HIGHER EDUCATION REFORM IN THE MIDDLE EAST AND NORTH AFRICA:
AN IEG REVIEW OF THE PERFORMANCE OF THREE PROJECTS INCLUDING
EGYPT
HIGHER EDUCATION ENHANCEMENT PROJECT (LOAN 46580)
YEMEN
HIGHER EDUCATION LEARNING AND INNOVATION PROJECT (CR 36740)
AND
A HIGHER EDUCATION PROJECT IN THE HASHEMITE KINGDOM OF JORDAN
June 22, 2011
**Currency Equivalents (annual averages)**

*Currency Unit* = **Egyptian Pound**  
*Currency Unit* = **Yemeni Rial**  
*Currency Unit* = **Jordanian Dinar**

<table>
<thead>
<tr>
<th>Currency Unit</th>
<th>Egypt (Egyptian Pound)</th>
<th>Yemen (Yemeni Rial)</th>
<th>Jordan (Jordanian Dinar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>US$1 EGP 5.85</td>
<td>US$1 YER 183.44</td>
<td>US$1 JOD 0.708</td>
</tr>
<tr>
<td>2004</td>
<td>US$1 EGP 6.19</td>
<td>US$1 YER 184.77</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2005</td>
<td>US$1 EGP 5.77</td>
<td>US$1 YER 191.50</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2006</td>
<td>US$1 EGP 5.73</td>
<td>US$1 YER 197.04</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2007</td>
<td>US$1 EGP 5.63</td>
<td>US$1 YER 198.95</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2008</td>
<td>US$1 EGP 5.43</td>
<td>US$1 YER 199.76</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2009</td>
<td>US$1 EGP 5.54</td>
<td>US$1 YER 202.84</td>
<td>US$1 JOD 0.709</td>
</tr>
<tr>
<td>2010</td>
<td>US$1 EGP 5.60</td>
<td>US$1 YER 220.73</td>
<td>US$1 JOD 0.710</td>
</tr>
</tbody>
</table>
### Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>Country Assistance Strategy</td>
</tr>
<tr>
<td>CCs</td>
<td>Community Colleges</td>
</tr>
<tr>
<td>DCA</td>
<td>Development Credit Agreement</td>
</tr>
<tr>
<td>ERfKE</td>
<td>Education Reform for the Knowledge Economy</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GOE</td>
<td>Government of Egypt</td>
</tr>
<tr>
<td>HEDP</td>
<td>Higher Education Development Project (Jordan)</td>
</tr>
<tr>
<td>HEEP</td>
<td>Higher Education Enhancement Project (Egypt)</td>
</tr>
<tr>
<td>HEEP2</td>
<td>Second Higher Education Enhancement Project (Egypt)</td>
</tr>
<tr>
<td>HEEPF</td>
<td>Higher Education Enhancement Project Fund (Egypt)</td>
</tr>
<tr>
<td>HEP</td>
<td>Higher Education Project (Yemen)</td>
</tr>
<tr>
<td>HERfKE</td>
<td>Higher Education Reform for the Knowledge Economy</td>
</tr>
<tr>
<td>HEQIP</td>
<td>Higher Education Quality Improvement Project</td>
</tr>
<tr>
<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
</tr>
<tr>
<td>ICR</td>
<td>Implementation Completion and Results Report</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IDA</td>
<td>International Development Association</td>
</tr>
<tr>
<td>IEG</td>
<td>Independent Evaluation Group</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>LIC</td>
<td>Learning and Innovation Credit</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MHESR</td>
<td>Ministry of Higher Education and Scientific Research (Yemen)</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>MNA</td>
<td>Middle East and North Africa</td>
</tr>
<tr>
<td>MOF</td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td>MOHE</td>
<td>Minister of Higher Education (Egypt)</td>
</tr>
<tr>
<td>MOPIC</td>
<td>Ministry of Planning and International Cooperation</td>
</tr>
<tr>
<td>MTI</td>
<td>Middle Technical Institutes (Egypt)</td>
</tr>
<tr>
<td>NAQAA</td>
<td>National Authority for Quality Assurance and Accreditation</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PAD</td>
<td>Project Appraisal Document</td>
</tr>
<tr>
<td>PCU</td>
<td>Project Coordinating Unit</td>
</tr>
<tr>
<td>PDO</td>
<td>Project Development Objectives</td>
</tr>
<tr>
<td>PMU</td>
<td>Project Management Unit</td>
</tr>
<tr>
<td>PPAR</td>
<td>Project Performance Assessment Report</td>
</tr>
<tr>
<td>SEEP</td>
<td>Secondary Education Enhancement Project</td>
</tr>
<tr>
<td>SSR</td>
<td>Student to Staff Ratio</td>
</tr>
<tr>
<td>TC</td>
<td>Technical College</td>
</tr>
<tr>
<td>TIMSS</td>
<td>Trends in Mathematics and Sciences Study</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical and Vocational Education Training</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
</tbody>
</table>

