

# **Higher Education Reforms and Demand Responsive Innovation Funds: Dimensions of Difference**

**A Report to the World Bank**

**By  
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# Higher Education Reforms and Demand Responsive Innovation Funds: Dimensions of Difference

*"The significant problems we face cannot be solved by the same level of thinking that created them." -- Albert Einstein*

*"Struggle and transformation are partners;  
one cannot be endured without the other." -- Sister Joan Chittser*

## Section 1: Introduction

1.1 This paper is one step in a process that seeks to identify and assess a range of approaches currently being used by the World Bank to support higher education reform in developing countries. A central feature of many of these reform efforts is the use of *demand-responsive funds* to support the development of a wide variety of *innovations* in all aspects of higher education.<sup>1</sup> These range from policy reform addressing aspects of financing, quality assurance, equity, structural alignment and responsiveness of entire higher education systems to institutional reforms that address the need for improvements in the major functions of teaching, research and service, as well as the supporting services through which these activities are managed. While the main focus of this report is on higher education reform projects supported by the World Bank, a few noteworthy reform initiatives supported by other organizations are also included.

1.2 This step is being undertaken because the role of higher education has been recognized as an increasingly vital link in national development (World Bank: 2002; The Task Force on Higher Education and Development: 2001; Sadlak: 1998; Serageldin: 2000). Unlike many first world economies, where the generation of new knowledge occurs mainly outside higher education, in most developing countries higher education is still the primary source of knowledge and human resources needed to compete in the global economy. Consequently, the rebuilding of higher education systems and institutions, following decades of neglect or low levels of investment, is a requisite element in Bank-supported development policies and programs in some countries.

1.3 However, higher education reform efforts face many challenges, raising the financial and political risks of these efforts and thereby necessitating a deeper understanding of how demand-responsive funds operate as mechanisms for introducing and sustaining changes intended to produce more efficient and effective operation of higher education institutions. Many of the broad challenges of reform in higher education have been identified and discussed elsewhere. In

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<sup>1</sup> *Demand-responsive funds* and *innovation* are defined below, in Section 2.

this report the focus will be on challenges related to the use of demand-responsive funds for the introduction of innovations and other forms of reform.<sup>2</sup>

1.4 The remaining sections of this paper cover the following topics:

**Section 2: Definitions, Method, Guiding Principles and Diagnostic Framework.** In this section the various key terms and concepts used in this paper are defined, and the method followed in the development of the paper is described. This section briefly outlines a general diagnostic framework for considering the design of innovation funds and some of the guiding principles that have informed the design of many of the projects undertaken to promote and sustain innovations in higher education. For those interested in a deeper exploration of the conceptual foundations of various theories of change that provide implicit guidance to the planning of higher education projects, *Appendix A* provides such a survey.

**Section 3: Four Innovation Fund Cases from World Bank Projects.** The World Bank has become a major supporter of higher reform in many regions of the world in recent years. Some of the projects supported by the Bank provide interesting and useful cases for considering different approaches to the use of demand-responsive funds to support innovations. The cases reviewed here are higher education reform projects in Argentina, Egypt, Hungary and Vietnam. Other World Bank projects are occasionally referred to, but these four provide the backbone of data available at the time this paper was drafted.

**Section 4: Other Innovation Fund Cases.** Two other cases are presented: US Department of Education, Fund For the Improvement of Post-Secondary Education (FIPSE), which has more than 20 years experience and is highly regarded; and the South African Government's Department of Trade and Industry program known as THRIP (Technology and Human Resources for Industry Programme). THRIP is a partnership program funded by the Department of Trade and Industry, managed by the National Research Foundation and operated on a cost-sharing basis with industry. THRIP utilizes a demand-responsive method of operation to support the development and mobility of research personnel and students among participating institutions of higher education and private industry in an effort to promote technology in small, medium and micro enterprises. In addition, reference is made to a project of the American Council on Education involving 26 American institutions of higher education that have initiated comprehensive changes.

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<sup>2</sup> A broad overview of the challenges to reform of higher education in the developing world is provided in the World Bank's latest publication on higher education, *Constructing Knowledge Societies: New Challenges for Tertiary Education* (2002). This report echoes some of the challenges discussed in The Task Force on Higher Education and Society's report, *Higher Education in Developing Countries: Peril and Promise* (2000). A more theoretical approach, focused on the European higher education context, is found in Jongbloed *et al* (1999): *From the Eye of the Storm: Higher Education's Changing Institution*. A philosophical debate about the challenges of globalization to higher education is found in Muller *et al* (2001): *Challenges of Globalisation: South African Debates with Manuel Castells* (2001). Some of the challenges in the American context are discussed in the latest report from the National Research Council, *Preparing for the Revolution: Information Technology and the Future of the Research University* (2002), and in Tierney (1998): *The Responsive University: Restructuring for High Performance*. Thoughtful reflection on successful responses to some of these challenges in the American context is found in two reports of the American Council on Education's experience with 26 American institutions pursuing broad institutional change. These reports are: Eckel *et al*, (1998): *On Change: Enroute to Transformation*, and Eckel *et al*, (1999): *On Change: Reports from the Road: Insights on Institutional Change*.

**Section 5: Analysis, Findings, Observations and Conclusions.** This section analyzes the various approaches to the use of demand-responsive funds. It describes the cases in terms of dimensions of difference that characterize these approaches. The principal findings and conclusions are also discussed and summarized in this section. The section concludes with a number of observations about higher education reform projects.

**Section 6: Suggestions for Next Steps.** This brief section proposes next steps in a process for seeking to bring more insights and experiences into the discussion about creating a better understanding of the use of demand responsive funds as components in higher education reform initiatives and policies.

## **Section 2: Definitions, Method, Guiding Principles and Diagnostic Framework**

**2.1 Definitions.** Three key terms are at the core of this paper: *innovation, demand-responsive funds, and institutional culture*. The *definition of innovation* used in this paper reflects a reality that what is an innovation for one person, or academic department, or institution may not be an innovation in another setting. In other words, the meaning of innovation is very much dependent on the context in which it is being used. This flexible definition has an advantage for some entities that for various reasons have not been able to keep abreast of developments, while other entities in the same environment may have been able to pursue innovations and other forms of improvements. However, in the context of competitive demand-responsive funds, this flexible definition puts considerable pressure on those who assess proposals to understand the differing contexts of competitors in order to judge fairly what are genuine innovations.

2.2 Many World Bank projects have chosen to use terms such as “reform”, “strengthening,” “improving” or “enhancing,” but all embrace the concept of innovation as an essential, though not necessarily exclusive, element in efforts to produce better performance in higher education, whether at system, institution or sub-institutional levels. One of the oldest and most successful innovation funds is the *Fund for the Improvement of Pos-Ssecondary Education* (FIPSE), operated by the United States Department of Education. FIPSE has deliberately chosen to use the term “improvement” rather than innovation in order to avoid the potential trap of justifying that all awards were made for true innovations (Immerwahr: 2002a). It was recognized that by employing the term “improvement” it would be possible to include innovations, while not limiting the range of funding to only innovations.

2.3 A scan of the range of World Bank initiatives discussed in its latest publication concerning higher education reveals the inter-relationship between notions of improvement and innovation (World Bank: 2002). Virtually all of the reforms, improvements, strengthening efforts or enhancements have, in some contexts, the potential for being considered an innovation. Virtually all of the initiatives seek to change some structural element of higher education, whether it is a department, faculty, institution or system in order that it will perform better.

2.4 Another key term in this inquiry is “*demand-responsive fund*.” The intention behind this term is that funds would be made available by a funding source (a donor or an intermediary mechanism such as a special agency in a Ministry of Education) in response to demand from

potential beneficiaries, with demand generally taking the form of proposals. Some innovation funds operate on the basis of competition; the proposals of applicants are reviewed and rated either by staff of the funding authority or by independent committees of assessors, usually selected for their expertise in the areas for which funds have been allocated. Other funds operate on a non-competitive basis with applicants needing to fulfill certain key conditions in order to obtain resources. In some of these cases, these conditions are designed in an attempt to assure that funds are channeled towards institutions or fields of endeavor most likely to benefit from innovation. In other cases, funds are made available by categories of institutions, in order to facilitate resource distribution across a range of institutions whose needs and capacities may differ significantly.

2.5 The assumption behind demand responsive funds is that if the intention of a special fund is to stimulate activity in the area covered by the fund, it is essential that the potential “demanders” see this area as a priority, and as an area that fits with their personal or institutional notions of change, improvement or innovation. Through the development of demand, those generating the demand will, over time, come to exercise some degree of “ownership” of the area. This may be manifested by participation in activities to disseminate progress made through the projects supported by the demand responsive funds.

2.6 Another characteristic of demand-responsive funds is that they are typically seen and used as supplementary forms of funding of higher education activities, with the primary funding of public higher education coming through conventional budget allocations based on historical practices, which may or may not be tied to student enrollment. This supplemental characteristic provides both advantages and disadvantages to the reformer. The advantage is that when the supplement derives from external sources such as donor, through a grant or the mechanism of a long-term, heavily discounted loan, it provides a resource for risk-taking that generally is not available in resource-constrained institutions. The disadvantage is that if the fund is successful, that is, if innovations or reforms “work,” they need to find a way into regular budgeting channels if the changes are to be sustained or disseminated to other entities. The challenge of this “secondary” transformation is where most reforms or innovations end. But as we shall see, this does not have to be an evitable outcome.

2.7 This raises another issue: generally the intention behind the introduction of an innovation is to *transform* the target entity in some fundamental way; to set it on a different developmental trajectory in order for it to contribute more efficiently and effectively to the development of society. Thus, implicit in the operational definition or usage of terms such as innovation, reform, improvement, strengthening or enhancement is the intention of *sustained change that permeates* the organizational context into which it has been introduced, and through the process of permeating the organizational system, enables some manner of transformation to occur (Eckel, Hill, and Green: 1998).

2.8 Consideration of the broader issues surrounding approaches and strategies of introducing and sustaining transformative changes in organizational settings necessarily puts the inquiry into a theoretical context that requires another level of questioning and understanding. Why is the change needed? Does the proposed innovation fit within the stated goals and usual ways of operating in the organization? How will the proposed innovation affect the way people in an organization carry out their roles? Does the use of a competitive process for distributing new resources conform to existing values? Who would benefit from such a process? What unintended consequences might such an innovation set in motion, and would they be helpful or harmful to the long-term purposes and objectives that the organization strives to fulfill in society?

2.9 The point is that these terms (innovation and transformation) often contain an implied intention that may not be fully understood by those who may be the target of their usage, or by some who intend to initiate change efforts. It is in this failure to fully comprehend intentions or understand conceptual dynamics in applied, real world settings that the groundwork for future problems and potential failure is laid.

2.10 There are many theories of change; all are grounded in some conception of the relationship between the forces of change and the nature of the entity wherein change is sought. Each theory has its own assumptions about the causes of change, how and why change happens, how long it takes and how it can be measured. Some who have looked at change within the context of higher education suggest that certain change theories seem to fit the higher education context better than others, and may need to be used in some combination (Kezar: 2001). An examination of theories and models of change, as a lens through which different players look at change options within the context of higher education reform, is undertaken in **Appendix A**. Readers having an interest in exploring this topic may turn to the Appendix. Other readers more interested in the direct exploration of experiences with demand-responsive funds may skip this Appendix, and proceed with this study. However, they should bear in mind that much of the ensuing analysis is grounded, to a certain extent, in a theory of change that recognizes the power of organizational or institutional culture as an important factor in shaping the forces that impact efforts to change higher education institutions.

2.11 *Institutional Culture* is generally defined as the common set of beliefs and values that create a shared interpretation and understanding of events and actions (Eckel *et al*: 1998). In organizations as complex, differentiated and evolving as institutions of higher education, one generally finds a composite of many sub-cultures rather than a single culture, though usually one is dominant. For example, in a recent study of higher education transformation in South Africa, we concluded that the dominant sub-culture within an institution played a key role in shaping how a given university or technikon responded to strong environmental forces of globalization and governmental policy changes (Cloete *et al*: 2002a).

2.12 **Methods.** The methods used in the study were two: the first involved a review of available literature on innovations in higher education, with particular attention to the use of innovation funds of a demand responsive nature. The second entailed a review of documents from a number of World Bank projects in higher education reform that also made use of demand responsive funds, followed up by telephone interviews with available Bank staff who are or were involved with some of these projects. Unfortunately, interviews with project staff in all the countries where these projects are underway have not been possible. Consequently, analysis has been limited to four World Bank projects.

2.13 Two other cases have been included. These are: (1) the Fund for the Improvement of Postsecondary Education (FIPSE), and (2) THRIP, the fund created by the South African Government's Department of Trade and Industry. Both of these funds seek to introduce changes in higher education institutions and use demand-responsive funds. Documents providing descriptions and analyses of their operations were included in this study. An interview with the Director of THRIP was also conducted.

2.14 In addition, two reports on a project on leadership and institutional change in 26 American institutions of higher education were reviewed. This project was conducted by the American Council on Education, with support from the W. K. Kellogg Foundation.

2.15 Numerous other initiatives are underway throughout the world to improve higher education. Many of these use demand-responsive funds as an instrument of change. For example, the Carnegie Corporation of New York and the Ford Foundation are supporting projects in Africa that involve demand-responsive funds. Activities such as these merit considerable study, but the resources available for this study did not permit their inclusion at this time.

2.16 **Guiding Principles.** Why do some efforts to introduce and sustain sound ideas fail? Some answers may be found by considering whether the scope of actions undertaken was appropriately guided by principles assumed to be effective in pursuing changes within higher education. For example, the World Bank has espoused a set of guiding principles in its efforts to introduce sustainable reforms in higher education. Bank support should be (World Bank: 2002, p.119-120):

- Appropriate to a country's specific circumstances;
- Predicated on strategic planning at the national, local and institutional levels;
- Focused on promoting autonomy and accountability;
- Geared towards capacity enhancement and facilitation of the cross-fertilization of relevant regional experiences;
- Sequenced in accordance with the time requirements of the capacity enhancement objectives;
- Sensitive to the political dimensions of tertiary reform.

2.17 Similarly, Kezar's review of literature concerning efforts to change higher education yields a complementary set of guiding principles, focused more on the organizational context than the more broadly aimed national context of the Bank's principles (Kezar: 2001):

- Promote organizational-self-discovery;
- Be aware of how institutional change affects culture;
- Realize that change in higher education is often political;
- Lay groundwork for change;
- Focus on adaptability;
- Construct opportunities for interaction to develop new mental models;
- Strive to create homeostasis and balance external forces with internal environment;
- Combine traditional teleological tools such as vision, planning or strategy with social-cognition, cultural and political strategies;
- Be open to a disorderly process;
- Facilitate shared governance and collective decision-making;
- Articulate core characteristics;
- Focus on image;
- Connect the change process to individual and institutional identity;
- Create a culture of risk and help people in changing belief systems;
- Be aware that various levels or aspects of the organization will need different change models;

- Realize that strategies for change vary by change initiative;
- Consider combining models or approaches, as demonstrated within multiple models.

2.18 Taken at face value, the combination of these sets of guiding principles runs the risk of immobilizing anyone seeking to be a change agent in higher education since their scope is so all encompassing. What can we learn about the utility of these principles and their relevance to different approaches when they are used as lens to examine some current practices that aim to use demand-responsive funds to promote higher education innovations? How does culture, as an encompassing characteristic of the academy, influence the execution of change and the application of guiding principles?

2.19 Organizing the principles according to strategies followed in relation to the steps by which projects are planned, implemented and institutionalized may help to reduce risk. This broad sequence of planning, implementing and institutionalizing activities provides a general **diagnostic framework** for conceptualizing how the interaction of activities concerned with the development of an innovation fund might be seen within a larger scope of higher education reform programs, and these activities within a more encompassing set of strategies for poverty alleviation and other efforts of nation building.

2.20 **Towards a General Diagnostic Framework.** The development of World Bank programs and projects follows a tightly structured sequence of activities involving careful diagnosis of the circumstances that led the Bank and the host nation into discussions about responses to critical developmental issues. Within this sequence of activities the consideration of an innovation fund may be introduced as part of a program of higher education reform. If such consideration shows promise, steps begin to take place that may result in an innovation fund being created. These steps generally follow a pattern alluded to the discussion of models of change in Appendix A. This pattern may contain five phases, more or less depending on a variety of circumstances. These phases may include: (1) determining the degree of *readiness for innovative changes* being introduced in an institution or at a system level (2) *mobilizing resources* for an innovation fund; (3) *planning and implementing activities* of the innovation fund; (4) *overcoming resistance* to innovation efforts; and (5) *institutionalizing* changes.

2.21 **Readiness Phase.** *Readiness* is a concept concerned with the feasibility, timeliness and appropriateness of introducing significant changes in a system or institution. Changes may be at a policy level affecting an entire system or at the level of operational procedures in any of the core activities of an institution, at any of its major operating levels (faculties, departments, programs or courses). Basically, the issue of readiness is whether there is sufficient awareness of a need for change, and sufficient willingness to consider whether and how to change to warrant an undertaking. There are many ways to assess the readiness of an entity for change: scanning the environment by polling and surveys are just a few. **Appendix B** presents an Institutional Readiness Checklist developed by this author for use where innovation funds are being considered.

2.22 **Mobilizing Resources Phase.** In the early stages of a potential project, efforts are generally placed on mobilizing non-financial resources in order to assure that efforts “get off the ground.” One way this might be done is by focusing on the ***governance structure*** of the demand-responsive fund by assuring that its governing body has members who can assure the academic community that the fund will operate with integrity and with sufficient political access to the powers that be successful innovations will be sustained and disseminated over time. Another aspect of resource mobilization is concerned with finding an appropriate balance between the

financial resources to be allocated for the innovation fund and those allocated to the rest of the higher education project within which the innovation fund should be an integral part.

**2.23 Planning and Implementing Phase.** This phase usually receives the most attention, and its activities are familiar to most development experts. However, the planning and implementation of innovation funds demand a higher degree of attention than most other types of activities, given the reality that successful innovation, by its nature, is fraught with failure and unanticipated consequences. Persistent problems in higher education that impede the implementation of innovative activities include the rigidity of institutional culture, the highly specialized nature of research, and a lack of “connectedness” with the end-users or consumers of higher education’s products and services in ways that provide institutions with important signals about their needs.

**2.24 Overcoming Resistance Phase.** It has been frequently observed that no social institution is as resistant to change as the university. As one who has been scarred in struggles to bring about change in a number of institutions and systems, I bear witness to this claim. But as one who has also contributed to the successful transformation of institutions, and has been transformed by the hope that change is possible, I also bear witness to the power of hope.<sup>3</sup> Hope will be rewarded when resistance is understood, and occasionally embraced. The challenges to understanding and overcoming resistance lie in making non-judgmental assessments about the claims and concerns of those who voice opposition to proposed innovations, and, when and where appropriate, addressing those concerns in a manner that converts resistance to support. Often, the potential for resistance lies dormant until the “threat” of an innovation moves closer to home. If innovation is supported entirely by “soft money” in a tight fiscal environment, those who are opposed to the innovation know that when the soft money ends the innovation will die of financial starvation, so nothing is gained by registering opposition. Thus, planners of proposed innovation need to be thinking about steps to institutionalize successful innovations in all stages of designing and implementing an innovation fund.

**2.25 Institutionalization Phase.** Institutionalization refers to the processes by which an adaptation or innovation becomes rooted in the behavior and values of an entity, and continues to function without the prodding or support needed earlier. In the case of innovation funds in higher education projects, it is also useful to think of institutionalization as a process whereby successful innovations started and proven in one institution or discipline are disseminated to other institutions or disciplines, allowing the initial investment to benefit a wider range of the higher education system. Unfortunately, many higher education projects and innovation funds are planned and implemented without necessary attention to what might be called the life-cycle of innovations—the process of growing from a pilot project to successful demonstration projects. The relationship of different types of innovation projects to processes of institutionalization and the requirements of funding across the life of a higher education project are discussed in *Appendix C - The Life Cycle of Innovation and the Developmental Nature of Proposals*.

