycle, when staff may be occupied with the development of their budget submissions.

Who should evaluate the proposals submitted? In all cases a peer review mechanism is used whereby distinguished members of the university system serve as the evaluators. Often these academics are organized into "area review panels" based on broad disciplinary areas such as agriculture, health sciences, or science and technology (Chile, Ghana, Ethiopia). Four to six of these panels are usually necessary in order to cover the full range of academic disciplines. Fewer panels can be employed if the call for proposals contains a narrower disciplinary focus. In Chile and Ethiopia, panel members are drawn from the existing body of academic staff. In Ghana, retired professors have been preferred as panel members in order to reduce possible conflicts of interest.

In Mozambique, Uganda and Vietnam, a single decision committee of a dozen academicians is employed. However, their judgments are informed by the results of three independent technical evaluations that are commissioned for each proposal. Technical evaluators are chosen from a pre-selected pool of some 50 or 60 disciplinary specialists trained for this purpose.

Chile utilizes a combination of the above two approaches in its sizeable innovation fund. Decisions under each funding window are made by an area panel based on three independent evaluations that it has commissioned.

Whether a disciplinary area panel or a pool of pre-selected evaluators is used as the main mechanism for judging proposals, each has its strengths and limitations. Area panels bring

a greater range of expertise to their task, and generally accomplish their work at one sitting of two or three days. But they may not provide the depth of expertise required to appraise a particular proposal, and their review may consequently lack in technical rigor. The pool approach corrects for this risk by enabling the most qualified reviewers to be assigned to each proposal. But it adds substantially to the time required to complete the assessment because the decision committee cannot act until the last evaluation is received.

The question may arise of whether or not international experts should be incorporated into the area panels or decision committees. International evaluators can enhance innovation by bringing cutting-edge knowledge and comparative experience to bear, and they can reinforce the integrity of the evaluation process through their role as "outsiders." But they are also likely to lack familiarity with local institutional capacities, cultural idiosyncrasies and development issues. Ultimately the answer to this question must be based on comparative merits viewed from a local perspective. Uganda has included international evaluators, more as objective and innovative outsiders than as technical experts. Chile has engaged international technical experts where local expertise was lacking (e.g., information technology, library automation).

In most cases, evaluators are given a symbolic honorarium in recognition of their service. Chile, Ghana, Mozambique, Uganda and Vietnam pay between $50 and $200 apiece for proposal evaluations. Specific orientation, written guidelines and structured score sheets are provided for this purpose. Ethiopia does not offer honoraria, considering this task to be part of an academic staff member's normal obligations to the government that pays his/her salary.

It is worth noting that area panel and decision committee meetings are often most productive when they are held at a "retreat" site away from the capital city. Shielded from interruptions and the pressures of other business, members are better able to concentrate on their tasks and more likely to carry out their duties in a thorough and timely manner.

The proposal evaluation process will run more smoothly, and the results will be more consistent, if proposal evaluators are provided with appropriate training prior to their assignments. This might usefully include a summary overview of the fund program, a discussion of conflicts of interest and professional ethics, a review of the written evaluation guidelines, some practice in scoring hypothetical proposals, and an overall question and answer session.

The quality and efficiency of the proposal review process can be further enhanced by holding an annual review workshop for technical evaluators and panel members during the first two or three years of the fund's program. Feedback from these participants in the evaluation process will help to identify and remedy unclear, confusing or complicated aspects of the proposal application forms and the proposal evaluation guidelines.

Criteria for evaluating proposals and the scores assigned to them can be relatively simple, or they can be more complex. Priority can be given to some criteria over others by assigning them a greater portion of the total points permitted under the scoring system. Alternatively, criteria can all be scored using the same point system, but then some can be weighted differently than others by assigning coefficients to the scores so that their relative importance is either increased or diminished. The total score for each proposal can then be tallied and the collection of proposals ranked according to their respective scores.