### Fiscal Year

- **Government (Egypt):** July 1 – June 30
- **Government (Yemen):** January 1 – December 31
- **Government (Jordan):** January 1 – December 31

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director-General, Independent Evaluation</td>
<td>Mr. Vinod Thomas</td>
</tr>
<tr>
<td>Director, IEG Public Sector Evaluation</td>
<td>Ms. Monika Huppi (Acting)</td>
</tr>
<tr>
<td>Manager, IEG Public Sector Evaluation</td>
<td>Ms. Monika Huppi</td>
</tr>
<tr>
<td>Task Manager</td>
<td>Ms. Pia Schneider</td>
</tr>
</tbody>
</table>
## Contents

Preface .............................................................................................................................. vii  
Summary ........................................................................................................................... ix  

1. Introduction ................................................................................................................... 1  
   Internal Issues in Higher Education ........................................................................... 1  
   External Issues in Higher Education: Graduate Employment, Knowledge Economy,  
   Community Service, and Research .......................................................................... 6  
   Bank Support for Higher Education Reform and the MNA Projects ...................... 8  
   Project Development Objectives (PDO) and Design Features ............................. 10  

2. Was the Bank’s Support for Higher Education Reform Relevant? ....................... 11  
   Relevance to Country Needs .................................................................................. 11  
   Relevance of Project Designs ............................................................................... 12  

3. Comparative Analysis: Main Findings ..................................................................... 12  
   Evaluation Questions ............................................................................................ 12  
   Implementing the Bank-Promoted Higher Education Reform Model in the MNA  
   Contexts ............................................................................................................... 12  
   Project Effects on Higher Education Quality and Relevance .............................. 17  
      Quality .............................................................................................................. 17  
      Relevance ....................................................................................................... 18  
   Connection to the Labor Market ........................................................................ 20  
   Contribution to Higher Education Efficiency ...................................................... 21  
   Effectiveness in Supporting Improved Governance ............................................ 22  

4. World Bank Performance .......................................................................................... 23  
   Quality at Entry ................................................................................................... 23  
   Quality of Supervision ......................................................................................... 24  

5. Conclusions and Lessons Learned ............................................................................. 24  
   Conclusions ........................................................................................................... 24  
   Lessons Learned .................................................................................................. 26  

Annex A. Egypt – Higher Education Enhancement Project (Loan 46580) ............... 27  
Principal Ratings ....................................................................................................... 27  
Key Staff Responsible .............................................................................................. 27  
Summary ................................................................................................................... 28  

This report was prepared by Dean Nielsen, who assessed the project in November-December 2010. The  
report was peer reviewed by Maurice Boissiere, and panel reviewed by John Ericksson. Marie-Jeanne  
Ndiaye and Viktoriya Yevsyeyeva provided administrative support.
Appendix 2. Persons Interviewed for Yemen Higher Education Learning and Innovation Project (CR 36740) ........................................................................................................................................................................... 80
Annex C. Summary of Jordan Higher Education Development Project Performance Assessment ........................................................................................................................................................................... 83
References ........................................................................................................................................................................................................................................................................................................... 87

Boxes

Box 1. Higher Education Reform Projects and their Objectives ..................................... 11
Box 2. Egyptian Universities on Line ............................................................................. 39
Box 3. HEEP Fund Innovations ..................................................................................... 41