**2.26 Dimension of Difference.** Within each phase there may be a number of decisions needed regarding various design elements of the innovation fund and the higher education

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<sup>3</sup> I am indebted to Sister Joan Chittster for providing the “connections” between struggle, hope and transformation, which I have taken the liberty of putting in the higher education context. Sister Joan Chittster, “Scarred by the Struggle, Transformed by Hope: The Nine Gifts of Struggle.” The Chautauqua Summer Lecture Series, Summer 2002.

programs within which it is incorporated. These elements I will call “**dimensions of difference**”<sup>4</sup> since they are the variables in the design and implementation of innovation funds that allow us to assess the differences among innovation funds, and through a better understanding of these differences, gain valuable insights into strategies that may lead to sustained innovations. The dimensions used in this study constitute a first effort to isolate and assess variables that may impact the effectiveness of demand responsive funds. Further study may suggest other dimensions or modify the meaning of those proposed here. It will also be noted that a given dimension may appear in more than one phase of a fund’s development and implementation.

2.27 The dimensions of difference seek to span a range of concerns about the design and implementation of innovation activities that may be supported by a demand-responsive fund in such a way as to allow for a rough comparison of projects. *In an ideal world, with more complete information, one could then interrogate the dimension of difference against dimensions of effectiveness to arrive at some basic constructs of a contingency theory of demand-responsive funds as a tool for initiating and sustaining transformative changes in higher education institutions.* However the design and implementation of projects such as these take place in a world of very incomplete information and many other limitations of analysis. In an ideal world project designers would have access to information indicating how various combinations of variables interact in different contexts to yield effective results. Such a version of a *contingency approach to the design of demand-responsive funds* might result from further exploration of current projects, if more detailed information were available. For the moment however, the best that can be done is to make available the limited information as a starting point for the subsequent development of a more coherent and robust diagnostic framework.

2.28 The relationship of the dimensions of difference to the phases of an innovation fund’s conception and implementation constitutes the **diagnostic framework** used in this study. The diagnosis interrogates the cases of innovation funds presented in Sections 3 and 4 by considering questions that seek to illuminate the differences and similarities among the cases along the various dimensions that give shape to each case. This framework is detailed in Figure 1.

**Figure 1: The Diagnostic Framework:  
Phases, Dimensions of Difference and Guiding Questions**

Phase and Dimensions	Guiding Questions (Range of Responses)
<b>Readiness</b>	
<i>Fund Focus</i>	<b>(High/Medium/Low):</b> Does the degree of focus of a fund have a bearing on how easy or difficult it is to develop a state of readiness for innovation within a discipline, institution or system?
<i>Nature of Intended Beneficiary</i>	<b>(System/Institution/Discipline/Individual):</b> What significance does the nature of the intended beneficiary have on developing a state of readiness for an innovation? Are newer institutions more amenable to innovation than older institutions? Are elite institutions more resistant to change than other institutions? Are some disciplines more amenable to innovations in teaching and research than other disciplines? Are “junior” faculty more amenable to trying changes than “senior” faculty? Are administrators more adaptable to change than academic staff? How can perceived differences be used to fund design?

<sup>4</sup> I am indebted to CHET, the Centre for Higher Education Transformation in South Africa for suggesting the notion of “dimensions of difference,” which it used in assessing four different donor funded projects of higher education capacity building in South Africa (CHET: 2002a). However, the development and use of the specific dimensions shown in Figure 1 is a product of this current study.

<i>End User Linkage/Design</i>	<b>(High/Medium/Low)</b> : Have the end-users of HE products and services targeted by this Fund been consulted in assessing the need for innovation? What impact has this linkage had on the design of the fund, in terms of the priorities addressed by the Fund
<b>Mobilizing Resources</b>	
<i>Fund: Total Project Ratio</i>	<b>(High/Medium/Low)</b> : This ratio compares the \$ Value of the Demand Responsive Fund to the total \$ value of the Project. What significance does a High Ratio have, in terms of Fund use? Effectiveness? How is the Fund linked to other project components?
<i>Fund Promotion Strategies</i>	<b>(Robust/Ad Hoc/Minimal)</b> : What is the nature of Fund promotion strategies? What impact have these strategies had on the success of the fund?
<i>Size of Awards</i>	<b>(Large/Medium/Small)</b> : What significance does the size of awards made by the fund have on the ability of grantees to raise matching funds?
<i>Governance Structure</i>	<b>(Inclusive/Exclusive) (Independent/Advisory)</b> : Is the membership of the Governing body of the fund sufficiently inclusive of diverse stakeholders to provide diverse views effectively, or is membership primarily from the academic establishment, including Ministry of Education officials? Does the Governing body have authority independent of Ministry of Education, or is its role essential advisory? Does the Governance Structure of the fund have the potential for affecting the ease or difficulty in mobilizing resources (financial and political) to support the fund?
<b>Implementation</b>	
<i>Nature of Intended Beneficiary</i>	<b>(System/Institution/Discipline/Individual)</b> : The use of the fund? Effectiveness? Ease of meeting application criteria? Ease in developing proposal? Ease in implementing funded activity?
<i>End User Linkage/Implementation</i>	<b>(High/Medium/Low)</b> : What level of Linkage have end users had on the processes of designing and implementing the Fund, and has this linkage had an impact on the implementation of the Fund? On the dissemination of fund “success stories”?
<i>Fund Focus</i>	<b>(High/Medium/Low)</b> : What significance does the degree of focus of a fund have on its use? Effectiveness? Does a highly focused fund (e.g.: just Teaching/Learning at one level, such as Undergraduate level in a limited range of one discipline) have more or less impact on the success of a Fund? Are highly focused funds easier to implement than diverse funds? Is that significant in the context of this project or country?
<i>Fund Design &amp; Innovation Life Cycle</i>	<b>(High/Medium/Low)</b> : Does the design of the fund reflect an awareness of general principles of how innovations work, in terms of life cycles of innovation? If so, how has this influenced the design and implementation of the Fund? Has the allocation of funds across the life of the project attempted to insure that the success of projects will be disseminated? Does the Fund have flexibility in its design and management to respond to changes that are perceived to be necessary?
<i>Transformation Indicators<sup>5</sup></i>	<b>(High/Medium/Low)</b> : Are there easily measured indicators of whether the Fund is transforming whatever it is intended to transform? Is there independent assessment of the values of these indicators?
<i>Procurement Challenge</i>	<b>(High/Medium/Low)</b> : Are World Bank Procurement policies cited as a source of difficulty in implementing a demand responsive fund?

<sup>5</sup> An excellent example of the use of transformation indicators may be found in Cloete: 2002b. It shows how indicators have been used to measure the transformation efforts of two universities in South Africa.

<i>Access to Fund</i>	<b>(Competitive/Non-Competitive/or Both)</b> : Is access to innovation funds based on a competitive process, or on a non-competitive process that requires meeting selection criteria? Are applicants categorized in a way to so as to assure that applicants of similar qualifications are pooled together?
<i>Fund Staff- Beneficiary Similarity</i>	<b>(High/Medium/Low)</b> : To what extent do the staff of the fund represent the experiences, values, and priorities of the group or groups seen as the primary beneficiaries and/or end users of the products to be strengthened by the activities of the fund? What evidence is there that potential grantees will have confidence and trust in the actions of fund staff?
<b>Overcoming Resistance</b>	
<i>Access to Fund</i>	<b>(Competitive/Non-Competitive/or Both)</b> : Is the ease or difficulty of accessing fund awards a factor in overcoming resistance? Do some potential constituencies complain of being left out or having to meet unreasonable criteria?
<i>Size of Awards</i>	<b>(Large/Medium/Small)</b> : What impact does the size of awards have on issues of resistance to the innovations?
<i>End User Linkage/Implementation</i>	<b>(High/Medium/Low)</b> : Would the continued involvement of end-users in various aspects of the Fund facilitate overcoming issues of resistance?
<i>Fund Design &amp; Innovation Life Cycle</i>	<b>(High/Medium/Low)</b> : As successful innovations move from pilot projects to demonstration projects, are there plans and resources to counter resistance?
<i>Transformation Indicators</i>	<b>(High/Medium/Low)</b> : Does performance according to the indicators make any difference on future funding from the Fund?
<b>Institutionalization</b>	
<i>Size of Awards</i>	<b>(Large/Medium/Small)</b> : What effect does the size of awards have on the effectiveness of the fund? Long term impact on beneficiary? Sustainability of the Fund? Sustainability of the innovation?
<i>End User Linkage to Institutionalization/ Sustainability</i>	<b>(High/Medium/Low)</b> : How significant is the role of end-users of HE innovations to the sustainability of the Fund? To the sustainability of innovations in the HE system?
<i>Fund Promotion Strategies</i>	<b>(Robust/Ad Hoc/Minimal)</b> : Is there sufficient support from institutions, government and end-users to assure continued support for the Fund after Bank support ends?
<i>Fund Design &amp; Innovation. Life Cycle</i>	<b>(High/Medium/Low)</b> : Does the design of the Fund explicitly anticipate the resources needed to institutionalize successful innovations? Does the design of the award process assure adequate funds across the life of the project to support continued innovation as well as the dissemination of successful innovations?

2.29 In the next two sections, four World Bank higher education reform projects, two other innovation funds (one in the United States and one in South Africa), and a multi-institution innovation/change project managed by the American Council on Education will be described, using this diagnostic framework. These descriptions are intended to begin identifying the outcomes of experiences and practices in different contexts, which should help to inform planners of future projects.

### **Section 3: Demand-Responsive Funds – Cases from World Bank Projects**

3.1 The World Bank has numerous projects with demand-responsive funds to introduce innovations or reforms. Bank staff associated with four of these projects provided sufficient information to permit an analysis of their efforts. These four projects are:

- Higher Education Reform Project, Argentina
- Higher Education Enhancement Project, Arab Republic of Egypt
- Higher Education Reform Project, Republic of Hungary
- Higher Education Project, Socialist Republic of Vietnam

3.2 These four cases provide an interesting array of change purposes, challenges and conditions. The Argentina Project is the oldest of the four cases (initiated in 1995), and has a more “traditional” use of a demand-responsive fund. The principal objective of the project “is to establish a competitive environment for the improvement of higher education and to provide, through a transparent funding mechanism, the appropriate incentives for continuous educational efficiency gains and quality enhancement. The project would support the implementation of legal, management and administrative reforms that SUP [the Secretariat of University Policy] has recently initiated in the university system”(Report No. 13935-AR). The demand-responsive fund provided support for academic staff development, primarily in the basic sciences and engineering. Project documents indicate that a majority of academic staff in these disciplines throughout the country participated in the project (FOMECE: Undated).

3.3 In the case of the Egypt Project, the principal objective of the project is to “create the conditions fundamental to improving the quality and efficiency of the higher education system in Egypt through legislative reform, institutional restructuring and establishment of independent quality assurance mechanisms and monitoring systems” (Report 23332-EGT). This is the only situation among the four cases where the project followed directly on the heels of another higher education reform project. Project designers consciously sought to build on the experiences gained in the preceding project. There was a demand-responsive fund within both projects, aimed at supporting improvements in teaching and learning in academic departments and programs in course innovation.

3.4 The Hungary Project is interesting for several reasons. It was designed to use a demand-response fund for major capital investment in physical facilities. The project was terminated when less than 2% of project funds had been disbursed, but nevertheless, many of the primary goals of the project were achieved. The project was initiated under one government and terminated under a subsequent government. The proposed project supported the first government’s comprehensive reform program in higher education, as a key element in broad reforms to prepare Hungary for admission to the European Union. The project’s specific objectives were to support the development of a higher education system that “(a) responds to the nation’s changed and changing social and economic needs; (b) operates efficiently and (c) mobilizes greater private finance and distributes the costs of education more fairly” (Report No: 16536-HU).

3.5 The Vietnam Project is the newest of the four cases, and demonstrates in its design a significant level of reflection on the experiences of other projects with demand-responsive funds. The project serves an overarching objective of the Bank in assisting Vietnam's transition to a market economy and alleviating poverty through human resource development. The specific objectives of the higher education project are to "(a) increase coherence, flexibility and responsiveness of higher education to the changing demands of society and market economy; (b) improve efficiency and resource utilization in higher education; and (c) improve the quality of curriculum, teaching, learning and research in higher education" (Report No. 17235-VN). The demand-responsive fund is associated with the last objective.

3.6 What can we learn from these projects, in terms of the efficacy of their demand-responsive components? To allow some elementary comparison, as a prelude to considering the larger issues of appropriate uses of guiding principles and the development of a conceptual framework focusing on higher education reform, it was necessary to organize the common operating characteristics of the funds in a way that provides "notes" along selected *dimensions of difference* introduced in the preceding Section. Descriptions of the demand-responsive funds in each of the four projects are summarized using the dimensions of differences. The information on which these summaries are based was derived from progress and Implementation Completion Reports and from interviews with Bank staff familiar with the projects.

3.7 **Higher Education Context in Argentina.** At the time this project was initiated, the higher education sector in Argentina consisted of 75 universities, about 1,000 teacher training institutes and about 500 technical institutes. More than three-quarters of the 700,000 students enrolled in public post-secondary institutions were enrolled in universities. The private higher education sector had less than twenty institutions, enrolling approximately 100,000 students. Until the mid-1970s Argentina had one of the most developed education systems in terms of enrollment rates. It had attained nearly universal enrollment in primary education; secondary education net enrollment was almost 60%, and about 20% of the college age cohort was enrolled in post-secondary education. However, relative to other countries with similar income levels, Argentina's population was less schooled, and the quality of the education system was deteriorating, due to neglect and "low and misdirected investment" (SAR, p.2).

3.8 **Systemic Flaws.** Several systemic flaws were identified as contributing to the decline of the higher education system. They included: (1) the absence of an accreditation and evaluation mechanism to gauge quality and provide incentives for improvements; (2) lack of reliable information on a system-wide basis to guide planning and management; (3) lack of flexibility and capacity in governance and management systems at the institutional level, resulting in lack of responsiveness to a changing economic environment; (4) a higher education budget that was inefficiently allocated and largely beyond the control of the Ministry of Education; and (5) of particular concern was the decline in quantity and quality of natural sciences and engineering programs and enrollments, since these disciplines were seen as essential to the economic revival of the country.

3.9 **Demand Responsive Fund.** As noted above, a higher education reform project was designed to address these issues. An essential component in the project was the creation and funding of a demand-responsive fund that would provide incentives to universities, through a transparent and competitive process, to promote and provide for improvements in undergraduate and graduate programs in the basic sciences and engineering, and at the graduate level in all disciplines. Other elements of the project, outside of the demand-responsive fund, addressed other system gaps. A summary of the fund's characteristics is noted in Figure 2 below. An analysis of this case, along with other cases, follows in Section 5.

## Box 2: Argentina Project Demand-Responsive Fund

### 1. Fund: Total Ratio: **High**

Eight- nine percent of project funds were designated for allocation to the Innovation Fund (US\$ 238M/269M) (SAR, p.63, Annex 6). The balance of the project funds were allocated to strengthening of the Secretariat of University Policy in regard to planning and management functions, and to the establishment of a permanent accreditation unit.

### 2. Fund Focus: **High**

The Fund (FOMEC) addressed the need for improved quality and efficiency in undergraduate and graduate programs in the basic sciences and engineering and at the graduate level in all other disciplines.

Distribution among the various disciplines was to be approximately 36% for engineering; 15% for physics; 12% for biology; 12 % for chemistry; 10 % for agricultural engineering; 9% for computer science; and 6% for mathematics. This program was intended to finance approximately 1,200 scholarships (32% at the doctoral level and 68% at the graduate level and 100 undergraduate scholarships in mathematics. Of these, 87% were for studies in Argentina and 13% for foreign study through twinning arrangements. Thirty one percent of scholarships were for students and 69% for young professors under the age of 35. The Fund also supported 376 months of visiting foreign professors; 950 standard laboratory packages at the undergraduate level and 150 at the graduate level, and 2500 months for trainees in Argentina and 300 months in foreign countries (SAR, para 2.15, p. 18).

### 3. Size of Awards: **Small to Medium** (Average size between US\$ 100,000 and \$1 Million) (SAR, para 2.14, p.18).

### 4. Nature of Intended Beneficiary: **Individuals and Institutions**

The primary benefits would accrue to individuals in the sciences and engineering disciplines, and to emergent centers of excellence in selected fields. Institutions are also primary beneficiaries in that their staff and faculties have been directly strengthened by FOMEC funds.

### 5. End User Linkage/Design: **High**

In this situation the end-users of the beneficiaries of this project were primarily the higher education institutions in Argentina. This project was essentially a capacity building undertaking that focused on developing quality in teaching at selected fields. Ultimately, other end-users of the knowledge capacity of higher education would benefit.

Given this focus, seven studies of need in the basic sciences and engineering were done during the project preparation process, as well as a specific study on graduate programs in all disciplines. The studies were assessed by scientific committees in the concerned disciplines.

“Considerable attention was paid during the preparation process to extending this sense of ownership to universities and the academic community: (a) there was strong participation of professors and deans in the various studies and consultative committees; (b) universities have volunteered to participate in the evaluation process, and (c) each component of the project was agreed with the National Interuniversity Council (CIN) and at appraisal the final project was discussed with all the rectors...”(SAR, para1.31, p.11).

Issues of sustainability were addressed by requiring matching funds from institutions, as well as commitment from the Government of Argentina, Ministry of Education and Culture to increase annual funding to the level of US\$ 30 M by the end of the project. In addition, the strengthening of the Ministry involves permanent staff who will play a critical role in ensuring the continuity of quality through the functioning of the newly created accreditation unit. Since most beneficiaries of grants are already academic staff members of institutions, a further element of the sustainability of results is likely to be realized as they utilize the new knowledge and equipment acquired through the project.

### 6. End User Linkage/Implementation: **High**

End-users, in the form of academic faculties have had substantial involvement in the processes of implementing the fund through participation on various committees and other structures engaged in project activities.

## Box 2: Argentina Dimensions of Difference - Continued

### 7. Fund Promotion Strategies: **Low (Minimal)**

Relatively little attention is paid to fund promotion activities in project documents. A project newsletter and website appear to be the primary Fund promotion mechanisms. Advisory services are available to help universities in designing proposals. FOMECEC materials indicate that there has been widespread participation, with 34 out of 36 existing public universities having received funding. Other data claim that 55% of full-time personnel in the national university system have been involved in FOMECEC projects. (FOMECEC, p.12)

### 8. Fund Design and Innovation Life Cycle Compatibility: **Low**

Project documents do not give specific attention to design considerations that reflect a strategy for assuring that quality enhancements will be disseminated throughout the academic community. There would appear to be a general assumption that dissemination will take place, without the necessity of a plan to drive that process.

### 9. Transformation Indicator Usage: **Low**

Project documents do not indicate the existence of a set of specific indicators that would clearly demonstrate the extent to which the project was having an impact on the quality of teaching. Indicators provided in project documents are of a general nature, such as the number of faculty who participated, but not whether participation had a measurable impact on the quality of instruction.

### 10. Procurement Challenge: **Low**

Project documents suggest that careful planning had been done with regard to procurement procedures, and that few problems were expected.

### 11. Access to Fund: **Combination of Both**

Access to FOMECEC resources is on the basis of a process that combines preliminary qualification in terms of general criteria, followed by Peer review based on a competitive process, with final selection by the FOMECEC Executive Council based on selection of best proposals recommended by the Peer Review process.

12. Fund Governance: **Exclusive/Independent.** FOMECEC has a five member Executive Council (EC), chaired by the Secretary for University Policy. The other four members are designated by the Secretariat for University Policy. The EC verifies that FOMECEC meets its objectives, assures the transparency of selection procedures and decides the financing of eligible and ranked sub-projects, calls for studies of FOMECEC effectiveness, proposes new programs for financing, and informs the Government and the World Bank of FOMECEC activities (SAR, page 48).