In Vietnam, for example, all proposals are assessed on the basis of just three criteria – relevance, impact, and feasibility. But each of these is given a different weight (.43, .33, and .24) so that the maximum possible score is 1.0. In Ghana, seven criteria are employed (academic excellence, technical quality, national relevance, skills development, efficiency, innovation, and expanded access). Each of these is scored from 1 (unacceptable) to 5 (excellent) using rating guidelines appropriate to each criterion. The criteria are weighted equally and the score for the proposal is the sum of the points awarded. Thus, the approval threshold can be set at a specific point total and adjusted in accordance with the amount of funding available for that particular round of awards.

A comment on budget-cutting during the proposal review process may be appropriate at this point. Review panel members or technical evaluators may reasonably believe that certain aspects of a proposal's budget are excessive or unwarranted. In their efforts to carry out their task responsibly, they may recommend specific budget cuts as part of their evaluation recommendation, or even as a condition for funding. Experience suggests that this practice should be given careful consideration as it may not always be a productive response. Evaluators may not have full information available in a proposal concerning the basis for its budget configuration. Thus, they may inadvertently reduce a proposal budget in a way that compromises the quality of its intended outcome or effects its timely implementation. Unless solid grounds exist for challenging a particular budget item, it is better to raise budgetary questions with the proposal author(s) and ask for an explanation before making a decision on this matter. In any case, budget reductions in excess of 5 to 8 percent should not be made without consulting with the proposal author(s). The Chilean fund has found it best to focus on the quality of the proposal and not to question the budget submitted.

In virtually all cases, the funding recommendations of the evaluation panel are subject to a final review before they are officially approved. This is undertaken by a Steering Committee, a Governing Council or similarly denominated body. Its responsibility is to confirm the quality and objectivity of the evaluation process and to consider possible corrective measures if the aggregate of recommended proposals is somehow inconsistent with the fund's objectives, or if competitive biases (in terms of disciplines or institutions) have crept into the outcome. This body also holds the authority to modify the terms of future calls for proposals under the fund in order to compensate for response weaknesses or adjust to new policy priorities. It may also act as an appeal mechanism for any petition arising from actions taken by a Review Panel or Decision Committee. Membership on this body can range from three (Ethiopia) to 15 members (Vietnam). Representation usually includes individuals from the Ministry of Education and the Ministry of Finance. Additional members may be drawn from national professional associations, employer organizations, research councils or academies of science. The fund's coordinator often serves as secretary to this body.

6

Implementation Arrangements

The performance of any undertaking usually depends upon the people who are involved and how they are organized to work together. Innovation funds do not normally require large numbers of management staff, but their qualifications and responsibilities must be clearly defined at the outset. Thus, implementation begins with decisions regarding the numbers of staff required and their job descriptions.

Innovation funds are being managed with as few as 4 persons or as many as 20 (see Table 5.), with varying degrees of effectiveness. The optimum number depends upon the size of the fund, the degree to which procurement and financial administration responsibilities are delegated to the universities, and the extent to which institutional capacity-building activities are part of the fund's program. Chile has found, for example, that assigning each program officer 30 projects to monitor is an optimum workload.

TABLE 5. *Staff Employed to Manage the Innovation Fund*

Positions	**Chile**	**Ethiopia**	**Ghana**	**Mozambique**	**Uganda**	**Vietnam**
Coordinator/manager	1	1	1	1	1	1
Program officer(s)/analysts	9	2	1	1	2	5
Procurement specialist	3	1	1*	-	-	4
Accountant(s)	2	2	1	2	2	5
Secretarial & administrative	5	2	2	1	2	5
M & E specialist	2	-	-	-	-	-
TOTAL:	**22**	**8**	**6**	**5**	**7**	**20**

* Support provided by Ministry of Education.