Tables

Table 1-1: Comparison of GDP and Labor Force Growth, East Asia and Pacific and MNA (percent) ........................................................................................................................................................................................................................................................................................................... 7
Table 1-2: World Bank Higher Education Reform Model and Planned Country (Project) Reforms Features ........................................................................................................................................................................................................................................................................................................... 9
Table 3-1: Higher Education Reform Features and their Implementation, by Country .. 13
Table 3-2: Share of University Enrollment in Social Sciences and Humanities ............. 19
Table 3-3: Cost per Public University Student - Egypt, Yemen and Jordan: 2002/03 and 2006/07 (in Constant Local Currency) ........................................................................................................................................................................................................................................................................................................... 22

Figures

Figure 1-1: Higher Education Gross Enrollment Ratios (1991-2003).............................. 2
Figure 1-2: Higher Education Cost per Student (Public Universities) (2002 & 2004) ..... 3
Figure 1-3: Student Enrollments by Field: 2002/2003 ....................................................... 5
Figure 3-1: Student to Staff Ratios in Public Universities 2002 and 2007....................... 17
Figure 3-2: Unemployment Rate among University Graduates: Pre-Project and Late Project ........................................................................................................................................................................................................................................................................................................... 20
IEG Mission: Improving development results through excellence in evaluation.

About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank’s self-evaluation process and to verify that the Bank’s work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the Bank’s lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers’ comments are attached to the document that is sent to the Bank’s Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG’s use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: http://worldbank.org/ieg).

Outcome: The extent to which the operation’s major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. Relevance includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project’s objectives are consistent with the country’s current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project’s design is consistent with the stated objectives. Efficacy is the extent to which the project’s objectives were achieved, or are expected to be achieved, taking into account their relative importance. Efficiency is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. Possible ratings for Outcome: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). Possible ratings for Risk to Development Outcome: High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. Possible ratings for Bank Performance: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. Possible ratings for Borrower Performance: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.
Preface

This comparative review consolidates findings and lessons from a recent set of project performance assessment reports (PPARs) on higher education reform in the Middle East and North Africa (MNA). The PPARs covered Bank-supported projects in three MNA countries, Egypt, Jordan and Yemen, which ran almost simultaneously during the first decade of the 21st Century. At that time, the three countries were facing similar problems of explosive growth in university student numbers accompanied by declines in program quality and high levels of graduate unemployment, attributed to the mismatch between the programs offered and attended and the needs of the labor market.

While confronting the same challenges that all nations with rapidly growing higher education populations must face, MNA nations operate within particular social and historical contexts that shape the extent to (and ways in) which they can apply widely accepted higher education reform models. A comparative analysis of the respective problems and attempted solutions was expected to generate more meaningful conclusions and lessons than simply compiling those from individual projects. These, in turn, will feed a significant set of new insights into a planned IEG review of post-basic education.

The three projects that are the focus of this comparative PPAR are: Jordan – Higher Education Development Project (Total Cost US$65.8 million, approved February 2000 and closed June 2007); Egypt – Higher Education Enhancement Project (Total Cost US$60 million, approved April 2002 and closed December 2008); and Yemen – Higher Education Learning and Innovation Project (Total Cost US$5.3 million, approved June 2002 and closed June 2008).

The stand-alone country PPARs were conducted in late 2010 and early 2011. That for Jordan is presented in full in a separate PPAR document reviewing both the Higher Education Development Project and an Education Reform for Knowledge Economy Project. Its section on higher education is summarized here in Annex C. The country PPARs for the Egyptian and Yemeni projects are presented in full in this document as Annexes A and B.

Each PPAR was prepared by IEG based on the Implementation Completion Reports, Staff Appraisal Reports, Loan/Credit Agreements, a review of Bank files, and relevant research and government documents. Also an IEG mission headed by Maurice Boissiere visited Jordan in October 2010, and another led by H. Dean Nielsen went to Egypt/Yemen in November – December 2010, during which interviews were held with government and implementing agency stakeholders, local staff, direct beneficiaries, and other donors, and visits made to ministry offices plus universities and middle-level technical education institutions (public and private). The cooperation and assistance of all the stakeholders is gratefully acknowledged.