13. Fund Staff and Beneficiary Similarity: **Medium.** The staff of FOMECEC are appointed civil servants. The staff are assisted by two Advisory Committees, Peer Review Committees and an International Supervisory Committee. Member of all committees are selected from the academic community, and chosen "to represent the national university system as closely as possible" (SAR, page 49).

3.10 **Higher Education Context in Egypt.** When the World Bank's first higher education reform project was initiated in Egypt in 1991, the country had a good education sector, relative to other countries with similar income levels. Participation in primary education was roughly 90%, and over 80% of the age cohort attended the two years of intermediate level education. Enrollment in the secondary level declined to slightly more than 50%, and 25% participated in higher education. More than 60% of secondary students were enrolled in technical education, which was part of a vocational education tracking system that had little coordination with the academic education program designed for those students seeking entrance to Egyptian universities. Less than fourteen percent of university students were enrolled in science and engineering programs (ICR No 19445).

**3.11 System concerns and goals over two World Bank Projects.** The first World bank higher education project sought to improve the quality of the engineering and technical education sectors through several activities, including the upgrading of teacher training in secondary and technical education programs, and by upgrading engineering curricula and teaching materials to meet international standards. Science and engineering laboratories in post-secondary education were improved, as were linkages with industry. The second World Bank higher education project carried forward efforts to improve the quality of teaching and research in science and engineering programs, and sought to create better coordination between academic and technical post-secondary education systems as a means to improve the efficiency, effectiveness, quality and relevance of the country's higher education system.

**3.12 Demand Responsive Funds.** Both projects had demand responsive funds. These funds operated on the basis of competitive proposals and sought to improve teaching and research through curricular reform. The demand-responsive fund in the second project, which is the focus of this study, supported proposals that integrated information technology into new curricula. Initiatives that strengthened research capacity and relevant technical assistance, and which featured fellowships for study abroad as well as partnership programs with industry to enhance curricular and research relevance were also supported in competitive proposals (PAD Report No. 23332-EGT). A summary of the fund's characteristics is provided in Figure 3 below, and a comparative analysis of this fund follows in Section 5.

### **Box 3: Egypt Project Demand-Responsive Fund**

**1. Fund: Total Ratio: Medium**

36% (US\$ 21.35M/60M) Innovation funds are in two project Components: Improving the Quality and Relevance of University Education (US\$ 7.67M) and Improving the Quality and Relevance of Higher Technical Education (US\$ 13.68M). The other project component is: Reforming system-wide governance, management and efficiency (49%). The balance of project funds are for physical and price contingencies (15%). (PAD, p.38)

**2. Fund Focus: Medium**

The two components having funds for improving the quality and relevance of higher education seek to achieve these goals through course improvements, lab upgrading, entrepreneurial development, partnering between universities, higher technical education institutes and the private sector, and upgrading management of institutions at various levels. The Fund also will finance the establishment of a university IT system and training for university faculty to develop their competencies in the use of instructional technology, and finance audits to support the consolidation of 47 Middle Technical Institutes (MTIs) into 8 Technical Colleges (TCs).

**3. Size of Awards: Small (Average size US\$ 100,000)**

Project documents do not indicate the expected size of awards. Telephone interview with Bank Project leader indicated an average size award of US\$ 100,000. Project documents indicate an intention to use Operational Manual procedures of a prior project (The Engineering and Technical Education Project (Loan 3137-EGT) for the implementation of the Fund. The Implementation Completion Report of that Project indicates that the mean budget proposal was computed to be approximately US\$ 96,000. (Appendix 1.2, ICP).

**4. Nature of Intended Beneficiary: Institutions and Individuals.**

The stated beneficiaries of the Fund are higher education students, public and private sector employers, and faculty and instructors in higher education institutions (PAD, p.12, Section 3: Benefits and target population).

### Box 3: Egypt: Dimensions of Difference – Continued

#### 5. End User Linkage/Design: **Medium to High**

End users, in the form of graduates of universities and higher technical institutes have been involved in the design at several levels. Initially, there was stakeholder (including end-users) involvement in an 18 month consultative process that culminated in a national conference attended by more than 1200 participants.

End-users, as stakeholders, may be appointed to the Supreme Councils of Universities and Technical Colleges (SCU and SCTC) that will be supported through the project as key policy making bodies. Experts from the private sector will participate in assessment panels reviewing proposals to enhance the quality of curricula and strengthen the linkages between tertiary institutions and the private sector. Additionally, a requirement of one of the “windows” for grants (Entrepreneurial Projects Window) is that end-users contribute fifty percent of anticipated grant requirements. (PAD, Annex 12, p.71)

Given that many of the operational aspects of the Fund are based on successful experiences in the Bank-funded prior project referred to above, it is anticipated that end-user input will have an impact on the priorities of many projects, and on the sustainability of many projects initiated with Fund support.

Sustainability of the competitive fund has been considered. Government has responded to this issue by committing US\$ 10 million to support the project. This is an important indication of the Government’s commitment to HEEPF and indicates its intention to foster its continuing development. In addition, the Entrepreneurial Windows projects have 50% matching funds from NGOs and private sector sources and if these activities prove beneficial it is reasonable to expect that this window would be sustained. Ultimately, the sustainability of HEEPF will hinge on its ability to identify and fund highly successful initiatives. (PAD, page 25)

#### 6. End User Linkage/Implementation: **Medium**

End-user involvement in the implementation of the Fund will be substantial. They are represented on the Higher Education Enhancement project Fund Committee (HEEPFC), and on Peer Review Selection Committees. The HEEPF will conduct needs assessments to determine specific themes for competitions. End-users will have input into these needs assessments. In addition, tracer studies are planned to determine graduate employment patterns.

#### 7. Fund Promotion Strategies: **Robust ?**

In addition to frequent announcements calling for proposals, HEEPF will conduct workshops to assist institutions and individuals to understand proposal guidelines and criteria. Two evaluation conferences are planned during the life of the project to disseminate information about funded projects and their impact on salient higher education issues.

#### 8. Fund Design and Innovation Life Cycle Compatibility: **Low**

Project documents for HEEPF and the prior Bank-funded project that informs many of the operational aspects of the current project do not have an explicit strategy or plan for assuring that operational characteristics of successful projects will be widely disseminated and/or replicated in other academic departments or faculties, other than two dissemination conferences referred to above. However the focus of these conferences is intended to be on project impact rather than issues that determine success of sub-projects and their dissemination or replication.

#### 9. Transformation Indicator Usage: **Low**

Project documents make no explicit reference to the development of specific indicators that would monitor the transformation of curricula or other activities that are the focus of Fund support. In the prior project a review six months before the end of the project provided data that indicated various measures of the success of sub-projects. However, there is no indication that this effort in the prior project will lead to the development of indicators to monitor transformation of curricula, teaching practices, efficiency, and relevance in this project.

#### 10. Procurement Challenge: **Low**

Experiences with the prior project revealed various procurement related problems that had an impact on the implementation of that project. The design of this project has attempted to anticipate these problems and it is expected that procurement related issues will be managed more effectively.

#### 11. Access to Fund: **Competitive**

The HEEPF will fund **competitive proposals** submitted by institutions (universities and technical colleges) through three “windows”: (a) an academic window, which will encourage program and course innovations to improve teaching and learning in academic departments; (b) an entrepreneurial window which will support between universities and technical colleges, and between each of these institutions and the private sector; and (c) a management window which will support projects intended to enhance management and administration in the higher education sector.

The design of the operation of the competitive fund draws heavily on lessons learned from the prior Bank-funded project. A main lessons from the that Project's implementation experience was that *competitive grants program used for the engineering education programs proved to be an effective mechanism to bring about quality improvements in universities*. The program required the universities to compete for funds. The competitive element spurred Universities to come up with the best possible proposal. The participatory process of peer reviews also led to a common practice of sharing lessons from experience among faculty members.

#### 12. Fund Governance: **Exclusive/Advisory**

An eight member permanent committee (six from the higher education community and 2 representing the private sector) serves as an “advisory technical body responsible for the development of procedures for the management of sub-projects and for actual evaluation and supervision thereof” (PAD, page 71).

#### 13. Fund Staff and Beneficiary Similarity: **Low**

Staff of the Project Management Unit (PMU) were staff members of the prior higher education project. PMU staff manage the demand-responsive fund and other project components.

**3.13 Higher Education Context in Hungary.** The higher education system of Hungary was shaped by the country's inclusion in the Soviet empire. During this period it achieved a high standard of excellence, symbolized by at one time having the highest per capita rate of Nobel Prize winners in the world. However, at the time of the World Bank project appraisal, when Hungary was shifting its economic orientation towards Western Europe, its higher education system was not suitable to meet new challenges. The system faced two main issues: (1) it was rigid and unresponsive to the rapidly changing demands of a market economy, and (2) it was hugely inefficient. Its inefficiency was demonstrated by a few facts: there were more than 90 higher education institutions operating in Hungary in the 1990s, with more than half of these having a total enrollment of less than 500 students, and a third of the institutions having less than 300 students. Student-faculty ratios were about 8 to 1 in this period, in part because more than 350 fields of study were available, many of them requiring six years to complete a degree. In the mid 1990s, Hungary's per capita public expenditure on higher education was twice that of OECD countries, and clearly not sustainable at that level.

**3.14 The Need for Major Reforms.** The World Bank project focused on providing support for major reforms aimed the issues of inefficiency and unresponsiveness to market needs, within a larger context of a Country Assistance Strategy that sought to assist Hungary in positioning itself to join the European Union. Efficiency gains were pursued by strengthening management controls at both system and institutional levels, by reducing the number of institutions through mergers, and by undertaking curricular reforms that would streamline academic programs.

Responsiveness was pursued through curricular reforms and by mobilizing private financing for higher education in fields indicated by market demand.

**3.15 Demand Responsive Fund.** The demand-responsive fund in the project in Hungary was focused mainly on support for a Higher Education Investment Program whose primary goal was to implement an institutional consolidation or merger process. The demand-responsive fund was to cover capital costs of construction and renovation so that integrating institutions would be able to operate more efficiently, and expand libraries, laboratories and computing facilities. Because of the high capital costs anticipated in this project, most of the project resources were allocated to the demand-responsive fund. However, shortly after the project began, a new government was elected, and it chose to pursue the goals of reform—particularly consolidation of institutions, through other policy choices. The net result was that the fund was not used, and the project was terminated by mutual agreement between the Bank and the Government of Hungary. A summary of the fund’s characteristics is noted in Figure 4 below, and a comparative analysis of this fund follows in Section 5.

#### **Box 4: Hungary Project Demand-Responsive Fund**

**1. Fund: Total Ratio: High**

81% (US\$201/250M). However, High ratio had no effect on Fund use; basically the Fund wasn’t used. Less than 2% of Fund resources were used by the time the project was prematurely ended.

**2. Fund Focus: Medium**

The focus was on construction of administrative and academic facilities in merged institutions. Focus had no discernable effect on the principal objectives of the Project. Although the fund used on 2% of its resources, it had an important and “unexpected” outcome. The process of qualifying for access to Fund required developing an Institutional Development Plan and a Capital Investment Plan. These activities were highly valued by MoE officials and institutional administrators and academics, and will be retained.

**3. Size of Awards: Large**

It was anticipated that 20-25 single purpose institutions would merge into 6-9 multi-purpose institutions and each of these would need about US\$ 22M in capital investments.

**4. Nature of Intended Beneficiary: Institutions**

Institutions found the tasks of meeting requirements, developing proposals and implementing funds were difficult. Seen by GOH as a major impediment.

**5. End User Linkage/Design: Low**

Implicit criticism was that the design was not adequate, in terms of end user understanding and involvement in the design. Hence the new Gov’t added a new component to the project (1.13) in 1999 to address deficiency. (See ICP, p.3, Para 3.4; p.4, Social and Stakeholders Aspects)

Regarding the priorities of the Fund: long term expectation of mobilizing private resources was partially achieved in that more students enrolled in HE than the subsidy limit---meaning that they had to pay their own way, thus bringing private resources into the system.

Other end users, notably professional associations, were involved in the redesign of courses into credit system.

**6. End User Linkage/Implementation: Not Applicable**

Fund wasn’t implemented.

**7. Fund promotion Strategies: Ad Hoc**

“...little attention was paid to strategies to address project risks. Strategies to communicate and monitor stakeholder support are not mentioned in project documents.” (ICP p.4, Environmental Aspects). On the other hand: “The MoE decided to require all HEIs in future to prepare IDPs and CIPs to be eligible for investment support from the Government’s own budget.” (ICP p.9)

“One of the unexpected benefits of the Project is the effect that the **process** of creating the IDP and CIP has had on participating administrators and faculty. Participating in the process has brought about a change in the way HEI staff think about planning and given them an understanding and appreciation of the need for strategic planning. Almost every university staff member met by the ICR mission commented on the value of the process....The fact that the MoE has now required all HEIs to follow this process gives confidence that this will not die with project cancellation. Experience with the IDP evaluation process has also led to the adoption of similar procedures for the funding of scientific research.” (ICP p.11)

**8. Fund Design and Innovation Life Cycle Compatibility: Low**

The lengthy process of approval steps and the lack of compatibility between procurement procedures of the Borrower and the Bank left the Fund marginalized. In reality, the Fund, as the means for covering the costs of capital construction, was not seen as a vehicle of innovation in the usual sense, even though it might be argued that the redesign of the higher education system through mergers, increased rates of participation, redesign of courses into a credit system, and development of a student financial aid program were all innovations in the Hungarian context.

**9. Transformation Indicator Usage: Not Applicable**

The indicators for the Fund were not implemented.

**10. Procurement Challenge: High**

Borrower comments: “During the implementation of HERP the otherwise well-defined Bank procedures failed to promote the achievement of the planned objectives. The difficulties could be traced back to the following major factors. The first problem was that of to what extent to use the existing public procurement procedure. From the Borrower’s point of view the implementation of a project would be speeded up and simplified if the Bank – especially in the case of economies in transition like in Hungary – examined and accepted the existing public procurement system (PPS) in the given country (should the PPS be acceptable to the Bank). A further benefit from the use of the local public procurement would be that the experience accumulated in the PMU could be re-usable in other local projects. The PMU specialized in Bank procedures is unnecessarily expensive if the borrowing country cannot use the accumulated experience – which is the case for the time being in a country like Hungary.

The second problem concerned a specific procurement issues. The Bank didn’t approve any contract with a term longer than 18 months to be lump-sum based. It slowed down the preparation of some projects with expert groups since the structure of many projects was designed to be linked to the completion of tasks especially in the policy components. This way the use of time-based contract forms was a burden to the project as a whole and necessitated excessive supervision of the signed contracts to achieve time efficient completion of the planned outputs. We suggest the Bank to consider deciding on the approval of contract forms to be used on a case-by-case basis, taking into consideration the professional arguments of the responsible staff on the borrower’s side.

The third one related to the Bank’s rule that no contract can be signed with a public employee (or at least no expert fee can be disbursed to public employees). Those local experts, who do know the Hungarian higher education and whose participation in the project’s implementation is essential to the project’s success, could not be selected to participate as consultants because practically all of them were working at universities as public employees” (ICP, page 25-26).

**11. Access to Fund: Non-competitive**

Institutions had to meet specified criteria.

**12. Fund Governance: Not clear**

**13. Fund Staff and Beneficiary Similarity: Not clear**

3.16 **Higher Education Context in Vietnam.** The World Bank higher education project in Vietnam was part of a Country Assistance Strategy that sought to assist Vietnam's transition to a market economy and to alleviate poverty through human resource development. In order to increase Vietnam's capacity to develop its human resources, it was necessary to increase public and private expenditure on higher education, and improve the efficiency of expenditures on higher education.

3.17 **Issues in Higher Education Sector.** The challenges facing higher education reformers in Vietnam were similar to those faced in Hungary: a highly fragmented system of small institutions whose operations were unresponsive to the changing needs of a market economy. In addition, Vietnam's higher education system was seen as having poor quality.

3.18 **Demand-Responsive Fund.** To address these needs, the Bank's higher education project included a demand-responsive fund whose purpose was to support efforts to improve the quality and relevance of higher education through targeted, competitive grants to selected institutions. A summary of the fund's characteristics is noted in Figure 5 below, and a comparative analysis of this fund follows in Section 5.

### **Box 5: Vietnam Project Demand-Responsive Fund**

**1. Fund: Total Ratio: High**

76% (US\$79.1M/103.7M) (PAD p.4) In addition to the Fund, the project supported two other components: Component 1; system-wide and institutional capacity building and computerization (21%); and Component 3; strengthening Ministry of Education and Training (MOET) capacity for project management and implementation (3%).

**2. Fund Focus: High**

University investments through competitive **Quality Improvement Grants (QIGs)** to selected qualifying universities to finance sub-projects.

**3. Size of Awards: Medium**

Original Grant award categories and sizes as follows:

Three sequential categories of Grants; within each category there are various sub-projects. Category A: grant award maximum value of US\$ 0.5M; Category B: maximum value of US\$ 0.75M; Category C : no restrictions except that the total accumulated value of grants to any one university could not exceed US\$ 800/student FTE.

Subsequent changes: Category C; no restrictions except that the total accumulated value of grants to any one university could not exceed US\$ 800/student FTE, or US\$ 10M, which ever is smaller.

Project documents do not indicate the average size of sub-projects within the awards to institutions.

**4. Nature of Intended Beneficiary: Public Institutions**

**5. End User Linkage/Design: Medium-High**

One of the two key issues in the HE system in Vietnam addressed by this project is the lack of responsiveness of HE to the changing demands of society and the market economy (PAD p.3, Sector issues). To address this issue, the Project design has two specific activities that seek to address the linkage between market needs and HEI production; one is the annual conduct of a Graduate Tracer Study by each institution, with data aggregated at a system level as well, and second is the creation of a University Careers Advisory Services at each university, through which regular consultation between employers, academic staff and students will be facilitated to improve linkage between the universities and the end users of their education programs.

End users have access to the design elements of the quality of teaching through interaction with institutions via the Career Advisory Services.

There is not a direct linkage between end-users and the financial requirements to sustain the Fund. That is, there isn't a "window" for matching contributions or any other mechanism for direct support of activities that enhance the quality and relevance of education.

6. End User Linkage/Implementation: **Medium**

Despite initial delays in the tendering for the tracer studies, the implementation of both activities (tracer studies and Career Advisory Services) have been assessed to be performing satisfactorily, and with the intended results.

The impact of the data from tracer studies, combined with information from the Career Advisory Services has significant potential for informing the system, institutions, academic staff and students whether the institutions and the programs they offer is being responsive to changing needs of society and market demands.

7. Fund Promotion Strategies: **Robust**

Workshops, briefings and other activities designed to inform institutions and other appropriate structures of the procedures and purposes of the Fund. These activities appear to have been very successful, given the number and rate of successful applications to the Fund.

8. Fund Design and Innovation Life Cycle Compatibility: **Medium**

There appears to be a general awareness of the need to assure that the spending down of funds across categories is coordinated across the life of the project. What is not clear from the reports available is what steps have been taken to promote the diffusion of successful quality enhancing practices across faculties within institutions or between institutions.

There is flexibility in the design to accommodate needed changes, as evidenced by adjustments made in procedures following review.

9. Transformation Indicator Usage: **High**

Reports indicate the development and usage of several sets of indicators, at the system and institutional levels, relating to the linkage between project activities and goals (Aide Memoire of the Mid-Term Review, Part Two, Para 12, Project Performance).

Independent structures are made use of at several points in data collection and assessment process to suggest a reasonable degree of independence and reliability of the values of indicators.

There is evidence in the project reports that indicate the need for continued attention to the pattern of government support for HEIs as a reflection of demonstrated improvements in quality rather than reverting to past patterns of support irrespective of quality. Given the relatively small impact of the Fund on overall funding of projects (since institutions had to provide a degree of matching support), it is felt that quality enhancements would not be dependent upon continued Bank support, and could be supported through regular budgetary processes.

10. Procurement Challenge: **Medium**

Delays in implementation of Fund activities and in subsequent disbursements of awards were directly linked to issues of procurement, in part, because of confusion and uncertainty regarding procedures and in part because of lack of capacity at the institutional level for implementing detailed and complex procurement procedures. The Mid-Term assessment suggests that these issues have been corrected.