The cost of managing an innovation fund is not excessive. Chile has run on a 7 percent overhead for several years. An earlier innovation fund in Argentina also recorded about 7 percent in management expenses. Operating costs have initially been estimated to be 3 percent in Ghana and Vietnam, and 7 percent in Mozambique. To some extent, these

differences reflect the amount of capacity-building management assistance (e.g., for procurement and financial management) to institutions that is included within the overall project management costs.

It is important to stress that innovation funds are difficult, if not impossible, to manage effectively as add-on responsibilities that augment the official duties of existing staff. Although it is not necessary to create separate project implementation units (PIUs) to manage innovation funds, it is usually necessary to increase staff numbers and modify the skill mix within existing ministries or system support agencies in order to accommodate the increased workload and specialized expertise required by the innovation fund.

As can be concluded from Table 5, the core activities of fund management comprise leadership, program management, procurement, financial administration, and monitoring and evaluation. In some cases, trainers have been included with mandates for institutional capacity-building. Experience suggests that the fund's Coordinator/Manager should possess academic credentials and an intimate familiarity with the institutional management culture of local universities. The Coordinator/Manager should be of sufficient seniority and professional reputation so as to facilitate the fund's interactions with senior officers within the universities.

Recruitment of this Coordinator/Manager can be undertaken either through publicly announced competitive process, or by looking within the Ministry of Education and/or university system for a person who possesses the minimum qualifications to fill the agreed terms of reference for the position and is also acceptable to the ministry's top management. But whatever the process, it is essential that the Coordinator/Manager be appropriately experienced and qualified. In most cases, this position is likely to be one of considerable power and influence. It should be filled with the best person that the ministry's senior officials are willing to accept.

With regard to staff employed to manage the innovation fund, experience teaches that stability in staff is essential, but frequently is not easy to achieve. It is essential because

the content of the job is highly specialized. In fact, it is almost unique. Key staff must thoroughly understand university procedures, national education policy, procurement guidelines, and project financial reporting methodologies. In any country it will be a challenge to find individuals with such qualifications. And once they are found, contracted and trained, any turnover in staff will inevitably be disruptive and may even have a negative impact on fund performance.

Staffing stability is not easy to achieve because most projects offer salary and benefit packages that are tied to national civil service pay scales. Because fund management is demanding and characterized by periods of intense activity, staff can become disenchanted with their remuneration when they feel that it is not in line with their workload. Where government policies do not permit the 'topping up' of salaries to compensate for scarce skills or additional workload, the only alternative is to encourage staff retention based on comfortable and efficient working conditions combined with regular opportunities for training and professional development.

As a demand-driven mechanism, the innovation fund relies on the capacities of participating institutions to generate good quality proposals in a timely manner, to implement them in accordance with the Operations Manual, and to account for the use of resources provided through agreed procedures. Effective performance in carrying out these activities normally requires university management to establish appropriate procedures and/or mechanisms. The key functions that must generally be assured include (1) information, communication and dissemination of fund-related activities; (2) internal review to ensure the quality and strategic relevance of proposals; (3) performance monitoring and problem-solving during implementation; and (4) periodic reporting on the use of funds provided and associated outcomes.

These functions can be fulfilled in various ways, depending on the organizational structure and capacities of each participating institution. The *information/communication function* is often assigned to a single person who serves as "campus coordinator" for all fund-related activities. In some cases, this has been designated as a new full-time university position.

But in others, the responsibilities are assigned to a relevant existing position or office, e.g., external affairs officer or development funds coordinator. Good organizational and communication skills are valuable assets for the person who occupies this position.

The *quality assurance function* may be carried out by an ad hoc committee established explicitly to review, improve and endorse proposals that will be submitted for fund consideration. Such a committee is usually chaired by a senior university officer and comprised of no more than half a dozen members. These members may include faculty representatives, members of the strategic planning committee, the head librarian, and/or a senior financial officer. Alternatively, an appropriate standing committee (e.g., research committee) might be given this responsibility. In Chile, institutions were asked to establish special administrative units to manage the sizeable amounts of funds awarded (average amount of $700,000).