Following standard IEG procedures, a draft of the main report and the respective PPARs were sent to each Borrower for comments before being finalized. No comments were received.
Summary

Main Issues in Higher Education in the three Countries

Higher education reform efforts at the turn of the century in Egypt, Jordan and Yemen were spurred by similar urgent issues, as follows:

Rapid growth and strained budgets. Over the 1990s university enrollments expanded very rapidly in the three countries (17 percent per year in Egypt, 19 percent in Jordan and an explosive 43 percent in Yemen) far above the average 3 percent population growth rate in the region. In all three expansion outstripped funding capacity of the state.

Lack of diversity in funding and inefficient use of funds. Through the 1990s the state was just about the only source of funding of higher education in the region, except in the case of Jordan which had embraced cost recovery. Figures on cost per student showed a holding pattern in Jordan and some increase in Egypt and Yemen, but only in Egypt was this considered to be a sign of inefficiency. In both Egypt and Jordan overstaffing in public universities with non-teaching functionaries was a chronic problem.

Low quality. There had been no formal, institutional assessments of higher education student achievement at the turn of the century, but high student-staff ratios revealed poor conditions for quality teaching/learning: Jordan 27:1 Egypt 29:1 and Yemen, 41:1 (23:1 was the MNA norm). Qualitative indicators also showed weakness in instruction and poor use of IT. Employers and students alike were displeased with the quality and outcomes of education provided, but there was little hard evidence: *neither the institutions themselves nor any oversight body had systematically evaluated student learning outcomes nor, as of the launching of these projects, had any plans to do so in the future.*

Weak middle-level technical education (TE). Community College enrollments in Jordan declined by around 40 percent in the 90s and in Egyptian Technical College enrollment growth was flat in the early 2000s; in Yemen, enrollments were growing but still accounted for only about 5 percent of the higher education population. Post-secondary TE was seen as out of touch with local economies, overly theoretical and outdated. TE Graduates suffered higher unemployment rates than any other category.

Low relevance to country needs and conditions. University education was also out of touch with the needs of increasingly globalized economies: above 75 percent of students in Egypt and Yemen; 60 percent in Jordan were enrolled in the social sciences and humanities. Graduate unemployment was high and growing: 17 percent in Jordan, and around 10 percent in Egypt and Yemen.

Out-dated systems of institutional development and governance. Jordan’s governance system lacked system-wide coordinating and planning mechanisms, Egypt’s was overly centralized, and Yemen’s was so recently established that it had not yet developed basic capacities for system/financial management and planning.
Bank Support for Higher Education Reform and the MNA Projects

Since early 1990s the World Bank had been assembling analyses and case studies on higher education reform in the developing world. In 1994 it produced a “Lessons of Experience” Paper on the subject and in 2002 “Constructing Knowledge Societies: New Challenges for Tertiary Education.” MNA countries became interested in these reform processes, with Jordan, Egypt and Yemen building them into new projects in various ways. The Bank supported higher education reform model covered such features as: university autonomy with accountability; quality assurance (QA) and accreditation; transparent financing and use of funding formulas; increased use of information communication technology (ICT); competitively allocated grants; diversified financing and cost recovery; and overall system coordination and oversight.

The three higher education reform projects that appeared in 2000 or just after had the following objectives:

- **Jordan**: Initiate improvements in the quality, relevance and efficiency of higher education in the country and support the Government’s program to reform sector governance;
- **Egypt**: Create conditions fundamental to improving the quality and efficiency of the higher education system through legislative reform, institutional restructuring, and establishment of independent quality assurance mechanisms and monitoring systems;
- **Yemen**: Assist the Borrower in preparing and carrying out a higher education reform strategy, and developing the capacity of the Ministry of Higher Education and Scientific Research to carry out major reforms aimed at the strengthening of post-secondary education. ¹

In all three countries, system reform thus aimed to improve higher education quality, efficiency and relevance, and the Bank-endorsed higher education reform model stood in the background of these reform efforts. In fact, components in the three projects included almost all of the reform model features.

Comparative Analysis: Main Findings

This comparative analysis addresses questions concerning: the implementation of the reform model; effectiveness in improving quality, relevance (including labor market relevance), and efficiency; and effectiveness in supporting improved higher education governance.