11. Access to Fund: **Combination**

Access to the Fund is based on a combination of competitive, non-competitive and pooled elements. Selection of Category A grants is on the basis of meeting specific criteria. Final selection of Category B and C grants are made on a competitive basis. Within the submission of sub-projects from an institution, the sub-projects are ranked and top ranked sub-projects from competing institutions are pooled to compete with each other, rather than the entire list of sub-projects from one institution competing against the entire list of other institutions.

12. Fund Governance: **Not clear**

Project documents indicate the PAU (Proposal Assessment Unit) recommends grants for approval to the “oversight body,” an Inter-Ministerial Committee, for approval (PAD, Annex 2, p.6). The PAU operates within a Project Coordinating Unit, which has overall responsibility for all project components. Project documents do not indicate clearly where authority for policies concerning the demand-responsive fund lie. More information needed.

13. Fund Staff and Beneficiary Similarity: **Not clear**

The PAU has a small fulltime staff, whose backgrounds and previous experience are not made clear in project documents. PAU is assisted by an independent Academic Panel and specialist academic/technical reviewers whose members are drawn from the higher education community.

## **Section 4: Other Cases of Demand-Responsive Funds**

4.1 **FIPSE (The Fund for the Improvement of Postsecondary Education/US Department of Education.** The FIPSE program is a demand-responsive fund for improving higher education at the undergraduate level in public and private institutions of higher education in the United States. FIPSE was initiated more than 25 years ago by the US Department of Education. In the following description of FIPSE it is essential to keep in mind that the characteristics described in the dimensions of difference reflect how they agency was designed to be operated. While it has retained many of these same characteristics today, this description is not intended to describe today’s operations. The reason for the focus on its *original design* is that our interest in this study is on factors concerning the *design of new funds*. We might best learn from FIPSE by looking at its original design. FIPSE awards approximately 80 grants a year to US colleges and universities on a highly competitive basis. Its grants are relatively small, averaging about \$80,000. Recent studies indicate that over 70% of the grants awarded are successful and the activities they supported become accepted practice. FIPSE’s preference for small grants is based on the belief that the successful activities produced by smaller grants are more easily assimilated into the regular budgets of institutions than large grants. FIPSE also targets younger academics who are closer to the needs of learners and who are more likely to have innovative ideas worth trying out. Other characteristics of this demand-responsive fund are outlined in Figure 6.

### **Box 6: FIPSE Demand-Responsive Fund**

1. Fund: Total Ratio: **High**

The Fund for the Improvement of Postsecondary Education (FIPSE) is appropriated funds for the improvement of postsecondary education by Congressional budget allocations to the United States Department of Education. All of its funding is allocated to grants for the improvement of instruction.

2. Fund Focus: **Medium**

While focusing on improvements in instruction, FIPSE’s guidelines and application process has encouraged creativity and collaboration. Furthermore, because it “listened to the field.” General and broadly defined problem areas serve as guidelines for grant applications, but within these broad categories there is ample room for defining an approach that to fits the context of an institution or a geographic region or a particular type of learner.

### 3. Size of Awards: **Small**

FIPSE's philosophy is grounded in a practical belief that small grants put the focus on ideas rather than funding. Small grants attract the attention of younger academics who have not yet developed the credibility to pursue large grants, and who are closer to learners and more likely to take risks with new ideas than older colleagues. Smaller grants are more easily continued and replicated than larger grants, and often tend to serve as "seed money" rather than the major source of funding for an academic unit. The average size of a grant is approximately US\$ 80,000 (Cobb; undated)

### 4. Nature of Intended Beneficiary: **Individuals—the classroom learner**

FIPSE grants are made to institutions and educational organization, but it is clear that the intended beneficiary is the student in the classroom. Phrases identifying the classroom learner as the beneficiary of FIPSE grants appear throughout publications from and about FIPSE (Immerwahr: 2002a; Cobb; FIPSE website).

### 5. End User Linkage/Design and Implementation: **High**

While the classroom learner is identified as the intended beneficiary, the *end-user targeted by FIPSE is the young classroom instructor*. FIPSE actively engages young academics in the design of activities. This involvement is built into the structure of FIPSE activities, from the detailed interaction between FIPSE staff and those who have submitted preliminary proposals that FIPSE has accepted for further negotiation, to the use of former grantees in the peer review process, to the highly regarded and participative workshops and conferences sponsored by FIPSE at which funded projects are discussed so that others may learn from and apply similar processes and activities. These workshops and conferences are the hallmark of FIPSE, for they exemplify the essential "contrarian" character of the funding philosophy and operating characteristics that has made this one of the most successful demand-responsive innovation funds in higher education anywhere in the world. This claim is evidenced by the fact that 70% of FIPSE grants are sustained by the grantee institutions, a claim no other funding agency has challenged. Research also indicates that through project dissemination FIPSE gets a return on its grant money of between 150% and 200% (Cobb: undated).

### 6. Fund Promotion Strategies: **Robust**

As indicated above, FIPSE has a robust strategy for promoting its funding activities. The strategy involves the use of a variety of communication channels announcing each cycle of open applications, as well as the frequent workshops and conferences highlighting current projects to which prospective applicants are welcomed. In addition, FIPSE staff regularly attend meetings of other higher education associations where academics convene in order to promote participation in the application process. But, probably the most effective promotion strategy is the "word-of-mouth" advertising by grantees about the FIPSE program (Immerwahr: 2002a).

### 7. Fund Design and Innovation Life Cycle Compatibility: **High**

The FIPSE program is designed to support the activities of grantees through the difficult processes of testing the efficacy of new approaches to teaching and learning, even though FIPSE awards are generally regarded as "seed money." By continuing to support grantees, whose institutions provide matching funds, through the challenges of testing activities beyond the pilot phase, FIPSE has shown a deep awareness of the innovation life cycle and practical principles of dissemination, replication and sustainability, which has led to the incredibly high rate of success of its projects noted above.

### 8. Transformation Indicator Usage: **High**

FIPSE maintains a database on all grants that is publicly accessible. This database and other program data collected by FIPSE provide a rich resource indicating the extent to which grants have enhanced the transformation of teaching and learning activities in the institutions where they have been adapted.

### 9. Procurement Challenge: **Low**

The FIPSE grant process allows institutions to procure goods and services through their normal procurement procedures. In American colleges and universities these procedures are generally well established and offer few difficulties to grantees. Furthermore, few FIPSE grants involve extensive purchases of equipment or construction of facilities, thus by-passing most of the procurement issues that other donors and grantees encounter.

**10. Access to Fund: Competitive**

Access to FIPSE funds is a two-stage process, and competition is a factor in both stages. In the initial stage, short (five page) preliminary proposals are submitted and read by FIPSE staff and outside reviewers. About 2,000 preliminary proposals are submitted to FIPSE each year. From this pool approximately 250 are invited to submit comprehensive proposals, and from that number approximately 80 grants are selected each year. Final selection is made on the basis of ratings by outside reviewers and extensive interaction between FIPSE staff and prospective grantees. Competition is rigorous, and all awards are expected to have potential as a national model for dissemination and replication.

**11. Fund Governance: Inclusive/ Advisory but “Independent”**

The FIPSE Board is inclusive of a broad cross-section of higher education, government, and the private and non-governmental sectors. It is technically an Advisory committee, but has historically enjoyed an independent status which has given it significant de facto authority to set policy for FIPSE.

**12. Fund Staff and Beneficiary Similarity: High**

FIPSE staff have long enjoyed a reputation of being highly representative of the beneficiaries they work with, with high levels of trust between staff and academics throughout American higher education

4.2 The FIPSE study suggests the following guiding principles in regard to the creation of an Innovation Fund and its operations. This focus is very useful for projects where innovation funds are generally part of new structures. If one reads between the lines in some Bank project documents (PADs and SARs), the issues addressed by the following FIPSE principles are generally applicable in some Bank projects as well, where perhaps a more conventional approach to structural concerns is frequently followed.

4.2.1 Strategic consideration of the organizational location of the agency responsible for the Innovation Fund. In the case of FIPSE, this consideration resulted in the location of this new, small program in the equally new Office of the Assistant Secretary of Education of the US government. By locating it here, it was organizationally on par with older and more established programs, such as the National Institute for Education, yet it was outside the traditional bureaucracy of the Office of Education. Furthermore, as a key program element in office of the new Assistant Secretary of Education, it was assured energetic “protection” from the Education bureaucracy and from members of Congress. This sort of protection would not have been available if FIPSE had been located in older branches of the Education bureaucracy, where it would have been a junior organization with a miniscule budget compared to other programs.

4.2.2 Appointment of Field Staff rather than Civil Servants to run the Innovation Fund. As a new organization, FIPSE had a clean slate, in terms of staff, and it chose to hire key staff who came from “the field”, which in this case meant from higher education institutions and research agencies who were experienced and knowledgeable with the needs for improving higher education. This was a radical deviation from the normal pattern of finding civil servants from other Education Department offices. By choosing “field” staff, FIPSE quickly developed a culture centered on service to the cause of improving education, informed by views from the “trenches” in institutions.

4.2.3 Governance-style Advisory Board. Although an Office within the Department of Education, FIPSE’s founders gained approval for creating an advisory board that quickly gained a high measure of autonomy for the organization because of the stature and image of the persons appointed to the board. Again, in a departure from traditional practices, the majority of Advisory Board members were drawn from civic and public fields rather than higher education. And, the

staff or FIPSE received board approval for considerable staff discretion in program action within policies and guidelines established by the board. The result was a partnership between Board and staff that strengthened the staff's capacity to advocate for its priorities, to get approvals for unusual or "risky" grantees, and to resist pressures to award weak or non-competitive grants.

4.2.4 Maximizing the Strength of Being Small. "Throughout its first decade, FIPSE was extraordinarily free from political or other external pressures." This freedom allowed it to develop operational policies and procedures that were appropriate to its circumstances, rather than being responsive to political pressures. One key policy, required by its rather small budget for grants in the face of strong competition from many proposals, was to make rather small seed grants that required significant support from within the grantee institutions. This policy turned out to be a positive factor in terms of sustainability. Because grants were small, they did not artificially distort or skew institutional budgets, and if projects were successful, the amount they would require in future for continuation could easily be found in institutional budgets.

4.3 In sum, FIPSE provides an interesting case of "small is beautiful." It is effective, as demonstrated by its claimed rate of success. The following case concerning the South African fund for promoting technology and human resource development suggests something of a similar pattern in some respects (small grants, a requirement of substantial matching funds, and an openness to new ideas and new applicants), while having different characteristics in other respects (highly diverse funding windows, linkage to multiple policy initiatives, and explicit aims to build sustainable collaboration between higher education institutions and small, technological oriented firms in the private sector).

4.4 **The Technology and Human Resources for Industry Programme (THRIP)/ South African Department of Trade and Industry and the National Research Foundation.** This program is built around a demand-responsive fund established in 1992. It is funded by the Department of Trade and Industry and administered by the National Research Foundation, a government research agency. The program is designed to improve the competitiveness of South African industry through the support of research and technology development activities and an increase in the quantity and quality of appropriately skilled people. It seeks to achieve these goals by supporting the development of partnerships between higher education institutions, private sector firms and governmental science, engineering and technology institutions (SETIs). THRIP operates six different funding windows or mechanisms. One window serves partnerships between higher education institutions and firms; another window serves partnerships between firms and SETIs. The remaining four windows operate under an umbrella called TIPTOP (Technology Innovation Promotion through the Transfer of People). These four windows support (a) the placement of graduate students in firms while they are working towards a degree on a joint industry-higher education research project; (b) the placement of graduates in small, medium and micro enterprises (SMMEs); (c) the placement of skilled company employees in higher education institutions; and (d) exchanges of researchers and technology managers between, higher education institutions, SETIs and industry.

4.5 THRIP is designed to respond to six different government policies and White Papers, which has resulted in a program mix that is very diverse, as shown in Figure 7, under the dimension of Fund Focus. Originally created as a way to encourage and support collaboration between higher education institutions and the private sector, its scope has grown to include governmental "science, engineering and technology institutes" or SETIs as they have come to be known. SETIs are research and development entities that serve the needs and interests of specific economic sectors,

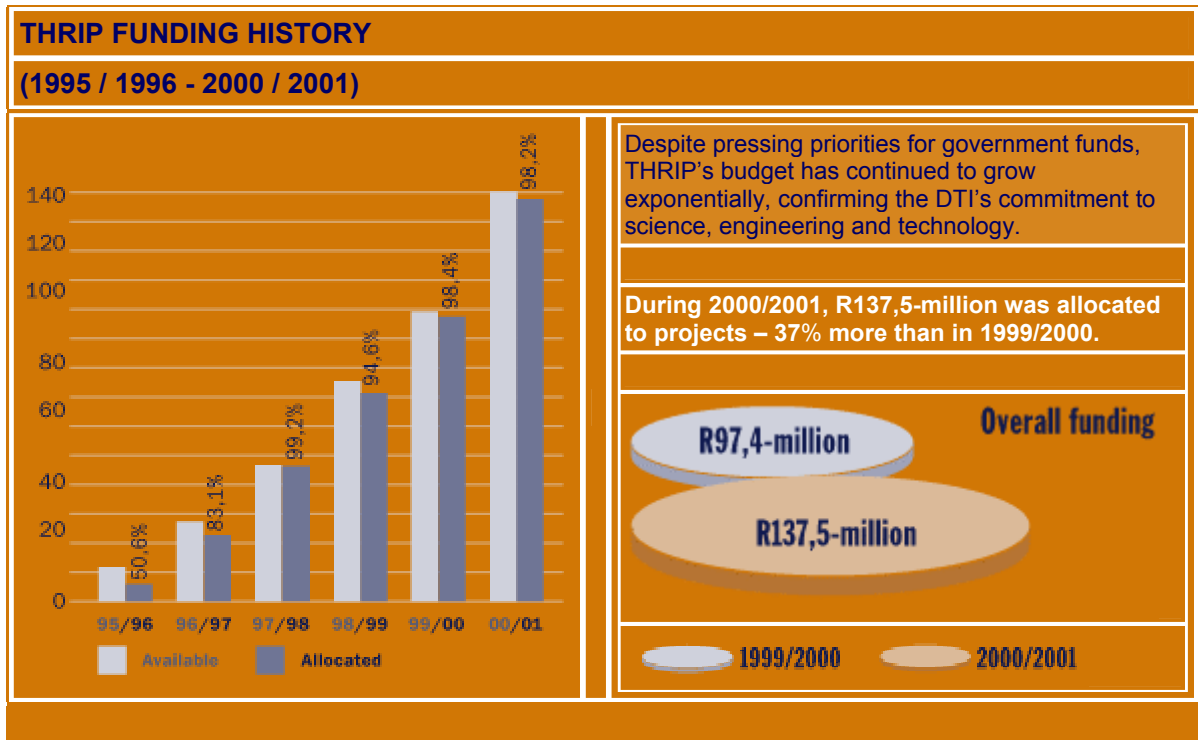
such as communication and technology, mining, and the health industry. SETIs are increasingly seen as mechanisms that can facilitate the undertaking of teaching and research in higher education institutions that is more responsive to national economic development priorities. THRIP funding to SETIs doubled in the period from 1998 to 1999 and doubled again in the period from 1999 to 2000, demonstrating the growing importance of this relationship.

4.6 Higher education institutions are involved in THRIP activities through collaborative research and development projects with government R&D agencies and private sector firms. The objectives of developing this collaborative framework include: (1) enhancing awareness and capability in higher education to the need for greater responsiveness to society's changing needs; (2) developing long term relationships that are mutually beneficial, including diversifying the revenue generating abilities of institutions and enhancing the knowledge and skills of small firms through continuous interaction with higher education, and (3) expanding awareness of and access to careers in science, engineering and technology fields for blacks and women.

4.7 All THRIP projects operate on the basis of matching funds from industry. The degree of match varies. If the firm applying for THRIP support is foreign owned and operating in South Africa, it must provide 85% of the funds requested in a grant application. In all other cases THRIP generally contributes one Rand (the South African currency) for every two Rands invested by private industry in qualified projects. However, under certain circumstances THRIP will match industry contribution on a 1:1 basis. Project proposals are judged against specified criteria on a non-competitive basis. Approximately 400 projects are supported each year, with the maximum amount for any one project being R1 Million/year (approximately \$100,000) for three years. A list of all grants made in 2001 and other program information is available on the THRIP website: <http://www.nrf.ac.za/thrip>.

4.8 THRIP has been effective in generating investments from industry into the development of human resources and the promotion of technologically oriented enterprises. Since its creation a decade ago, it has leveraged R 1.5 billion (roughly equivalent to US \$ 150 million) for these purposes. Because of the steadily increasing support from the private sector, governmental budgetary support for THRIP has also steadily increased, making this demand-responsive initiative a successful undertaking in the view of all stakeholders (THRIP Evaluation Report: 2001). The rapid growth in funding availability is shown in the Graph 1 below, from a recent Annual Report (2001).

**Graph 1: THRIP Funding History**



4.9 The significance of this steady increase in funding has been important to participating higher education institutions. These increases have occurred during a period when institutional revenues were shrinking due to an unexpectedly rapid decline in enrollments. The THRIP revenues allowed some institutions to maintain scholarship program, initiate research projects and acquire or update essential laboratory equipment that would otherwise not been possible (THRIP Evaluation Report: 2002).

4.10 An important innovative dimension provided by the THRIP program is that it has made funding for research possible for South Africa's technikons. These institutions were created by legislation in the 1970s, ostensibly comparable to European polytechnic institutions. But they were not given status as research institutions, and consequently were unable to qualify for research funding through normal higher education budget processes and formulae. However, in recent years technikons have established research goals as part of their strategic development, consistent with changes in legislation in 1995 that gave them authority to offer graduate degrees in science, engineering and technology fields. But their lack of research history has essentially limited any possibility of receiving research funding through Department of Education channels, based upon National Research Foundation ratings of researchers. However, THRIP does not require its applicants to have NRF ratings, and THRIP therefore "represents the first substantial source of public research funds for the technikons" (THRIP Evaluation Report: 2002).

4.11 Participation by SMMEs in THRIP supported projects has grown by more than 600% since 1996, indicating the growing acceptance by both these small firms and higher education institutions of the necessity and mutual benefit in collaboration. The Evaluation report suggests this may be the most important impact of THRIP. The report states: "The point was made that a

substantial proportion of researchers in higher education have traditionally had little actual research collaboration with business, or indeed interest in collaboration. The opportunities that THRIP provided encouraged many more researchers to interact with business. This, together with the increased emphasis placed on collaboration by many institutional strategies, **has started to change cultures and attitudes within the sector** (THRIP Evaluation Report: 2002). (Emphasis added)

4.12 Another target of THRIP is to promote study and career opportunities in science and technology fields (whether in academia, government or the private sector) among blacks and women. The number of black students involved in THRIP projects has grown from less than 200 in 1996 to almost 1,000 in 2000. During this same period the number of women involved in THRIP projects has more than doubled (THRIP Annual Report: 2001). Figure 7 below shows more of the operating characteristics of THRIP, based on the dimensions of difference introduced earlier.

4.13 **The American Council on Education Project.** The American Council on Education has been involved in a Project on Leadership and Institutional Change, supported by the W. K. Kellogg Foundation. This project involves 26 American institutions, whose Presidents and other “change leaders” have agreed to share their experiences in planning and introducing comprehensive changes in their institutions. This information has been made available in two reports. The analysis and finding of these reports have been a resource to this study, and relevant portions have been referred. However, there was not sufficient detail about the project or any of the individual institutions participating in the project to permit the development of a figure noting their dimensions of difference. Nevertheless, the conclusions of this study are incorporated in the next Section.

### **Box 7: THRIP Demand-Responsive Fund**

**1. Fund: Total Ratio: High**

THRIP does not allocate funds for activities other than requesting matching funds. In other words, 100% of THRIP funds are used to support demand-responsive activities. The availability of demand-responsive funds provided by government has grown from approximately R12 million in 1995 to approximately R150 million in 2001.