Some projects (Ethiopia, Ghana) have asked institutions to constitute campus-based Proposal Review Committees to screen proposals for quality and relevance to the institution's strategic plan before they are submitted formally for funding consideration at the national level. When they work well, these committees also provide feedback on how proposals might be improved, encourage persons with similar ideas or interests to develop joint proposals, and help to publicize within the institution innovative ideas and practices demonstrated to be effective. In some cases, these committees have also been delegated the authority to approve small proposals of $15,000 to $20,000 without the need to submit them for national competitive review. When this is done, a ceiling should be established (e.g., $40,000 or $80,000) for the cumulative value of such small proposals so that this option retains its intended role as a modest and flexible complement to the national competitive fund.

The *performance monitoring and problem-solving function* is generally best assigned to the same entity or individual who carries responsibility for information and communication. This enables the persons with the best understanding of the fund's

operation to serve as resources and compliance monitors while providing general administrative support to approved proposals under execution on their campus.

The *reporting function* is usually best handled through existing institutional divisions of responsibilities. Progress reports can be prepared at the departmental or faculty level. Financial reports can be assembled by the finance office. But regardless of who is responsible for reporting, specific training in the use of reporting formats and performance indicators will be necessary. Indeed, experience indicates that such training will often need to be provided several times during the initial 18 to 24 months of the fund's operation.

In some cases the question arises of how the operating expenses associated with these local functions will be covered. Effective coordination will require a certain amount of photocopying, secretarial support, telephone communications and transportation. Whenever feasible, these costs are best borne by the institution and viewed as its counterpart contribution to the financial resources obtained through the innovation fund. But where institutional budgets are severely constrained, other arrangements may be needed. In at least one case (Uganda), a small percentage of "institutional overhead" is included as part of each proposal budget to cover these expenses. Another possibility might be to submit a funding proposal designed to establish an "innovation office" within the university that might be responsible for encouraging institutional innovation, including administration of innovation fund activities on the campus as an ancillary activity.

One clear lesson that emerges from experience to date is that innovation funds perform better when they include explicit and continuous training of beneficiaries. This is where the institutional capacity-building potential of the innovation fund can be maximized. Regular training workshops in proposal writing, equipment procurement and financial administration have proven essential to generate good quality proposals and to use resources efficiently. As needs are identified, specialized training may usefully be organized by the fund management team. In Chile, for example, staff anticipated that many institutions were likely to seek funding for library modernization. In response, they

organized a technical training course for university librarians wherein international experts discussed the applications of new information technologies to information storage and retrieval. As a result of this training, subsequent funding requests from these librarians were more likely to be based on a state-of-the-art understanding of library automation and information management. Likewise, the Chile fund has sought to network its sub-projects by academic field to encourage the sharing of experience across institutions.

PROCUREMENT

Most Bank staff who supervise innovation funds report that procurement capacity is the "killer assumption" for these undertakings. Because they are financed with World Bank loans or International Development Association credits, these funds must conform to World Bank guidelines and procedures in all of their procurement activities. Procurement under these conditions is both an art and a science. Specialists with the requisite expertise are often in short supply within developing countries, and can be quite expensive if recruited internationally. Yet without this expertise, project funds cannot be disbursed, funded activities will not be implemented, and the credibility of the project and its managers may be called into question.

Experience indicates that procurement obstacles can be minimized in several ways. First, the Operations Manual for the fund should contain a thorough section on procurement, along with additional references for help in solving specific problems. Second, an experienced procurement trainer should be part of the fund management team, not only to review procurement documents submitted by institutions, but also to identify procurement weaknesses within institutions and provide appropriate training in response. Third, procurement training for all participating institutions should be seen as an on-going capacity building program throughout the life of the project, and not viewed as simply a preparatory activity required for project initiation. Fourth, to the extent possible, procurement should build on existing government procedures and capacities.