**2. Fund Focus: Low**

A comment from an external evaluation report of THRIP in 2001 is illuminating: “THRIP represents a ‘cocktail’ of programmes in comparison with certain other programmes” (Final Evaluation Report, p.22).

If one accepts that a cocktail is a mixed drink, THRIP is a diverse mixture of objectives, target beneficiaries and project priorities and funding mechanisms. THRIP’s objectives include contributing towards improvement of national competitiveness through the stimulation of technology in SMMEs; contributing towards human resources development, especially as regards women and blacks; supporting capacity building in historically black institutions of higher education; strengthening; and fostering collaboration among higher education institutions, industry and SETIs (science, engineering and technology institutions). Its targets include historically disadvantaged individuals and institutions; SMMEs; and the technologically oriented industries. Its project priorities seek to be responsive to six different government policies and White Papers (GEAR, the macro-economic policy of government; the White Paper on Science and Technology; the White Paper on Small Business promotion and Development; the White Paper on Higher Education; and a range of Initiatives on Technology Promotion put forth by its governmental funding source, the Department of Trade and Industry) (THRIP Strategic Plan; 1998). As noted above, THRIP has six different funding windows or mechanisms.

### 3. Size of Awards: **Small**

Because of the diversity of interests and needs THRIP seeks to address, and because of budget constraints, THRIP grant awards have a maximum level of government support of approximately US\$ 100,000. The average size grant is considerably less than this, and the range of grant awards is broad, with the smallest being a modest level of scholarship support to an individual involved in a science research project while completing a degree.

### 4. Nature of Intended Beneficiary: **Individuals, Institutions and private sector firms**

Because of its multiple objectives and responsiveness to diverse policy mandates, the nature of THRIP's beneficiaries is diverse, and becoming more so, as spin-off organizations come into being through the impact of THRIP funding, and these new organizations may qualify for continued support. While the diversity of beneficiaries has been a concern to some evaluators of THRIP's activities, it is recognized that THRIP has responded effectively to this diversity, as has been able to leverage every-increasing levels of financial support from government and private sector.

### 5. End User Linkage/Design and Implementation: **Medium**

Because of the diverse nature of THRIP's beneficiaries, there are many end users of the activities supported by THRIP. End user access to and involvement in processes of THRIP program design, implementation and evaluation has been evolving over the decade since THRIP was established. Initially, there was little access or opportunity for involving, except as applicants for funding. However, at the present time representatives of several categories of end users—namely the higher education and SET institutions, as well as the technology industries and SMME sector-- all are engaged in the various governance and operational structures of THRIP. Initially all applications were reviewed by THRIP staff. That process has been changed and expert panels from a wide range of technological backgrounds are now involved in reviewing applications. Similarly, biennial external evaluations were initially presented only to THRIP management. Now they are “workshopped” through various groups of stakeholders, including THRIP management.

### 6. Fund Promotion Strategies: **Medium**

The latest THRIP Evaluation report indicated that THRIP has a high profile within the higher education community, but that a more aggressive marketing strategy is needed to penetrate the SMME sector. Unlike FIPSE, THRIP does not hold annual workshops of grantees. It is not clear why this situation exists, but one might infer several explanations: (1) the diversity of grantees makes this problematic; and (2) many of the supported activities are engaged in product development and for obvious business reasons would not want to discuss the nature of their activities.

The focus of promotion strategies at present is on increasing awareness of THRIP and the processes to apply for funding support. There does not seem to be a concern for promoting the dissemination of ideas and practices brought about by THRIP activities.

### 7. Fund Design and Innovation Life Cycle Compatibility: **Low**

Comments from the latest valuation report suggest that the design of funding needs to reflect general conditions inherent in the life cycle of new undertakings. For example, projects involving and supported by students whose involvement is made possible by scholarship funds are jeopardized when the length of funding for scholarships is shorter than the length of the project for which funding was provided. Similarly, support to SMMEs for research and development of new products often is for a shorter period than the time required to bring a new product to the point where commercial production is possible. THRIP has occasionally responded by providing “add-on” grants, but evaluators recommend a more careful initial analysis of innovation life cycle requirements, and making funding periods more flexible to accommodate these requirements.

### 8. Transformation Indicator Usage: **Low**

THRIP has been slow to develop indicators that monitor the impact of its activities, and is currently taking steps to address this situation, as a result of feedback from various stakeholders.

### 9. Procurement Challenge: **Low**

THRIP relies upon existing procurement procedures well established with the academic community and the private sector.

**10. Access to Fund: Non-competitive**

Grant applications are assessed by panels of experts against a frame of criteria that reflect the different objectives of the various funding windows or mechanism. Assistance may be provided to applicants in developing proposals, especially in the case of historically disadvantaged institutions. Matching requirements are clearly explained in application materials. The continuous growth of applications, and the high success rate (approximately 90% of the more than 450 applicants in 2001 were successful) suggests that access, generally, is not an issue. However, there is concern that applications from historically black institutions need to be increased.

**11. Fund Governance: Inclusive/Advisory**

THRIP is a joint program of the South African Department of Trade and Industry (DTI) and the National Research Foundation (NRF), with former seen as the client and the later as the agent, managing the day-to day operation of THRIP. THRIP has an eleven member Advisory Board, inclusive of Industry (4 members), higher education (2 members) others government departments (Education and Arts, Culture, Science and technology), and one member each from DTI, NRF and THRIP. The Board is advisory with respect to strategic matters concerning THRIP. Decisions regarding grants are made by expert panels drawn from industry, higher education and the research community.

**12. Fund Staff and Beneficiary Similarity: Medium**

The small staff of THRIP is moderately representative of the beneficiaries THRIP has targeted. The review panels are somewhat more representative of the industry dimension of the beneficiaries, although this varies from year to year.

## **Section 5: Analysis, Findings, Observations and Conclusions**

5.1 This section analyzes the various approaches taken in the cases, and where appropriate, suggests findings, conclusions and observations. The analysis focuses on the Dimensions of Difference in the six cases and examines these in relation to the phases of change and transitional tensions introduced in Section 2—readiness, mobilizing resources, implementing reforms or innovations, overcoming resistance, and institutionalizing the changes. In essence, the analysis seeks to understand why and how the approaches taken in each of the six cases compare and what factors may be associated with noted differences—environmental, leadership, culture, etc. A summary of the analytic frame is shown in Table 3 below.<sup>6</sup> In this Table, the Dimensions of Difference are organized with respect to the phases of change and transitional tensions for each of the six cases. The summary “rating” on each dimension for each case is noted, but the reader is encouraged to review the comments concerning each rating that were presented in the Figure for each case in Sections 3 and 4 above.

<sup>6</sup> In the ensuing discussion the term “project” refers to a comprehensive undertaking within which a demand-responsive fund may be one component. “Fund” refers to the demand-responsive fund, and activities supported by the fund are referred to as grants or sub-projects.

**Table 3: Summary of Dimensions of Difference by Phases and by Cases**

<b>Phase and Dimension</b>	<b>Case:</b>	<b>Argentina</b>	<b>Egypt</b>	<b>Hungary</b>	<b>Vietnam</b>	<b>FIPSE</b>	<b>THRIP</b>
<b>Readiness</b>							
<i>Fund Focus</i>		High	Medium	Medium	High	Medium	Low
<i>Nature of Intended Beneficiary</i>		Individuals, Institutions	Individuals, Institutions	Institutions	Public Institutions	Individuals	Indivs, Insts, Firms
<i>End User Linkage/Design</i>		High	Med-High	Low	Med-High	High	Medium
<i>Transformation Indicators</i>		Low	Low	NA	High	High	Low
<b>Mobilizing Resources</b>							
<i>Fund: Total Project Ratio</i>		High	Medium	High	High	High	High
<i>Fund Promotion Strategies</i>		Low	Robust?	Ad Hoc	Robust	Robust	Medium
<i>Fund Design &amp; Innov. Life Cycle</i>		Low	Low	Low	Medium	High	Low
<i>Size of Awards</i>		Small-Med	Small	Large	Medium	Small	Small
<i>Governance Structure</i>		Exclusive/ Independent	Exclusive/ Advisory	Not clear	Not clear	Inclusive/ Advisory+	Inclusive/ Advisory
<b>Implementation</b>							
<i>End User Linkage/Implementation</i>		High	Medium	NA	Medium	High	Medium
<i>Fund Design &amp; Innov. Life Cycle</i>		Low	Low	Low	Medium	High	Low
<i>Transformation Indicators</i>		Low	Low	NA	High	High	Low
<i>Procurement Challenge</i>		Low	Low	High	Med-Low	Low	Low
<i>Access to Fund</i>		Combination	Competitive	Non-comp	Combination	Competitive	Non-competitive
<i>Fund Staff- Beneficiary Similarity</i>		Medium-High	Low	Not clear	Not clear	High	Medium
<b>Overcoming Resistance</b>							
<i>Size of Awards</i>		Small-Med	Small	Large	Medium	Small	Small
<i>End User Linkage/Implementation</i>		High	Medium	NA	Medium	High	Medium
<i>Fund Design &amp; Innov. Life Cycle</i>		Low	Low	Low	Medium	High	Low
<i>Transformation Indicators</i>		Low	Low	Low	High	High	Low
<b>Institutionalization</b>							
<i>Size of Awards</i>		Small-Med	Small	Large	Medium	Small	Small
<i>End User Linkage/Design</i>		High	Med-High	Low	Med-High	High	Medium
<i>End User Linkage / Implementation</i>		High	Medium	NA	Medium	High	Medium
<i>Fund Promotion Strategies</i>		Low	Robust?	Ad Hoc	Robust	Robust	Medium
<i>Fund Design &amp; Innov. Life Cycle</i>		Low	Low	Low	Medium		Low

5.2 What should be noted is that in this frame a given dimension of difference may appear in more than one phase. For example, the dimension “Transformation Indicators” appears in Readiness, Implementation and Overcoming Resistance. The reason for this is that the first use of Transformation Indicators, as suggested in the Innovation Readiness Checklist in Appendix B, is in determining the scope and nature of gaps or shortcomings that exist in the higher education system and in specific institutions. The second use of Transformation Indicators is in the Implementation Phase as a means of monitoring progress in the use of the demand-responsive fund and the impact the change or innovation may be having on the gaps or shortcoming identified in the Readiness phase. The third use of Transformation Indicators may be as a resource to overcome resistance – by demonstrating to the skeptical the degree to which the change or innovation is having an impact.

5.3 The discussion that follows is organized in the following manner. For the phases of Readiness, Mobilizing Resources and Implementation, each of the Dimensions of Difference is discussed in terms of what was noted about their presence in the cases, and what might be inferred from a comparison of effects in the different cases.

5.4 In the phases of Overcoming Resistance and Institutionalization, the discussion shifts away from each and every Dimension of Difference to a more generalized analysis of the experiences in the cases. It is at this point that considerable emphasis on the American Council of Education’s project is included, as the conclusions reached in that study tend to affirm what might be considered emergent conclusions in the six cases.

5.5 **Institutional and System Readiness Phase.** As noted earlier, readiness is a concept concerned with the feasibility, timeliness and appropriateness of introducing significant changes in a system or institution. Changes may be at a policy level affecting an entire system or at the level of operational procedures in any of the core activities of an institution, at any of its major operating levels (faculties, departments, programs or courses). Basically, the issue of readiness is whether there is sufficient awareness of a need for change, and sufficient willingness to consider whether and how to change. As suggested in Table 2 in Appendix A there are many ways to determine if a system, institution, or faculty is ready or receptive to change, and ways to enhance the degree of readiness so that appropriate planning may be started.

5.5.1 **Fund Focus and Nature of Beneficiaries.** Within the context of demand-responsive funds as a mechanism for introducing change, the *focus of the fund* and the *nature of the beneficiaries* are two important aspects of readiness. How those elements are linked is crucial to gaining sufficient commitment for change. When individuals such as academic staff members or students are seen as the beneficiaries of the proposed changes, the focus of the fund needs to embrace the goals and address the impediments beneficiaries perceive as being relevant to their interests. Studies that help document needs also serve as *transformation indicators* and can be important in creating readiness for change and linking the focus of the fund to the goals of the intended beneficiaries.

5.5.2 In Argentina, where the *focus of the project and the fund* was on strengthening faculties of science and engineering, organizational readiness was developed by creating an understanding of the need for change through systematic preliminary studies that documented the need, followed by extensive consultation with deans of faculties of sciences and engineering to ensure their active support. In this case, deans could be considered the end-users of the products of the project, since it was assumed that most beneficiaries would stay within higher education. A similar pattern was followed in Egypt and Vietnam. Institutional leaders at several levels were

engaged in the process of developing an understanding of the need for changes, since in both cases the focus of the funds was to make changes at institutional levels that would improve the quality of instruction and the responsiveness of those improvements to changing needs in society.

5.5.3 Readiness gauges issues in an organization's structural setting, and the degree of commitment to changing behaviors and relationships in that setting. FIPSE's programs operate at a level where these broad organizational issues are less of a factor. In the FIPSE program, system and institutional readiness is less of an issue because the focus of change is at the individual and classroom level. The *fund focuses* on "course-centered" changes that are planned and implemented through actions by individual instructors, and the need for organizational readiness is less of a concern. And since FIPSE's programs tend to respond to broad, generic issues of teaching and learning improvement largely irrespective of academic discipline, the fund tends to have less focus of a disciplinary nature than in the cases of Argentina and Egypt.

5.5.4 The THRIP case offers an example of diverse beneficiaries necessitating an equally diverse fund. Relative to the other cases, THRIP has a lower level of *focus in its fund*. But relative to the other cases it also has a much more heterogeneous group of *beneficiaries* – individuals (students, academic staff and researchers in governmental research agencies), institutions, and small firms in a broadly defined set of technologically oriented industries.

5.5.5 *Compatibility between System and Institutional Readiness.* Readiness may also be a factor at the interface between a system and its institutions. Activities to build readiness at both levels was done successfully in Argentina and Egypt, but when a change in government occurred in Hungary it became apparent that the scope of engagement with political actors had not been sufficiently inclusive as to include policy makers who took over after elections. The effect was a significant change in policy that had profound effects on the project. The *focus of the fund* was on creating the physical infrastructure of institutions as an incentive for them to merge. However, the new government effected mergers through decree and the fund, in effect, became unnecessary. Since the *ratio of the fund to the total project* was very high, the seeming irrelevance of the fund cast the whole project in a new light and the result was that the project was terminated with less than 2% of the fund having been spent. *This raises questions about the dimension of fund to project ratio. Under what conditions should this ratio be high? Under what conditions should it be lower? When does the nature of the ratio (high or low) become an advantage or a disadvantage to the success of a project? What steps can be taken in the design of a project and a demand-responsive fund so that the nature of the ratio does not become an issue that threatens either the project or the fund, or both?*

5.5.6 Another example is a World Bank project (Nigeria University System Improvement Project) not previously discussed, but familiar to this writer and Bank staff, suggests that policy makers in administrative offices may be ready for changes but academic staff at the institutional level may not share that sense of readiness. Unless sufficient action is taken at the institutional level to develop readiness, it may be very difficult to have system and institutional components of a project progress at the same pace, a situation that might jeopardize a project or a fund. This example raises the broader issue of what might be called "system readiness." The distinction is between the university or higher education institution, as the unit of analysis, and the higher education system within which universities and other higher education institutions operate. While the basic concept of readiness may be the same regardless of the level at which it is applied, the application at a system level is much more difficult, given the greater number of complexities at the system level.

5.5.7 These complexities involve a range of governmental institutions and stakeholders whose reasons for wanting system change or how change should be carried out may be substantially different from each other, as well as having the possibility of being different from the institutions in the system. Complexities may also include the possibility of policy changes – actions that may introduce unanticipated consequences that may affect the project or the fund and set off a new set of issues. On the whole, in the cases observed it would appear that donor efforts to assess readiness at the system level focus primarily on political and teleological models of change (See Table 2, Appendix A). In the cases of Argentina, Egypt and Vietnam, solid scientific studies (a form of *transformation indicators*) showing the need for system change were conducted, as they generally are in all Bank projects. Discussions with government officials took place with the goal of negotiating a course of action and a level of financial commitment that is mutually agreeable.

5.5.8 But it would appear from the information provided in these cases and in the Nigeria case that less rigor was expended in assessing whether there was a fit between readiness among key players at the system level and readiness among stakeholders at the institutional level. If this observation has merit, it would seem that attention should be given to ways to build more assessment of readiness into the early stages of exploring project and demand-responsive fund possibilities. Are surveys of stakeholder groups possible? Have workshops and conferences involving key stakeholder groups been held, as was done in the case of both Egypt projects? Have the concerns of end users been sufficiently publicized to provide leverage for creating readiness, as seems to have been the case in Vietnam and South Africa?

5.6 **Mobilizing Resources Phase.** In the early stages of a potential project, efforts are generally placed on mobilizing non-financial resources in order to assure that efforts “get off the ground.” One way this might be done is by focusing on the *governance structure* of the project and the demand-responsive fund, if separate structures are deemed appropriate. In some situations those efforts might focus on mobilizing the intellectual resources in such governance structures that would reaffirm documented needs and change options. This path was followed in the Argentine model, and to a certain extent in the Vietnam model. However, in other circumstances the focus might be on mobilizing necessary political resources through coalition building and negotiating positions around change options. This approach seemed to be the most salient in the Egyptian case, combined with elements of a “cognition approach” as discussed in Appendix A. Reflections on the FIPSE history underscored the importance of establishing a *governance structure* that protected the financial and organizational resources of the newly created organization (Immerwahr: 2002a). In effect, the model of change that influenced the shaping of the governance structure was a political model. However, once established through the force of a political model, FIPSE developed its organizational history by following a cultural model of change with respect to its internal ways of operating and the ways it interacted with the higher education community and its grantees.

5.6.1 *Life Cycle of Innovations.*<sup>7</sup> In the FIPSE approach, in something of a contrast to approaches in World Bank projects, the mobilization of resources seems to focus on aligning the assumptions, intended innovations and expected outcomes between the proponents of proposals and the interests and experiences of FIPSE staff and peer reviewers. This happens through a protracted and intense period of consultation and negotiations. The effect seems to have been a fund design that reflected certain principles inherent in the *life cycle of innovations*, such as assuring sufficient resources to carry successful pilot projects through to demonstration and dissemination activities. The FIPSE experience also suggests that a *robust strategy of promoting*

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<sup>7</sup> See Appendix C for a brief discussion of an innovation life cycle and implications for Innovation Fund allocations.

*the demand-responsive fund* in the early days of mobilizing political and financial resources helped to assure the continuing availability of these resources in later phases.

5.6.2 **Fund Promotion and Size of Awards.** The case of Argentina suggests that *fund promotion* in the early days of mobilizing support was not a high priority, given that a relatively large commitment of funds had been made through the negotiated loan agreement between the Bank and the Government of Argentina. Furthermore, the extensive involvement of all university rectors and deans of faculties of science and engineering in the design of the project and the fund assured that the targeted beneficiaries – the academic staff in these faculties – would know about the fund and would use it.

5.6.3 What effect does the proposed *size of awards* by the demand-responsive fund have on issues of mobilizing and maintaining support? The cases of Argentina, Egypt, FIPSE and THRIP, where grants tend to be relatively small (less than US\$ 100,000), suggest that a policy of making small grants may have a number of positive consequences. By committing to a strategy of small grants, FIPSE was able to leverage financial resources from institutions to the degree that successful fund-supported activities were continued after the end of FIPSE support in more than 70% of the cases. In other words, the matter of grant size had a direct and important effect on the *life cycle of the improvement* initiated by FIPSE support. Small grant size may also have had an important effect in Argentina, Egypt and South Africa, where it meant that resources from the demand-responsive funds could be stretched to reach thousands of academic staff, which in turn may have had the effect of continuing to mobilize political or “value” support for the activities of the fund. In the case of South Africa, the small size of grants may have made it easier to generate the matching resources from the private sector, which in turn reinforced increasing government support at a substantial rate, as shown in Graph 1. **In other words, small grants may make it easier to leverage political and financial support than large grants.** This seems to be an important conclusion worth further study and consideration by project and fund designers, since there generally is a concern in designing funds about capacity to administer a process that produces a large number of grants each year. *What are the trade-offs between considerations of grant size and ease of administering the grant process? Are there ways that capacity issues could be addressed without raising the costs of operating demand-responsive funds?*

5.6.4 **Fund to Total Project Ratio.** Analysis of the relationship between *the ratio of fund resources to the total project resources* and the relationship to *size of grants to total fund resources* also suggests another key issue around mobilizing financial resources. The level of financing needed to carry out reform or changes, both in the aggregate and for the component of a project where demand-responsive funds are being used as the “change lever,” and at the level of the individual sub-project or grantee seems to make a difference in the speed and outcome of the undertaking. **It appears that the smaller the amount of resources needing to be mobilized, the more quickly and more likely that changes will occur and become widespread.** That appears to be the case with THRIP and FIPSE, where small size is a fundamental value in the philosophy of the program. Small size refers to the average size of a grant, as well as to the relative size of the annual FIPSE budget, when compared to other Department of Education projects to support higher education. It also appears to be the case in Egypt, where both the average grant size and the budgetary size of the whole project are smaller than in some Bank higher education projects in other countries.

5.6.5 In the case of Hungary, one might ask whether the large size of the demand-responsive fund, both as a total undertaking and at the level of the participating institutions, caused **procurement issues** to become a factor? Or did the large size of the loan, almost 90% of which was for the fund, become a concern to government officials, especially when they had decided

that incentives were not need to merge institutions – that it could be and was done by governmental decree?

5.6.6 While the content of the approaches of mobilizing resources may vary, in general terms the process is similar and evidence of the extent to which the process has been thought through may be seen in several dimensions of difference. The primary dimensions are those concerned with *end-users and primary beneficiaries*. The higher the level of effort associated with mobilizing resources from among those who are the primary beneficiaries and the end users, the greater the likelihood that sufficient resources will be found to move successfully into *implementation*, and of equal importance in the long term, to sustain the effort through *institutionalization and transformation*.

5.7 **Implementation Phase.** In the implementation phase it seems that the *procurement challenge* may be a crucial issue. It would appear to have been a factor that contributed to the termination of the Hungary project. In the cases of FIPSE and THRIP the use of existing, well-established procurement procedures facilitate the relatively rapid implementation of funded projects, compared with Bank funded projects. In the Egypt project, lessons learned from the preceding project contributed to the reduction of procurement challenges in the follow-on project. The value of follow-on projects within higher education reform is in itself a topic worthy of further consideration, given that the World Bank is increasingly turning its attention to the higher education sector. **Important lessons in dealing with issues of readiness, design, implementation, resistance and institutionalization can be learned and applied in follow-on projects within the same country perhaps more effectively than seeking to apply these lessons in different countries.** The Egypt case seems to support this conclusion, as does the case of THRIP, were there is an emerging pattern of new grants being awarded as a follow-on to successful grants in the same collaborative network of institutions and firms. If this a reasonable generalization, the question may then be asked: *Would a strategy of developing and initiating a series of smaller projects over a longer period of time be more effective than developing an initiating a comprehensive project with many components? In other words, does the Bank approach of making relatively “big bets” on one comprehensive, multi-component project reduce the possibility of incremental learning from within the context of a country, thereby raising the odds of that bet paying off?*

5.7.1 **Similarity of Fund Staff to End Users and Beneficiaries.** The FIPSE experience highlights the potential importance of issues concerned with the staffing of the entity responsible for managing the demand-responsive fund. A prime reason cited for the success of FIPSE was the decision to staff the newly created program with young academics familiar with the need for quality improvements in curricular matters and the difficulties encountered in trying to introduce changes. This decision went counter to the usual practice of staffing new Department of Education programs with civil servants from within the education bureaucracy. The choice of young academics as the professionals to run a program that stressed breaking new ground, taking risks, affirming new values and new approaches had a significant impact on assuring that these goals would be vigorously pursued. Testimonials from FIPSE grantees about their incredulity in dealing with FIPSE staff who “weren’t education bureaucrats” provide insight into the power of this simple staffing strategy in changing the culture and procedures usually associated with the pursuits of grants (Immerwahr: 2002a).

5.7.2 In the other cases reviewed it appears that conventional approaches to staffing the unit responsible managing the fund have been used. All units make use of proposal review panels with outside members. Most panel members are drawn from the academic community, but in some cases—notably Egypt and THRIP—it appears that private sector experts have extensive

involvement in proposal review committees. Given the objective of creating closer links between higher education and the private sector, this move would be expected. What needs additional study is whether these non-academic members are able to wield effective influence in the panels on which they serve.

5.7.3 The issue of staffing is important because in the inevitable exercise of discretion in making judgments about the handling of proposals, whether in the actual direct review of proposals or in the selection of persons for appointment to review panels, the values of this staff about higher education and about institutions will be manifested and have an effect on the operations of the fund. This influence can either hinder or assist the transformation of higher education. In addition, aside from the impact of their values, the skills of this staff in implementing the intended design of the fund will be critical to the success of the fund. In at least one case (Vietnam) there was complete turnover of staff in the early days of the project, which had a short-term negative impact on implementation. In another case (Egypt) the staff of a prior higher education reform project moved in and took over the management of the fund, minimizing many of the “teething” problems of new units. The Bank is often in a difficult position regarding staffing issues; it wishes to see the most competent and value-friendly people in the important positions, yet too much involvement in these matters has the potential of backfiring. *Nevertheless, given the long-term importance of staffing, are there other approaches to exploring the issue of staffing that may suggest to both the donor and client outcomes that may be more effective in the long-term?*

5.7.4 **End User Linkage.** Linkages between the fund and the project’s end users and beneficiaries are crucial during the implementation phase. Good linkages provide opportunity for early indications of whether and how the processes of accessing the fund’s resources are working as intended, and whether the activities funded are showing promise of aiding the beneficiaries and end users. When the improvements or innovations supported are in curricular areas, the lag time between the introduction of an improvement and the impact it may have on a profession or an industry may be such that it may not be possible to know “results” within the life of a grant or even the life of a project. In these cases it is essential that articulate representatives of end user and beneficiary concerns are actively involved in monitoring the “inputs” to curricular change efforts, such as changes in course content, design of experiential learning structures, review of planned activities to upgrade knowledge and skills of academic staff, and redesign of testing procedures.

5.7.5 In the Egypt project representatives of the private sector serve on the review committees handling the proposals for the “entrepreneurial” window. The Vietnam project addresses end user linkage in a different manner; the private sector has access to the newly created Career Advisory Services at participating universities, giving their concerns and needs indirect access to other institutional structures where curriculum and research improvement processes are planned and carried out. Tracer studies of graduates also provide beneficiaries/end user opportunities to indicate their views on the adequacy of higher education’s changing responses to society’s needs. In the Argentina project, the end users were the deans of science and engineering faculties. They had direct and immediate opportunities to judge the effectiveness of the implementation of the fund’s principal activities (scholarships and faculty exchanges) through their normal interaction with academic staff and academic curriculum committees.

5.7.6 FIPSE’s end users are the academic staff who adopt curricular improvements developed, tested and disseminated by FIPSE grantees. Their involvement in FIPSE activities feature in a number of ways: in the course of normal interactions with colleagues who are FIPSE grantees they observe experiments in progress; they are invited to attend the regular workshops held by

grantees to discuss progress and challenges in their experiments; they are invited to be reviewers of proposals.

**5.7.7 Fund Design and Innovation Life Cycle Compatibility.** During the Implementation phase concerns about fund design are likely to become an issue, in terms of compatibility with a normal life cycle of innovations. *One dimension of the issue is likely to be whether there are sufficient financial resources in the fund to assure that successful innovations have an opportunity to be disseminated widely throughout an institution or a system. Another dimension of the issue is whether any given grantee has sufficient resources to take a successful innovation or improvement through pilot testing and subsequent modification and on to a demonstration and/or dissemination phase.*

5.7.8 FIPSE has been responsive to these considerations ever since it began operations. By limiting the number of grantees in any one year and managing the number of grantees in the innovation “pipeline” it has been able to provide sufficient support to most grantees to assure demonstration of some projects on a limited scale. THRIP has also begun to address this issue by recognizing that few proposals are able to accurately judge all costs in developing and testing the worthiness of new ideas. THRIP has begun moving, experimentally, towards the type of sequential funding used in the Vietnam Project, as described in Appendix B, where only certain successful grantees will be able to compete for additional “add-on” funds.

**5.7.9 Transformation Indicators.** The value of transformation indicators as a means of monitoring the progress of activities supported by demand-responsive funds is self-evident. However, the challenges in successfully developing and using valid and reliable indicators are many. One set of challenges referred to earlier is a methodological one: how to you measure the effects of an intervention when the time needed for the intervention to show its effect is longer than the time available under a grant? In these cases, proxy variables need to be tested and used when appropriate.

5.7.10 Another set of challenges arises from a seemingly universal characteristic of institutional culture that is, to put it mildly, averse to efforts at measuring academic performance. Despite decades of “rational” discourse on the necessity and benefits of actions that would assist academic programs to measure the efficacy of their efforts, little has actually been accomplished in regard to this issue. However, growing impatience on the part of legislative bodies, the private sector and the general public may result in greater progress in the acceptance of measures of academic performance by institutions in the near future. In the United States new legislation that is “likely to cause much angst among public college officials” is being proposed by the Bush Administration that would “link federal education funding to accountability for results,” and suggests that the government might “create performance-based grants” (Burd: 2002). This move comes on the heels of a major study on the state of competition among higher education institutions in the United States, which adds to the pressure on public institutions to demonstrate their efficiency and effectiveness (Immerwahr: 2002b).

5.7.11 The efforts to introduce *transformation indicators* in the cases in this study show considerable creativity and progress. The Vietnam project demonstrates a sophisticated approach to using a complex set of indicators to monitor project activities, including activities of the demand-responsive fund. FIPSE has a long history of detailed tracking of the progress of its grants, and requires grantees to develop and use indicators. The Argentina project, on the other hand, reveals the difficulty in getting academics to develop and use indicators that address performance. Data from FOMECS reports on levels of activity, but does not use indicators that seek to measure the outcomes of activity in terms of the objectives of the fund.

5.7.12 ***Access to the Demand-Responsive Fund.*** There is a general similarity to the processes for accessing demand-responsive fund among these six cases. Applicants initially need to satisfy certain specific criteria in order to gain access to a second “elimination” round. Judgments about proposal quality in the first round is sometimes done by the staff of the unit responsible for operating the fund; in other cases “outside” review panels make a determination or a recommendation. Second round judgments of proposals are done by outside review panels in all cases. Generally, the findings of the second level review panels are put forward as ranked recommendations, with the final decision about an award being made by an Executive Committee, Council or Board.

5.7.13 Aside from the procedural aspects of accessing funds, there is another issue worth highlighting. It is the use of the demand-responsive fund to **create new opportunities for securing grants by individuals or institutions previously excluded.** For example, as noted above in Section 5, paragraph 5.12, THRIP created opportunities for technikons in South Africa to secure research grants—opportunities that surprisingly did not exist previously. Other examples are found in the cases of FIPSE and the Egypt project. FIPSE has targeted junior academics who have not yet established the credentials to have a chance of securing a grant from other sources, where more senior academics with long publication records have the advantage. In the case of Egypt, project review revealed that junior academics were not benefiting from the fund; their applications were always losing to more senior academics. Consequently, a decision was made to open a window specifically for junior academics.

5.7.14 The design of demand-responsive funds may provide opportunities such as these to create new “spaces” in the academic community where new faces, new values, as well as new practices may flourish. And the implementation of demand-responsive fund procedures need regular monitoring to assure that the new space continue to be nourished, or else the power of tradition will gradually crowd them out. FIPSE has been willing to take risks in its grant making to find and maintain new “spaces.” For example, it accepts proposal from informal, grass-roots cooperatives and educational advocacy groups as well as major research universities. The breadth of applicants makes the comparative assessment of proposals very challenging, and requires reviewers who are careful, critical thinkers willing to invest considerable time into the review process.

5.7.15 The dimension of access also raises the issue of whether a fund should be ***competitive or non-competitive.*** This matter needs careful consideration from both design and implementation perspectives, as both phases present their own challenges. *Are the reputed advantages of competition understood and accepted in the value system of the academic community in which a fund will operate? Will the use of a competitive process unnecessarily put certain institutions, disciplines or individual at an unfair disadvantage, and is that acceptable? What steps can be taken to assure a “level playing field” if there significant inequities in the higher education system? Is transparency, a necessity for a competitive process, an accepted and practiced value? Is there a sufficiently large pool pf qualified, independent reviews to operate a competitive process economically? How does a design team find answers to these questions? Under what conditions should a combination of competitive and non-competitive processes, as in the cases of Argentina and Vietnam, be considered? What special problems do a combination of the two modes present?*

5.7.16 Another issue the needs more understanding, consideration and discussion than it is usually given is the ***matter of matching funds,*** and what the nature of the match may be. Consider the case of FIPSE, where grants are small and tend to be seen as “seed money” rather

than the full amount a proposal might need for implementation. Because the amount that FIPSE provides is small, the amount that is required may also be small, in absolute terms, but high in relative terms. But because an institution provides a substantial match, it is easier to continue the activity when the FIPSE support ends. The end of donor support does not create a sudden and substantial budget demand. On the other hand, in many of the situations where the Bank operates resources are so scarce that a matching requirement may be very difficult to meet. Consequently, creativity is needed to develop alternative means of finding the resources needed.

5.7.17 THRIP provides another interesting approach to the question of matching requirement. In most THRIP project categories a match of 50% is required. The private sector partner provides the match, based upon its desire to have access to research and development resources that would be beyond its reach under normal circumstances. There has not been a problem in finding private sector firms willing to make this matching requirement even though the concept was entirely new when it was introduced in South Africa. In less than a decade, THRIP has been able to raise more than US \$150 million through matching requirements, and the amount has been steadily increasing each year, as implied in Graph 1, shown earlier. The THRIP success suggests that early involvement of end users and potential match contributors in the design process of a project (the mobilization phase) and of specific proposal development by a higher education institution is essential if they are going to become actual partners.

*5.7.18 The essence of the question of matching requirements currently seems to be driven by what an institution or a system can afford now. That seems to be as reasonable concern, but does it provide guidance to answering the question of what will the institution or system be able to afford when the original source of external funding (the donor) is removed? What steps should be taken at the design stage to create readiness for shifting the budget burden? These issues are critical to the sustainability of good ideas, but it often appears that the issues are not given the attention they deserve until it is too late.*

5.8 **Overcoming Resistance and Institutionalization.** It has been frequently said by many that no social institution is as resistant to change as the university. As one who has been scarred in struggles to bring about change in a number of institutions and systems, I bear witness to this claim. But as one who has also contributed to the successful transformation of institutions, and has been transformed by the hope that change is possible, I also bear witness to the power of hope.<sup>8</sup> Hope will be rewarded when resistance is understood, and occasionally embraced.

5.9 Because resistance to change is so endemic in higher education institutions, the following discussion is not limited to one phase of the change cycle, as suggested by Tables 2 and 3. Rather, the discussion looks at successful experiences in overcoming resistance and institutionalizing change in the American Council on Education project and relates those to opportunities and actions along some of the dimensions of difference used in analyzing the six cases. The project that was undertaken by the American Council on Education (ACE), with support from the W. K. Kellogg Foundation, on higher education transformation in 26 American institutions offers some suggestions. A report on this project identifies successful strategies for overcoming resistance and instituting transformative changes, that is, changes that are deep and pervasive (Eckel, Hill, Green and Mallon: 1999). Four observations about these change strategies: (1) they assume an implied model of change that focuses on institutional culture as a

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<sup>8</sup> I am indebted to Sister Joan Chittster for providing the “connections” between struggle, hope and transformation, which I have taken the liberty of putting in the higher education context. Sister Joan Chittster, “Scarred by the Struggle, Transformed by Hope: The Nine Gifts of Struggle.” The Chautauqua Summer Lecture Series, Summer 2002.

controlling factor; (2) they assume that institutional leadership is the driving force in bringing about transformative change, (3) the change strategies articulated artfully avoid any explicit reference to the use of transformation indicators as a way to gauge progress, and (4) while the pressures for change may have external connections, change that is successful must be intentionally planned and implemented around the internal realities of an institution. Those realities may change over time, but they determine the direction, pace and content of change initiatives. The successful change strategies identified in the ACE project on leadership and institutional change follow and frame the discussion around issues of resistance and institutionalization (Eckel *et al.*: 1999). In effect, they are a continuation of the Guiding Principles listed in Section 3, paragraphs 3.13 and 3.14, but stated more directly and fully in an institutional context.

**5.10 Leaders make a clear and compelling case to stakeholders about why things must be done differently.** Inherent in this strategy is recognition of the readiness factor introduced earlier, but also the necessity of “making the case” constantly throughout the phases of change, as well as making the case in a variety of ways in order to allow those with a different way of looking at issues to develop a logic that allows them to see the need for change within their frame of reference. Assuming that the strong, rational argument from “your” perspective will convince all can be a pitfall into which many change efforts have disappeared. Also, starting with a preferred solution before there is common agreement on the problem is a likely to prove fatal to change efforts. Is there a tendency in donor-supported projects for a preferred solution, before the problems have been fully analyzed and the context (including the prevailing institutional culture) clearly understood? If so, there needs to be a safeguard against this happening. While the Rational model of change may be clear and compelling to some, others will need other forms of convincing to overcome their resistance.

**5.11 Change leaders craft an agenda that both makes sense and focuses on improvement without assigning blame for the current conditions.** The case for change needs to be congruent with the purposes and values of the institution, but at the same time challenge values and practices that are no longer working, or which leave important sectors of the institution or of society excluded. In making the case for change, successful strategies avoid assigning blame for the current situation. Rather than looking back, leaders of institutions that made significant progress in making changes crafted their agenda in terms of a better future and an improved institution. For example, several institutions framed their agendas for enhancing technology use in the classroom around improving student learning rather than focus on a need to improve teaching. **Focusing on an agenda that unites rather than divides enhances efforts to mobilize resources and pays dividends as changes move towards institutionalization.** FIPSE grants respond to proposals from individuals who seek to improve their own courses or programs—the only implied criticism is self-criticism, thus FIPSE grants tend to work in an environment where there is little defensiveness or “turf-protection,” and may be one of the reasons their success rate is as high as is reported.

**5.12 Change leaders develop connections among different initiatives and individuals across campus that creates synergy and provide momentum for the initiative.** Some institutions started with small changes and eventually joined them together to create comprehensive changes; others started with strategic plans and comprehensive strategies and began working on changes in the component parts. **In other words, it does not seem to matter whether you start with small change initiatives, or start with large change initiatives in different places, as long as there is a conscious, ongoing effort to “keep connecting the dots.”** To the extent that the need for improvement involves adapting institutional activities to meet

societies needs more efficiently and effectively, change initiatives (large or small) necessarily need to “connect the dots” with external initiatives. The World Bank projects in Egypt and Vietnam appear to be doing this, and it is an integral feature in THRIIP grants. These external connections should be part of the strategy for overcoming resistance to institutional adaptation.

5.12.2 System level changes, which are characteristic of World Bank projects, need to be guided by the same notion of “connecting the dots” in order to keep the initiative on track across the system. This may require structuring the demand-responsive fund in a way to assure that there are dots to connect throughout the system. The Egypt project is structured with a window for academic improvements, a window for management improvement, and a window for activities that would strengthen the interaction between institutions of higher education and the private sector. However, system-wide changes introduce other challenges when trying to make connections between initiatives, as shown in the Vietnam case. There implementation of the demand-responsive fund was delayed because the actions in another “set of dots” – another project component – was delayed for a number of reasons. The double delay then led to the need to change the criteria and scheduling of the second round of the demand-responsive fund. **Thus, the need for caution when too many connections between too many initiatives are made and where the action between them is interdependent.** What is at risk is more than a missed connection or a delay; what may be at risk is the momentum of the initiative and the ability of change leaders to keep attention focused on the initiative.