Where the contracting of experienced procurement specialists proves difficult, a possible solution may be to develop procurement skills through "learning by doing." Specifically, this would entail hiring a local person with an appropriate background (e.g., organizational skills, attention to detail, formal training in engineering, business or accounting) and pairing this person with an international specialist who would train and mentor him/her during at least the first nine months of the project. Because good procurement skills are often in demand and government salary levels may not be very competitive, the project manager should ensure that other fund management staff are also exposed to procurement training and practice, so that a backup capacity is available if the procurement specialist should receive a better employment offer from elsewhere.

One critical issue to address in relation to World Bank procurement guidelines is the question of who pays when errors are made. Because most Bank-financed innovation funds utilize *ex-post* verification of compliance with these guidelines, it is important to clarify this responsibility at the outset. Experience suggests that it is best to require the institutions to pay for their procurement errors, rather than the Ministry of Education or Ministry of Finance. This provides institutions with a strong incentive to build their procurement capacity and avoid mistakes.

FINANCIAL MANAGEMENT

From the Bank's perspective, proposals approved for financing under an innovation fund are considered to be "sub-projects." As a result, the Bank's guidelines for the financial administration of sub-projects apply. This has implications for financial administration arrangements, the use of local bank accounts, university finance offices, foreign exchange purchases to pay for goods and services procured internationally, and the computer software necessary to manage this system.

Disbursements under innovation funds are normally based on signed performance agreements between the fund's authorized representative and the recipient institution. The performance agreements delineate each party's responsibilities, record procedures for

procurement and financial administration, and contain a copy of the approved funding proposal. Importantly, they also define performance milestones in project implementation that, when verified, serve as triggers for the release of additional payments under the approved project. This enables the flow of funds to be more or less synchronized with the pace of implementation, an important consideration where the pattern of expenditures may vary widely among projects. In addition, this arrangement also serves to emphasize performance and/or accomplishment over the mere spending of funds.

The use of performance agreements can significantly simplify project financial administration. Their underlying logic is that certain types of approved expenditures will have to be made in order to achieve the agreed performance milestones. Thus, verification that the performance has been achieved is used in lieu of the more labor intensive verification of each expenditure as having been made for the purpose approved. This eliminates the need for a large number of sub-projects to function financially on the basis of the submission and acceptance of statements of expenditure (SOEs).

In many developing countries, the notion of performance milestones may be a relatively new concept that may not be well understood. In order for the performance contracts to function as intended, a certain amount of initial training and mentoring of fund management staff may be necessary until they are capable of defining appropriate performance milestones for each agreement. A simpler, but less effective alternative to the use of performance milestones is the more traditional method of releasing a set proportion of approved funds as a 'tranche' payment against the receipt of periodic progress reports. In both cases, innovation fund payments are deposited into a special institutional "project account" that is kept separate from other institutional resources in order to facilitate the tracking of funds and to undertake periodic audits.

Although disbursement based on performance agreements works well for expenses in local currency that can be managed by the recipient institution, it does not easily accommodate expenditures that must be made in foreign exchange. Because university teaching and laboratory equipment is often highly specialized, it may not be available for purchase

within the country itself. This will inevitably require some form of international procurement and the capacity to effect payment in the appropriate foreign currency. Such payments in foreign currency are best handled by the innovation fund's central financial administration. In this situation, the institution making the purchase remains responsible for the procurement process (i.e., identification of needs, writing of specifications, invitations to bid, bid evaluations, and award of contracts). However, whenever a payment invoice is received, the institution forwards it to the fund's management unit with a request for payment that also indicates which approved sub-project the payment should be debited against. Thus, all technical matters related to the purchase are the responsibility of the user-purchaser, whereas the conversion of project funds into foreign exchange or letters of credit is managed by specialized staff at a central location.