5.13 **Senior administrators support and are involved in institutional efforts.** There is a tendency to develop transformation plans in higher education by focusing only on the key functions of teaching and research without taking into consideration the critical support structures of personnel, finance and physical facilities. Senior administrators who control finances and human resources need to be made a part of the process for seeking solutions, or they will become part of the problem. Most World Bank projects specifically target administrative needs in institutions and in the system wide structures. Generally, however, the components of Bank projects that address these needs are not the components that involve the demand-responsive fund. Does this suggest that administrators should be exempt from the pressures of having to compete or meet qualifying criteria? What signal does this send to academic staff who need to compete?

5.14 **Collaborative leadership identifies and empowers talent across campus and at a variety of levels.** Successful transformation efforts are the result of vast amounts of energy contributed by people on all levels of institutions. Teamwork is essential; without teamwork the change leaders will quickly “burn out” and the change effort will grind to a halt. Individuals throughout the institution who possess stature, skills, and credibility can help lead the change effort by formulating and implementing a shared agenda for change within their spheres of operation. If the responsibility for change is seen as something that “belongs” to the Vice Chancellor, or the Director of Planning, or the Project Implementation Office, rather than being owned by everyone, to greater or lesser degrees, the change initiative will run out of steam, or be hijacked by other events.

5.14.1 In essence, this is a principle or strategy that is concerned with implementation. But it responds to a more critical principle of continuously building support for change initiatives; continuously building “credit” that can be spent when resistance emerges. It reflects a combination of political and cultural models of change.

**5.15 Leaders develop supporting structures, create initiatives and provide resources for change efforts.** A critical step in carrying out change plans is to identify the barriers that are likely to impede progress and create incentives for people to remove the barriers themselves. Institutions can use a range of incentives to motivate key people to commit time, energy and support to the processes and activities of change. Study tours and exchanges may be valuable investments that allow skeptics to learn about transformation results that may diminish or remove their concerns. Successful leaders recognize that to prosper, change initiatives require a visible financial commitment. Such commitments may leverage financial and political support from other sources and from doubters. Demand-responsive funds are also mechanisms that can be used as a resource for change, and it is in this context that the issue of the size of grants or awards again needs to be considered. Given a finite pool of resources for the fund, the smaller the grants the more may benefit from the fund. That strategy could even work when one is seeking to concentrate resources in a few institutions in order to create centers of excellence, as in the Vietnam project and in some instances in THRIP sub-projects. Smaller grants spread out over time, or among different sub-projects in the same institution or center may have the effect of adding depth and diversity to the activities undertaken, strengthening the intellectual and human resource base of the entity.

**5.16 Leaders focus campus attention on the change issue.** Change leaders must resist getting engulfed by the turbulence that sometimes occurs with change. They must minimize distractions and prevent change efforts from being hijacked by other issues. They need to refer to the change agenda using consistent language and symbols in public presentations and make it a part of everyday conversations. Change leaders keep the initiative as the centerpiece of institutional business. There are many ways to keep attention focused, and it may be argued that the more ways that are used, the more effective the efforts are likely to be. Information and communication technology add considerably to the means by which attention be gained and kept. Web sites that are regularly updated; email communication that “pushes” information of project activities, rather than waiting for people to inquire; regular and strategic briefing of the press, coinciding with the accomplishment of milestones in activities can keep external stakeholders abreast of progress; and workshops that bring together those who are engaged in change activities but who may not normally interact.

5.16.1 Within the context of demand-responsive funds, many of the activities suggested above may be part of a strategy to promote the fund. But the fund promotion strategy should be considered more than merely waving the flag; it should be a strategy that seeks to gain a wider audience who understanding what and how the improvements being supported through the fund might be used in other contexts. The FIPSE experience with annual meetings bringing together all their grants has been widely regarded as the most effective of its “promotional” activities precisely because these meetings focused on deepening the understanding of the improvements being tried, rather than merely publicizing the activities. *Would annual meetings of donors and clients with demand-responsive funds be a useful way to deepen understanding of the use of such funds? Would they help to focus attention on change initiatives being undertaken? Would they help to build support for fund activities, in the sense of creating opportunities for replication, when it is warranted?*

**5.17 Institutional change leaders work within a culture while challenging its comfort zone to change the culture.** Transformative change is paradoxical; it often requires changing institutional culture by working within that culture. This may seem implausible, but institutions succeed in making significant changes when they understand how their culture works so they can intentionally create and implement effective strategies. The change process must be compatible

with an institution's culture or it appears illegitimate and inappropriate, but at the same time the change process must challenge assumptions, attitudes and practices in a manner that allows those who will be affected by changes to find reasons to "let go" of old ways and adopt new ways.

**5.17.1 Consequently, it is essential that those who work with institutions to support change efforts also understand the culture within the institutions. That understanding should help to guide why, how and when different models of change are used; why how and when the differences in the dimensions of projects we have noted are made; why, how and when the phases of change are undertaken; why, how and when demand-responsive funds should be part of the mechanisms of change.**

**5.18 Leaders plan for change over the long term.** Achieving comprehensive, intentional change is a long process and successful change leaders develop strategies that capture and hold attention over many semesters and through inevitable distractions. For many institutions, this means spending time laying the groundwork for change. It also means assessing the institution's readiness for change and carefully mobilizing the long-term resources needed to support the change efforts. By recognizing that planning for long-term change requires different assumptions and strategies than short-term change, campus leaders also weigh the effects of different strategies and reject those with only short-term returns unless they have the effect of building a series of short-term successes into momentum that supports long-term changes. Changing higher education systems is a long-term process because it means changing the behaviors of people who labor tends to be relatively independent. As noted earlier in this report, higher education systems are loose authority structures, and long-term, lasting change will only proceed at a pace that accommodates individuals deciding that they want or need to change, and actually undertaking the steps necessary to make the changes. It is often a struggle for individuals to make the decision that commits them to a process of change, and effective change agents have learned how to help people reach and cross that decision point.

**5.19 Conclusions.** What are some of the tentative conclusions that might be drawn from the preceding analysis? Reading project documents leads one to conclude that the preferred model of change is a model that rests heavily on assumptions about cause and effect relationships that are grounded in rational or "teleological" concepts and values. The justification for Bank projects grow from careful economic analyses that lead one to conclude that higher education systems need to perform better (more efficiently and effectively); need to serve more diverse populations; need to be more responsive, more quickly to the changing needs economic, political and social needs of the countries in which they are located.

**5.20** And one may conclude from project documents that the courses of action agreed upon between those who represent the higher education system or institutions and those who are supporting the action to be taken through financial and technical assistance are course of action that evolve from a rational/teleological model.

**5.21** But the environment in which the agreed courses of action are to take place is an environment that operates on a complicated basis of multiple models, but heavily influenced by concepts of institutional culture, in terms of organizational behavior.

**5.21** A major element in many projects is a demand-responsive fund. The principal activities for which this type of mechanism is used is for staff development, curricular changes, and research, but other activities have also been supported

5.22 The elements of demand-responsive funds, and their relationship to other project components, have considerable variation, as shown by our use of dimension of difference.

5.23 **Size matters.** Smaller rather than larger grants made by demand-responsive funds seem better suited to generating substantial amounts of matching funds from institutions and end users of higher education, and therefore may have a greater influence on questions of sustainability than large grants. Smaller rather than larger grants permit more experimentation with different approaches to teaching and to research, and may therefore have a greater likelihood of leading to outcomes that are more adaptable to the local context than larger grants.

5.24 Early and “deep” **involvement of end-users** and beneficiary in the design and implementation of the demand-responsive fund may have a greater impact on implementation and sustainability of the fund than if involvement is superficial or comes later in the process of change.

5.25 The approach taken to **staffing** a fund (civil servants versus academic staff with an orientation towards innovation and risk taking) has an important influence on the values that will guide fund operations

5.26 The nature of a fund’s **governance structure** can influence the extent to which a fund is likely to be sustained and have an impact on a transformation agenda.

5.27 Few funds are designed with a clear understanding of and commitment to fulfilling a **cycle on innovation**—from plans, through pilot testing, to demonstration and replication, yet they are created with belief that their activities will lead to widespread change.

5.28 Requirements of **matching funds** are often caught in tension between what an institution can afford in the short run and what it may cost to take over an activity in the long run.

5.29 **Demand-responsive funds** can be effective mechanisms for creating an incentive structure that will shift behaviors.

5.30 **Transformation indicators** may be useful tools to demonstrate need, measure progress and assess impact, but they are generally scorned by academics and institutions as measure of performance.

5.31 The tentativeness of these findings and conclusions is related to several factors. The size of the sample on which they are based is small; therefore the limits of generalization are quite large. More information is needed from these cases and from more cases before one can safely generalize in the sense of moving towards a contingency theory of demand-responsive funds as a tool of higher education reform, or applying such generalizations in new higher education reform projects. The findings and conclusion may raise questions that have been noted; the findings and conclusions represent a very limited perspective on these few cases. What is needed is much more focused interrogation of these findings, conclusion and questions by those who have been directly involved in the development and implementation of demand-responsive funds in order to provide clarity on specific matters and a richer texture regarding the broader issues.

5.32 **Additional Observations.** As I step back from this inquiry and consider what has been attempted, several observations emerge. The first and most salient, from my perspective, is that despite the fact that we live and operate in an age defined and dominated by information and

communication technology, there has never been a meeting, real or virtual, of the small community of people involved with the World Bank's efforts in using demand-responsive funds to reform higher education. Given the Bank's growing role as a leading donor in higher education reform, it seems that the time has come to initiate a planned conversation on this topic.

5.33 Second, while the Bank's commitment to higher education reform is substantial and impressive (and again I call attention to the latest Bank publication (World Bank: 2002) as evidence), a case might be made that there appear to be areas "outside the box" in which most Bank work is concentrated which may have significant potential for harnessing more resources and producing greater institutional and system efficiencies.

5.34 First, in my judgment, among these areas would be efforts to facilitate collaboration between the private sector and higher education providers to address the tremendous backlog of education and training needs of national workforces (OECD: 1999; UNDP: 1999). Workforce development is a basic strategy of assisting firms to build capacity quickly so they can operate more efficiently and compete more successfully in emergent markets and the global economy (CAEL: 2002). The rapid growth of corporate education in the United States is an example of mutually beneficial partnerships between providers of education and training programs aimed at the workforce of corporations needing to improve their performance (Meister: 2001). The lack of responsiveness by public higher education created the demand; growth has been fueled by the available supply of resources from the consumer—the corporate community.

5.35 As one looks at the developing world, where need for economic growth is most immediate, three factors are clear: (1) the existing workforce in the economic sectors most capable of evolving into global players has levels of education attainment that is abysmally low, and whose quality of education, in terms of the requirements needed, is far behind the time; (2) the public higher education systems in these countries have no tradition – and therefore no capacity – for providing high quality workforce development programs, and (3) multi-national corporations are becoming an increasingly important employers in these countries, and they will experience the same conundrum they have faced in first world markets—the need for workforce development programs and a higher education environment incapable of responding. The opportunity for leadership in creating policy and programmatic response to this situation is very high (Fehnel: 2003).

5.36 The Bank has shown leadership in calling for more adult education programs, more distance education programs, greater institutional diversity, increased diversification of institutional revenues, and improved efficiency and effectiveness of systems and institutions. The promotion of workforce development is an opportunity to address all these issues. And, it is also likely to be an environment where demand-responsive funds would enjoy considerable success. The success of THRIP indicates the willingness of the private sector to join partnerships that have the potential of being mutually beneficial, and the operations of corporate universities have, in general, proven very profitable (Kelly: 2001; Meister: 1998).

5.37 A second area where greater willingness to work "outside the box" is needed is in support of the development of basic and applied research initiatives that form an integral part of strategies to improve curricula. The *Millennium Science Initiative* is a start in the right direction, but it does not appear to form part of an overarching strategy to link research and development activities with curriculum reform, and to imbed those activities in a strategy that puts the university in a key role in national development agendas. Current World Bank projects appear to focus on higher education reforms, that despite their comprehensiveness by some measures, do not quite bring the

building of research capacity and the improvement of teaching into focus at the same time. Yet the need for doing this obvious; research creates and informs the knowledge agenda; curriculum is the means to delivery that agenda (Gibbons; 1998; Catley-Carlson: 1998). How this is done is a matter of some controversy, since in this age of globalization of higher education it may carry overtones of academic imperialism (Ekhaguere; 1998; Scott: 1998). Nevertheless, it is a challenge that needs further response if higher education reform projects are to be effective.

5.38 A third area, closely, linked to the first two, is the need for more support by the Bank and other donors to assist higher education systems and institutions to develop and implement policy frameworks that encourage the development of new structural arrangements in higher education. As numerous scholars of higher education organization have pointed out, universities have been slow to adapt to their environment. Structural rigidity and lack of imagination, both of which are fed by an inward looking institutional culture, are barriers to institutions of higher education having the capability to engage more adaptively with their environment (Gibbons: 1998; Clark: 1998; Meek *et al*: 1996). Planning for structural reform of institutions is the new major challenge facing institutions globally, according to one authority (Keller; 1997). Institutions in developing countries are ill equipped to meet this challenge and will need external support to respond.

5.39 And finally, the fourth area “outside the box” where more focused attention is needed concerns the need for universities in developing countries to become more active in the global trend of strategic alliances among institutions, across borders, in order to be able to develop and deliver high quality education and training programs and consulting services (Fehnel: 2002). If efforts to reform institutions have as their goal building capacity to stay ahead of the challenges, rather than merely catching, then activities need to be included in reform initiatives that enable institutions to join with other institutions to leverage scarce human and financial resources into endeavors that will keep them “ahead of the curve.” The importance of alliances as a means to achieve this goal was underscored by the recent report of the National Research Council entitled *Preparing for the Revolution: Information Technology and the Future of the Research University*. The focus of this report is on research universities, and in many areas of the world where the Bank is supporting higher education reform projects, the institutions have important research function to carry out, yet lack the resources to do so. Having the ability to create alliances with other institutions within their region, and to leverage those resources into alliance with research institutions elsewhere is essential. However, few donors have had the vision to support such initiatives<sup>9</sup>. Many alliances have been self-financed by wealthy institutions or supported by governments anxious to stimulate research that may lead to economic growth (Van der Werf: 2000).

5.40 It is likely that other areas could be identified; it is also likely that there are initiatives underway within the areas identified above that merit acknowledgment and study to see how they are performing.

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<sup>9</sup> One example of an emergent alliance is University Science, Humanities and Engineering Partnerships in Africa (USHEPiA), funded by ADEA Working Group in Higher Education.

## **Section 6: Suggestions for Next Steps**

6.1 **Continuing the Conversation: A Proposed Agenda.** As indicated at the end of the last Section, there is a need for continuing the conversation about demand-responsive funds. Part of that conversation is about filling the gaps in this study. Part of the conversation may be about filling in the gaps the programs that donors such as the World Bank have underway or are contemplating.

6.2 How might this conversation continue? A first step would be to see if there is more information about existing projects that could be added to this study. A number of Bank staff have not responded to previous enquires and may now be able to.

6.3 A second step would be to consider convening a small working group to develop an agenda for further conversation, deciding on what the goals of the conversation might be, and who might be a part of that conversation.

6.4 Further conversation could be limited to Bank staff; or it could include managers of demand-responsive funds supported by the Bank; as well staff from other organizations that also have demand-responsive funds, such as FIPSE and THRIP.

6.5 My suggestion would be to consider a series of workshops with limited participation and a limited scope of discussion within each workshop. The series might take the form of moving through the phases of changes (readiness to institutionalization), or they might be organized around demand-responsive funds a particular focus (curriculum development, staff development, management development, research, building partnerships with private sector, etc.), or a combination of phases and focus, or some other organization principle. Given an intention to deepen understanding of the dynamics of demand-responsive funds in different contexts, it may be useful to limit participation so that there maximum opportunity for engagement of ideas and pursuit of discussion. There may be value added by including participants from outside the World Bank community, since other programs such as THRIP and FIPSE have different philosophies of operations and different environments. Workshops might be planned around a structured set of questions, with participants preparing their thoughts in advance, based on reflection of their experiences.

6.6 The outcome of a series like this might be the development of a handbook on planning and implementing demand-responsive funds. As nothing of this nature exists, except in various Operations Manuals that have been developed for projects, the availability of such a resource, based on recent experiences and reflective analysis would be a valuable tool.



## *Appendix A*

### *Towards a Conceptual Framework of Change in a Context of Higher Education innovation*

A.1 **Conceptual Framework:** As indicated in Section 1, the study of innovations and demand responsive funds has not been the focus of much academic attention. As a consequence, there are no handy conceptual approaches that provide assistance in sorting out issues concerning the use of such funds, or in serving as a way to inform future users of such mechanisms. Therefore what follows is a very rough start on the development of a conceptual framework to guide inquiry into an analysis of issues. It is drawn largely by inference from the scant literature available, and through reflective consideration of the few materials on projects provided by the World Bank and other donors.

A.2 The starting point in the construction of a conceptual framework is to identify the means to build a robust understanding of the usual unit of analysis in reform efforts—the university or higher education institution. There are two powerful reasons to develop a robust understanding of change within higher education. If we take a simple or linear view of change we are likely to err in analysis and strategy because change is neither simple nor linear; if we are guided by values and assumptions foreign to the academy we will most likely fail to engage the very people needed to provide leadership for change efforts (Kezar: 2002).

A.3 There are distinctive features in higher educational institutions that set them somewhat apart from other organizations, and therefore make planning for change a more challenging undertaking than in private sector organizations. While higher education institutions are increasingly interdependent with economic, social and political organizations in their environment, they have a history that has contributed to a strong sense of autonomy and independence from their environment (National Research Council: 2002; World Bank: 2002). The culture of the academy is relatively unique, centered on values of shared governance, but with a system of work that is highly individualized, labor intensive and “craft” oriented. This contributes to a loosely coupled system, characterized by decision-making that some scholars describe as organized anarchy. Institutional status and rewards are based on scholarship, with tenure often perceived as a buffer to emergent administrative values that may be different from the values that support scholarship (Braxton *et al*: 2002). The goals of the academy tend to be ambiguous, at least relative to other entities in society, thereby challenging efforts to measure the economic and social utility of change (Birnbaum: 1991).

A.4 These distinctive characteristics suggest that higher education institutions, as targets for planned, systemic reform, would be best seen through a combination of change theory lens (Kezar: 2002). The need for a cultural model of change seems clear from “the embeddedness of members who create and reproduce the history and values” of the academy, with its stable, tenure-supported form of employment, strong organizational and professional identification of members, and multiple sub-cultures. Within the *cultural model of change*, change occurs slowly and naturally in response to environmental conditions (Eckel *et al*:1998).

A.5 For change to be effective, there needs to be a baseline against which the results of change efforts can be measured. However, in many reform efforts in higher education the ability to measure results is difficult, often because there is a long time lag between an intervention and the manifestation of results, or because the change process is subject to so many intervening variables

that measurement of cause and effect is often impossible and sometimes spurious. Consequently, other proxies for results are commonly used in the higher education community, including status, image and professional identification--factors generally associated with “*social models of change*” (Morgan: 1986). Thus, some effective change agents in the higher education community organize their efforts around making sure that the right opinion leaders, from the most highly reputed academic fields are behind their efforts, and that their vision of change is congruent with the image and values of the institution. They pin their plans for change on either the obvious need to undertake something new, or acceptance of expressed need because those who support are respected.