Periodic financial reports are required by the World Bank, as they are under all of its investments. At the level of recipient institutions, financial reporting needs to be standardized through the use of common reporting formats or 'templates.' This will enable the fund's management to quickly assemble financial information from a number of participating institutions into an aggregate report for onward submission to the World Bank. The form and content of these financial reports are normally specified in the project's financial administration manual. Here again, it should be noted that several rounds of targeted training may be necessary in order for the institutions' finance offices to compile and submit these reports properly.

OPERATIONS MANUAL

In all cases, an innovation fund Operations Manual must be developed to provide information and guidance on procedures for all participants. The details of this manual should be consistent with the details of the IBRD loan or IDA credit agreement and the Project Appraisal Document. The manual should strive to be a comprehensive, detailed, coherent and practical reference for grant applicants, government officials, fund managers, peer reviewers, and anyone interested in understanding in detail how the innovation fund is organized and operated. Discrete segments of the manual can then be used individually or

for specific purposes (e.g., procurement). The Operations Manual should also include supporting documentation for key processes. These include sample performance agreements as well as terms of reference and draft contracts for standard types of procurement activities.

The Manual should be viewed as a 'living document' that can and should be updated regularly to respond to problems that arise and to reflect lessons learned from project experience. Examples of innovation fund operations manuals can be found on the website: www.worldbank.org/afr/teia/tools.htm

REPORTING

With a number of sub-projects at various institutions being financed by the innovation fund, care must be taken to avoid over-loading the system with reporting requirements. Most Bank-funded projects require reporting on a quarterly basis. This can be handled by the innovation fund's management unit in accordance with the credit or loan agreement. However, this agreement should not automatically translate into a request for quarterly reports from all sub-projects and participating institutions. The workload required to comply with such a requirement would be considerable for both the institutions and the fund management (who will have to monitor submissions and chase after outstanding reports). At the sub-project level, semi-annual (i.e., semester) reports are normally sufficient.

APPEALS

Clearly defined procedures should be put in place to handle complaints in a transparent way. These procedures are best presented in the Operations Manual for the fund. In addition, a formal appeals process must also be stipulated for cases in which applicants believe they have been treated unfairly. Often, the fund's steering committee or governing council also serves as 'appeals court' when the need arises.

SANCTIONS

What can be done to ensure compliance with the operational procedures of the innovation fund? In some cases (e.g., Vietnam), the fund's performance contracts are drafted by lawyers and linked to existing regulations in order to ensure that legal recourse can be pursued in case of non-compliance or misuse of funds. However, where judicial systems do not function efficiently and where legal representation may be costly, such legalistic contracts may be useful mainly to threaten sanction, rather than enforce it. And they may have the drawback of being difficult for participants to interpret.

A more practical approach may be to suspend participation by the offending institution in the innovation fund for a period of one year. By denying an institution access to the fund, a *de facto* fine is levied against it. When coupled with the internal dissatisfaction likely to be generated when staff learn that this funding opportunity has been denied to them, this approach can serve as a fairly effective deterrent. In fact, Chile has employed this tactic with considerable success. Chile has also begun to introduce mid-term evaluations of each sub-project to assess progress. Where implementation is found to be insufficient, funding will be suspended until a new work plan, including corrective measures, is agreed with the Ministry of Education.

7

Assessing Impact

Monitoring and evaluation are essential elements of any structure for implementing an innovation fund. They are particularly important when, as in the case of innovation funds, one is trying to introduce positive behavioral changes into an existing institutional or academic culture. Monitoring is the periodic assessment of programmed activities to determine whether they are proceeding as planned. Evaluation involves the assessment of impact or outcomes based on the use of performance indicators. Both activities require dedicated funds, appropriately trained professional staff, monitoring and evaluation instruments, effective data systems, and time for verification visits in the field.

Performance monitoring is the only way that project results and benefits can be demonstrated. It enables accountability to the government and donors for resources provided to the innovation fund. When performance monitoring is done well, it becomes a powerful tool for demonstrating the value of the innovation fund. If the results are positive, they become a strong justification for the permanent institutionalization of the fund with sustained funding from the government budget.

Selecting appropriate and useful performance indicators is a fairly straightforward process, but it should not be done quickly. Accumulated experience reinforces the importance of starting with a small number of carefully selected independent indicators. Too many indicators can be confusing, inefficient and time-consuming to monitor. Indicators should be chosen on the basis of a careful analysis of the innovation fund's expected results, the main variables contained in the fund, the reliability of available data sources, and the project's logical framework matrix. Indicators can be either quantitative or qualitative, but they must be measurable. Once indicators are selected, performance baseline data should be collected in order to provide an initial reference point in making comparisons of subsequent changes.

The development of performance indicators should not be treated as a minor aspect of project implementation. It requires considerable thought, collaboration within the management team, and consensus-building with key stakeholders. For further reference, see *Performance Monitoring Indicators: A Handbook for Task Managers* (Operations Policy Department, World Bank, 1996).

Evaluation can be carried out in a variety of ways. Participants can be asked to assess benefits received through training or other program activity. Clients can be invited to provide feedback on program efficiency and relevance. External or independent appraisals can be contracted. Stakeholder meetings can be convened as feedback mechanisms.

Many different performance indicators have been employed to assess Bank-financed innovation funds. A list of the more common indicators used is provided in Attachment 1. Perhaps the best measure of success is whether the government decides to retain the innovation fund as a mechanism for allocating its own resources when the World Bank-funded project is finished.

A particular challenge in evaluating innovation funds is that short term interventions (e.g., change in curriculum; improved pedagogical skills) may have impacts that are only discerned in the medium term (e.g., learning achievement; labor market performance). Thus, the full picture of an innovation fund's impact may only be possible several years following the completion of the activities that it supports. In recognition of this "lag effect" in project impact, Chile's innovation fund now requires monitoring and evaluation to extend for four years beyond the end of its sub-projects.

A few words on dissemination may be in order here. If the goal of an innovation fund is to stimulate creative problem-solving, experimentation and positive change within a higher education system, then staff involved in fund management should also invest some time and resources in publicizing the innovations that are underway. This will encourage broader interest, legitimize questioning of traditional ways of doing things, and stimulate the replication of promising ideas. Among the options for dissemination activities are the

following: a national innovation exhibit, a workshop on a particular innovation of common interest (e.g., library automation in Chile), institutional prizes for innovation, periodic press coverage of promising ideas, a university system innovations newsletter, or an institutional innovation fair.

8

Lessons Learned

LESSON 1: Innovation funds are highly effective mechanisms for improving the transparency and efficiency of the budget allocation process in higher education systems, and for boosting educational quality and relevance within tertiary institutions. But they have limited capacity to promote system-wide restructuring or policy reform.

LESSON 2: National policy goals and institutional strategic priorities should be the main points of reference in the design and implementation of innovation funds. A range of end-users and stakeholders should be involved in project design to ensure that this happens.

LESSON 3: The role of private institutions in relation to innovation fund activities must be explicitly considered, bearing in mind that enabling private institutions to compete for innovation fund resources generally reinforces the goals of government higher education policy with regard to quality, relevance, expanded access and efficiency.

LESSON 4: Transparency and competence in the proposal review process are crucial for the legitimacy necessary to stimulate widespread participation.

LESSON 5: Implementation arrangements can vary, but procurement capacity-building is essential for success.

LESSON 6: Evaluating impact should ideally extend beyond end-of-project.