A.6 Many of the proponents of transformation in higher education come from outside the academic community--from government, private sector leaders and international development organizations. Experts in these organizations see the academy lagging behind as a member of the team struggling to keep up with the rapidly changing demands of globalization. Reasons for the perceived lag are many, and vary from situation to situation. They have been characterized as challenges, as indicated in the literature referred to in Footnote 2. For some of these change proponents, the rationale for and strategies of introducing changes to overcome these challenges are logical, linear and bottom-line driven. For them, change follows a strategic plan, and there is belief in **logic** that the plan will guide the institution towards better adaptation to its environment. This approach is sometimes called a *teleological model of change*.

A.7 For others, reform is a process of building coalitions, negotiating, persuading, and wielding power and influence through social networks and through the budget. For these change proponents, a *political model of change* is followed. Others look at change a process of changing attitudes and behaviors. For them, a *cultural model of change* informs their planning actions. Their approach is driven by a need to change attitudes and values as a precondition to reform. Still others perceive change as the result of learning new approaches. They strive to make their target institutions “learning organizations” so that the need for change can be learned from the gaps in current practices and new ways of operating can be learned and applied. For them, a *social-cognition model of change* is followed (Kezar: 2002).

A.7 Although these models of change vary in how they conceive the need for change and what they might use as the strategies and tools of change, they all operate within a common general framework of sequential *phases* for undertaking change producing efforts: (1) a phase of *mobilizing resources* to initiate a reform or an innovation, (2) a phase of *implementing a plan* for change, and then (3) a phase of *institutionalizing* success (Curry: 1992). This framework, reflecting some of the different theories of change practiced in higher education, is summarized in **Table 1** and provides a rudimentary way to begin considering specific efforts at transforming institutions by introducing innovative ways of conducting the business of higher education, whether it is teaching, research, or community service, or managing these activities.

A.8 In using the models of change one may also consider another dimension of action related to the phases of change noted above. This dimension addresses activities or tensions in the **transition** from one phase to the next. The first element is concerned with determining the *readiness* for change that exists in an institution as a prelude to mobilizing resources. Whether and how an organization is prepared for changes or innovations requires a clear understanding of the prevailing culture and how to modify that culture in a desired direction (Kashner: 1990). Failure to understand the cultural expectations, norms and values may result in an inappropriate and premature innovation effort. The W. K. Kellogg Foundation, which has supported a number of higher education transformation efforts in North America, Latin America and Europe, has developed a handbook providing guidance on assessing the readiness of an institution for

undertaking change initiatives (W. K. Kellogg: 1998). Similarly, a simplified version of an “Innovation Readiness Check List” has been developed by this author, primarily as a guide to assessing how key stakeholders internal and external to the institution perceive the intended innovation and their readiness to participate in a planning process (Appendix B).

**Table 1: General analytic framework and Models of Change**

<b>Models/Phase</b>	<b>Mobilizing resources by:</b>	<b>Implementing the plan for change by:</b>	<b>Institutionalizing the change by:</b>
<i>Teleological or “Rational” change</i>	Strategic planning	Setting objectives and benchmarks; measuring progress	Restructuring the organization and budget to affirm changes
<i>Political Change</i>	Building coalitions	Negotiating new structures or procedures	Changing the rules and rewards
<i>Cultural Change</i>	Creating awareness	Changing behaviors	Realigning values
<i>Social-cognition</i>	Perceiving a need	Learning new ways	Applying new ways

A.9 Whether an institution is *responsive* to innovation efforts in the transition from mobilizing resources to implementation may depend largely on the degree of *trust* that faculty have in those who promote change, as much as in the content of the change itself. And closely related to the level of trust and resolve with which implementation efforts are carried out is the extent to which open, transparent communication, consistent with expected norms, have been followed in planning and assessing change activities. And finally, as implementation moves towards institutionalization, the element of *resistance* to change needs to be taken into account. “Resistance is an important component of institutional transformation that is often overlooked” (Keup *et al*: 2001). Within the sub-cultures of universities resistance to change arises when innovation, once limited to a course, department or a faculty, is seen as a threat to the values, practices, or position of other different groups. Critical to the processes of institutionalization of a reform is the willingness of new units to take ownership of the innovation within their particular sub-culture, and resistance must be overcome before a willingness to seek ownership of an innovation can be nurtured.

A.10 The emergence of resistance may be a signal that a change effort has moved beyond its original site of development and is engaged with other interests in the institution. To the extent that resistance reflects a clash of values or norms, institutional change may not occur until the values represented by the reform or innovation have been accepted. In their study of institutional transformation in 26 institutions, Eckel *et al* see institutionalization as something that can be merely a form of adjustment, without widespread changes in values or practices, or it may be truly transformative. They define transformational change as follows: “Transformation (1) alters the culture of an institution by changing select underlying assumptions and institutional behaviors, processes and products; (2) is deep and pervasive, affecting the whole institution; (3) is intentional and (4) occurs over time” (Eckel *et al*: 1998, p.3).

A.11 Each of the models of change has approaches to assess the readiness for change in an institution, as well as methods for overcoming resistance and institutionalizing change. These approaches and methods are summarized in **Table 2** below. The methods of coping with transitional tensions in each model reflect assumptions about key dynamics inherent in the theories that inform the different models. Thus, in the cultural model of change readiness begins by assessing the strength of the relationship between current behaviors and the values that support these behaviors. If values are weak or in doubt, there is a better chance for behavioral changes to be successfully introduced than if strongly held values are likely to be threatened by intended changes.

**Table 2: Transitional Tensions, Models of Change and Methods of Adjustment**

<b>Models/Transitional Tensions</b>	<b>Readiness For Change</b>	<b>Overcoming Resistance</b>
<b>Teleological or “Rational” Model</b>	Scanning the environment	Accepting an “Adapt or die” reality
<b>Political Model</b>	Counting support	Changing laws; changing the budget
<b>Cultural Model</b>	Measuring how strongly values are held	Changing underlying assumptions and values
<b>Social-cognition Model</b>	Measuring gap between goals and performance	Learning new ways that are proven to be better

A.12 What has been briefly outlined in this Appendix are several theories of change that can be found lurking in the assumptions that drive different approaches to introduce and institutionalize change in higher education organizations. These approaches all need to evolve through several phases of action before change is effective. Some efforts fall short, because the target entity was not ready for change; some fail because there was not adequate response or acceptance; others fail to become accepted throughout the institution or higher education system because of resistance, often based on perceived threats to core values and practices. A few efforts succeed, signaling a transformation is underway.

A.13 Much more research is needed to explore, document and better understand the limits and appropriateness of these change theories. While helpful in thinking about approaches to the planning of interventions that seek to introduce innovations in complex environments, one must recognize that there are severe limits to the detailed understanding of their dynamics, and therefore to their utility as design tools.

## *Appendix B:*

### *Innovation Fund Readiness Checklist*

The purpose of this checklist is to provide assistance to people engaged in thinking about the creation of mechanisms to support the development and diffusion of innovations or improvements in higher education through the use of special funds. The content of the checklist has been informed by an analysis of numerous higher education reform/improvement/innovation projects that have used “demand-responsive” funds (whether competitive or not) to support elements of projects. The checklist is nothing more than a heuristic-- a way to give people (project planners) an opportunity to think about certain factors that are related to successful innovation funds—or conversely, factors whose absence seem to be related with projects that had limited success.

This checklist focuses only of the planning phases leading up to and including the design of an innovation fund. Another checklist would be concerned with Implementation. To keep this document short and useful, brief annotation may accompany some of the questions in the checklist.

#### **Initial Assessment Phase: (Scanning the environment within which it is anticipated that a higher education innovation project would be active)**

1. Are there current, valid and reliable data on how the higher education system and individual institutions are doing in terms of the priorities espoused by the government and the World Bank?

2. Are there current, valid and reliable studies indicating how the “end-users” of higher education’s “products” (graduates) and “services” (research; education and training programs; consultants; facilities, etc) available for hire are perceived?

2.a (Frequently projects are anticipated and designed without good evidence of how higher education’s “end-users” perceive its functioning, with the result that when government turns to them to support reform efforts after donor funding ends there is inadequate response. This question should alert planners to the need for understanding end-user sentiment and assessing whether the means exist to measure these sentiments.)

3. Are there transparent, easily accessible structures or mechanisms through which end-users have regular opportunities to articulate needs, interests, and concerns to higher education at multiple levels (system, institution, faculty)? Examples of structures or mechanisms might include: interfaces between professional associations and academic programs through means such as accreditations councils; business-education roundtables; institution and faculty advisory councils; state or industry supported research councils; etc.

3.a (Frequently higher education projects are designed and implemented without comprehensive and sustained involvement of end-user, which seriously reduces the chances of sustainability. In some cases it is because existing structures where higher education officials and end-users interact have not been incorporated into the planning process in sufficient detail. In other cases it may be that such structures do not exist, in which case it may be necessary to include their development in the design of the project. The question should alert planners to scan the environment to assess whether such

structure exist, whether they have been consulted adequately and whether they may need to be engaged more thoroughly in the assessment and design phases.)

4. Are there “gaps” in the higher education landscape that would seriously inhibit achieving higher education strengthening goals? Gender; Ethnicity; Age groups (eg, appropriate programs for working adults, or appropriate age distribution of academic cadres); Geographic; Field, Subject or Skill areas; Research Institutes: ICT; effective accreditation mechanisms; etc. By “gaps” is meant pre-requisite issues that need to be addressed before issues identified on the higher education reform agenda can be undertaken?

4.a (All projects rest on assumptions about certain pre-existing conditions. Yet in some cases these assumptions have not been verified, with the result that a project faces an impediment that must be dealt with before the ‘real issues’ of the project can be addressed. This question seeks to aid planners in thinking carefully about their assumptions of necessary preconditions, and to plan for addressing these in an appropriate manner when and where required as part of the design process.)

5. Is there “logical linkage” between national development plans and the role of higher education in fulfilling those plans? Is there sufficient political and financial linkage between these plans to support the logic, and to provide a base for initiating reform, as well as reasonable hope for sustaining reform? If not, what needs to happen to create these linkages, and is there sufficient capacity and will in country to make these things happen?

5.a (Some projects seem designed and initiated to serve the needs of the higher education community exclusively. Inevitably, these projects run into a resource barrier; their purposes are seen as competing with rather than complementing other national needs. This question seeks to initiate detailed thinking about whether and how the “logic” of the higher education planners coincides with and can be seen as an essential element in national development plans. Think of it as a “litmus test” of political and financial viability.)

## **Design Phase**

1. Is there balance in the design process for authentic voices of higher education and “end-users” to be heard and to shape the design of any substantial reform effort likely to be supported by the Bank? If not, what needs to happen to make space for these voices? Is that feasible?

1.a (Sometimes the design process fails to provide appropriate “space” for a diversity of voices – and particularly the voices of end-users--with the result that the design is flawed. The assessment phase should alert planners to potential shortcomings in this regard; the design phase should provide opportunities to assure that there is “balance” between providers and consumers of educational services.)

2. Is there general agreement on the goals of the HE reform effort, and on the key indicators that will signal progress?

2.a (Authentic expressions of agreement are sometimes difficult to achieve when there are huge disparities between parties seeking to work together---a condition that often exists which major multi-lateral donors are involved in projects. Sometimes third parties can be helpful in verifying whether or not genuine agreement exists among all parties not

only on the goals, but also on how progress will be measured. Without adequate, appropriate and simple indicators, project focus may be easily lost.)

3. Is there an independent and capable mechanism for monitoring indicators? If not, is the creation of such a mechanism part of the design?

4. What will be the role of a demand-responsive innovation or improvement fund to the goals of the reform effort? Will indicators be able to measure the relationship between overall goals and the goals of the demand-responsive fund?

4.a (Passivity or institutional inertia is a great obstacle to change, but can be overcome by design components that require the generation of demand from those who profess to seek change. Careful consideration of whether and how to locate the use of demand-responsive funds to stimulate and sustain change within a project is crucial to the long-term success of a project. And, having simple but accurate measures that demonstrate the linkage between the demand-responsive innovation component and the overall goals of the reform effort will require sophisticated understanding of individual and institutional dynamics.)

5. Does the Innovation/Improvement Fund have a clear strategy for gaining sustainability independent of Ministry of Education budget? If not, what can be done to address this situation in the design phase?

5.a (Few projects give sufficient attention to the requirement of nurturing adequate funds for sustaining gains and supporting their diffusion, despite ubiquitous rhetoric concerning sustainability. Nor is it generally recognized that the need for innovation will grow as higher education is expected to contribute more to national needs. These needs often do not become pressing matters until well into a project, at which time it is often too late to take adequate action. However, these issues can be minimized by adequate planning in the design stage, and these questions are intended to prompt planners to think about and plan for the sustainability of an innovation fund.)

6. Does the Innovation Fund have the flexibility (in terms of process and funding) to make substantial modifications as lessons are learned?

7. Does the Innovation Fund have a specific strategy, with adequate funding, for the diffusion of successful innovations? Are there resources to enable innovators, adapters and Innovation Fund managers to interact regularly with other higher education innovation/improvement projects in other areas of the world, as well as within the target country?

8. Does the design of the Innovation Fund enhance the integration of learning, research, and application to the satisfaction of involved “end-users”?

8.a (As higher education institutions evolve, there is increasingly a tendency for the linkages between core functions to become weaker. Sometimes Innovation Funds may even exacerbate this tendency. However, good design planning may increase the likelihood of having innovations enhance the integration of core functions of institutions of higher education and enhance their responsiveness to the needs of end-users. This question seeks to guide planners in thinking about and searching for opportunities that enhance linkages among core functions.)

9. Do the design of the Innovation Fund and the design of the overall project realistically reflect the normal time requirements of an innovation-adoption-assimilation cycle? If not, what needs to happen to make a better fit?
10. How do bank procurement requirements impact the implementation of the Innovation Fund?
11. If a competitive aspect is considered in the Innovation Fund, are there checks and balances to assure transparency of the process, as well as opportunities for young scholars to successfully access funds? Is there sufficient funding to assure a reasonable chance of competing successfully, provided that one has a viable proposal?

## *Appendix C:*

### **The Life Cycle of Innovation and the Developmental Nature of Proposals**

1. An essential element in the planning of innovation activities is to design them in a way that high quality proposals are funded, and that the funding process considers ways for successful innovations to spread. This requires that an Innovation Fund recognize an implicit life cycle of innovations—from imagining a new way of doing something and planning how to translate imagination into action, to pilot testing ideas to determine what works best under different conditions, to dissemination or replicating proven innovations. For the purpose of planning how to support the life cycle of innovation, it is useful to classify proposals into one of three developmental categories (1) *Planning proposals*; (2) *Pilot Project proposals*; and (3) *Demonstration Project proposals*.

2. **Planning proposals** are intended to “jump start” innovation by allowing the proposal writers to engage in activities that inform them about innovative choices fitting their circumstances and objectives. Planning activities might include study tours, participation in workshops, visits by visiting experts, short term exchanges and other information activities that sharpen thinking about innovation options. Successful Planning Proposals should be required to prepare and submit Pilot Project proposals. However, the award of a Planning grant is not a commitment to fund the pilot project. That will depend on the merits of the pilot project proposal.

3. **Pilot projects** are intended to support activities to implement innovations on a small scale in order to test their efficacy; that is, to determine what works best. For example, an instructor may wish to introduce different types of experiential learning activities into the design of a course as a way of giving students more skills. Or an instructor may wish to redesign a course to take advantage of intranet or internet capabilities being introduced on course. Or a group of instructors working with the education committee of their professional association may wish to develop an experimental course as a first step in creating better problem-solving skills among graduates.

4. **Demonstration projects** are intended to support activities that replicate or extend successful small-scale innovations to a larger scale, such as applying a distance education learner support technique developed and tested in one setting or course to all courses in a program.

5. This does not imply that all proposals are expected to go through the developmental sequence of planning, pilot and demonstration. Some innovators may already be piloting activities that are ready for demonstration in other academic programs in their institution or in other institutions and they should develop a proposal with that objective in mind, and within the guidelines of selection criteria of the Innovation Fund. Other innovators may already have a mature plan that is ready to be piloted, and they should prepare proposals with this objective in mind, consistent with the guidelines of the selection criteria of the Innovation Fund.

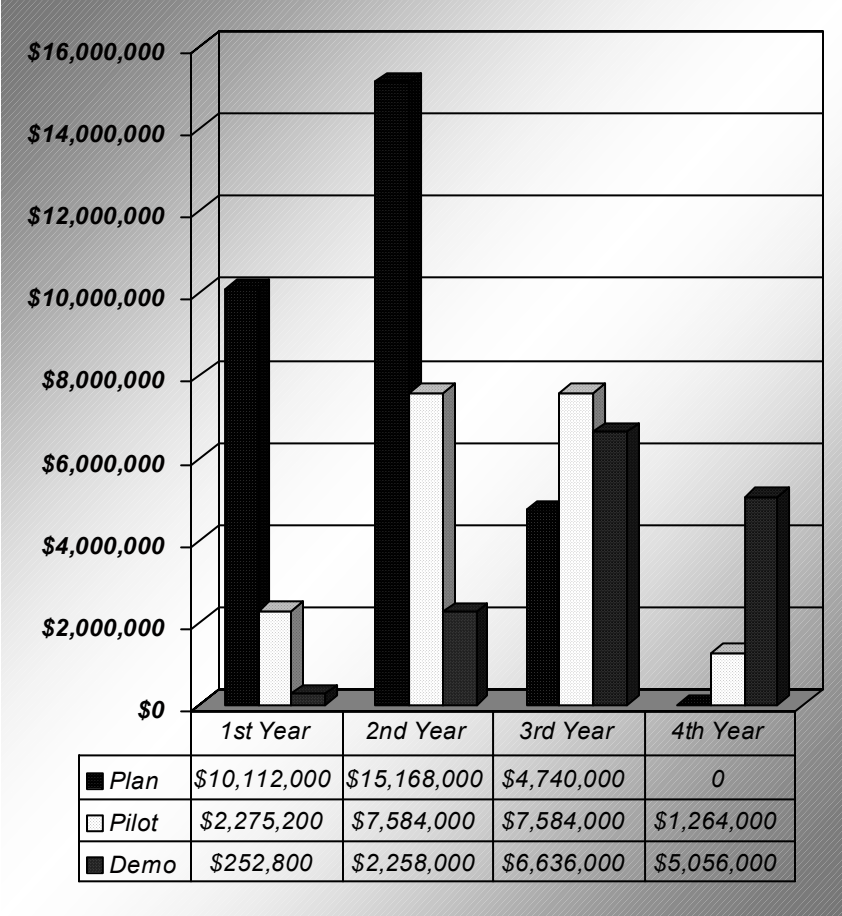
6. Innovation Funds operate on the basis of annual allocations to structures (often referred to as “windows”) established for different types of institutions, or project priorities and goals. For example, in the Egypt Higher Education Enhancement project there are three windows: (a) an academic window for course innovation proposals; (b) an entrepreneurial window for proposal that support improved interaction between higher education institutions and the private sector; and (c) a management window for proposals intending to enhance management and administration in the higher education sector.

7. The Vietnam Higher Education Project also has three windows, which operate as a “filter” for succeeding proposals. All proposals go through Window A. Only universities that successfully implemented a grant funded through Window A are eligible to submit a proposal through Window B, where they will be evaluated competitively. And only universities that successfully implemented Window B grants will be eligible to submit proposals to Window C. In this process the resources of the fund are concentrated and have the chance of creating centers of excellence.

8. Notwithstanding the example of Vietnam, generally allocations to windows seek to provide balance among first time proposals in any developmental phase (planning, pilot and demonstration) and those that have already received an award and are now progressing to the next phase. Similarly, annual allocations seek to provide an appropriate balance among planning, pilot and demonstration projects across the life of a project. It is anticipated that in the early years of a project there will be more successful planning proposals than pilot and demonstration project proposals. In the middle years it is expected that there will be more successful pilot project proposals than either planning and demonstration proposals. And, in the final years of a project it is expected that there will be few successful planning proposals and more successful demonstration project proposals than pilot project proposals.

9. This distribution of the different types of proposals across the life of an Innovation Fund and the allocation of fund resources to each type is illustrated in Figure 8 on the next page.

**Figure 8: Innovation Fund Allocations over Project Life and Innovation Life Cycle**



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