Attachment 1

World Bank Funded Higher Education Projects Containing Innovation Funds

Project Name	Country	Year	Project ID	Amount in Fund
Higher Education Restructuring	Tunisia	1992	P005726	31 m
Higher Education	Nepal	1993	P010454	.5 m
University Research & Graduate Education	Indonesia	1994	P004017	90.8 m
Higher Education Reform	Argentina	1995	P034091	238 m
Reform of Higher Education and Research	Romania	1996	P008793	69.7 m
Undergraduate Education	Indonesia	1996	P004004	70.1 m
Quality of Undergraduate Education	Indonesia	1997	P040195	95.9 m
Education Innovation	Russia	1997	P008825	50 m
Higher Education Reform	Hungary	1998	P039449	201 m
Higher Education Project	Vietnam	1998	P004828	79.1 m
Higher Education Improvement	Chile	1998	P055481	89.9 m
Education Sector Development	Madagascar	1998	P001559	5 m
Millennium Science Initiative	Chile	1999	P063386	12 m
Education Modernization	Bulgaria	2000	P055158	5.6 m
Higher Education Development	Jordan	2000	P069326	35.1 m
Millennium Science Initiative	Venezuela	2000	P066749	12 m
Higher Education	Mozambique	2002	P069824	5 m
Higher Education Enhancement	Egypt	2002	P056236	24 m
Decentralized Service Delivery - University	Uganda	2002	P074078	10 m
Higher Education – Improving Access	Colombia	2002	P074138	25 m
Technical Education Quality Improvement	India	2003	P072123	237 m
Quality of Undergraduate Education	Sri Lanka	2003	P050741	25.2 m
Education Sector Development	Ghana	2004	P050620	33.3
Post-Secondary Education	Ethiopia	2004	P078692	15 m
Tertiary Education	West Bank/Gaza	2005	P083767	5.5 m
Managing Higher Education for Relevance	Indonesia	2005	P085374	87.3 m
Strengthening Higher Education	Afghanistan	2005	P089040	31 m
Millennium Science Initiative	Uganda	2006	P086513	13.3 m

Attachment 2

Broad Impact Indicators for Innovation Funds

- Does the government decide to retain the innovation fund as a mechanism for allocating its own resources when the World Bank-funded project is finished?
- Number of strategically selected academic programs updated and strengthened.
- Measurable increase in pass rates within targeted academic programs.
- Measurable increase in student grade point averages.
- Institutionalization of innovation fund within national higher education budget.
- Average waiting time of graduates for first employment.
- Average duration of study time needed to attain graduation.
- Curriculum changes in selected faculties that show evidence of increased use of new materials, updated content, different pedagogical methods, and incorporation of information technology.

Other indicators will be linked to the specific national and institutional priorities defined in strategic plans. Still others will be determined by the unique characteristics of the individual innovations as defined in the sub-project proposals.

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The 21st century has ushered in a period of intensifying globalization in our economic, social and cultural spheres of endeavor. With it have come pressures on national governments to concern themselves with maintaining, if not increasing, productivity and competitiveness in order to ensure economic growth, poverty alleviation and social progress. This concern has fostered a growing international interest in ways of stimulating innovation as a source of competitive advantage. Some of this interest has targeted institutions of tertiary education, recognizing their role in the generation and adaptation of knowledge to produce new ideas, improved technologies and more productive human resources.

One important mechanism for encouraging institutional and national innovation within tertiary education systems is the innovation fund, also called a competitive fund or a quality improvement fund. It has been employed with consistent success by institutional systems, governments and development assistance agencies to introduce or accelerate a positive process of adaptive change within teaching, learning and research programs. Over the past fifteen years, the World Bank has acquired extensive experience in the use of innovation funds to improve the quality and relevance of tertiary education on four different continents. During the same time, other actors have also contributed to our understanding of how these funds might best be designed and implemented.

In the effort to capture the lessons of its own experience and share them with others engaged in similar undertakings, the World Bank has produced this Users' Guide for innovation funds in tertiary education. It is intended for Bank staff and other education professionals who seek to cultivate demand-driven processes for the improvement of educational quality.