Implementing the Bank-Promoted Higher Education Reform Model

There were no features from the reform model which were both incorporated into the higher education reform projects and fully implemented in all three countries. However five features were adopted and relatively well implemented in Egypt and Jordan: quality assurance; competition for research/development funds; increased use of ICT; differentiated

¹ “Carrying out” is interpreted in this review as implementing reforms in pilot locations for the sake of learning, consistent with the Learning and Innovation Credit (LIC) instrument and the vision in the PAD.
missions (less well implemented in Jordan); and overall system coordination (less well
implemented in Jordan). None of the features incorporated in Yemen’s Higher Education
Project (HEP) were well or fully implemented, but, ironically, there were some parts of the
model not included in HEP that were successfully instituted in the country during the project
period (competition for funds; differentiated missions; cost recovery). The weakest buy-in
and implementation record were in features related to higher education finance (diversity,
cost recovery, and formula funding), the latter bought into by all three countries but not
implemented. Also, university autonomy did not get off the ground in the two buy-in
countries, Egypt and Yemen.

Project Effects on Higher Education Quality and Relevance

The three projects were most focused and successful at creating inputs or immediate
conditions (drawing from the higher education reform model) for improved quality:
improved IT infrastructure and its use in teaching, learning and research; staff upgrading
and in-service training; competitive grants to stimulate program innovation and renewal
efforts, and quality assurance and accreditation systems. In Egypt these systems were
operating quite effectively; in Jordan somewhat less so; and in Yemen with first steps.
However, in none of the three was there any evidence that these inputs have made a
difference in terms of student outcomes (improved learning and/or better preparation for the
labor market), given that such outcomes were neither measured in any of the projects nor
even by the countries’ higher education systems.

With regards to student-staff ratio (in which increases show worse conditions), all countries
showed poor or deteriorating conditions for effective learning. On the specified
intermediate outcomes in Jordan and Egypt, improved instruction and increased student
satisfaction, the results were negative on the first and inconclusive on the second for Jordan,
and inconclusive on both for Egypt.

Relevance was generally conceptualized as bringing higher education into better alignment
with economic and social needs of the country. The project’s emphasis for improving
relevance was on upgrading inputs or conditions. Strategies for this were updating curricula
and teaching styles (in line with international norms), getting both instructors and students
connected to the vast resources of the worldwide web, creating programs with direct
connection to labor force needs, and involving private sector managers in decision making,
and these were generally delivered as planned, particularly in Egypt and Jordan

There were few measures of higher education relevance as an outcome. It was possible,
with data external to the projects, to assess an outcome that background documents showed
widespread concern about: improved balance between theoretical (social sciences and
humanities) and applied fields (medicine, engineering and agriculture). Findings showed a
reduction in social sciences/humanities enrollments over project years from 60 to 56 percent
in Jordan and 76 to 66 in Yemen, but essentially no change in Egypt (79 to 78), levels still
well above those in other regions. With regards to employers’ satisfaction with technical
college graduates in Jordan, the results were not encouraging: trainees were found to lack
technical skills and their training was deemed overly theoretical.
Connection to the Labor Market

There were some positive project outputs in this area. Jordan and Egypt used competitive grants and Technical College/Community College (TC/CC) reform programs to create or restructure programs to be more relevant -- in their curricula and processes -- to labor force needs. Although only indirectly supported by the project, Yemen built three world-class graduate studies programs that were well connected to high level employment.

Data external to the projects painted a grim picture of the recent labor market success of university graduates during project years. In Jordan the rate stayed at a high 17 percent and in Egypt and Yemen in increased 3 and 5 fold, respectively. The huge spikes in unemployment in both Egypt and Yemen came at the time that when the enormous late-1990s surge of enrollees were coming into the labor market, and at the same time civil service jobs were being eliminated and private sector job creation was stagnating.

Contribution to Higher Education Efficiency

Governments did plan to establish conditions for improved efficiency (many consistent with the Bank-supported reform model), such as more decentralized decision making; improved use of ICT for management and decision making; more cost recovery; self-generation of revenue; and use of distance education (e-learning). Success in implanting these was uneven: on the effective side were e-learning in Egypt and cost recovery in Yemen; on the less effective: decentralized decision making in Egypt and use of MIS for management in Jordan.

However, there were almost no outcome indicators to show whether these were leading to more efficiency; not even any helpful operational definitions. One Independent Evaluation Group (IEG)-constructed variable was cost per student, on which results were equivocal: increasing steeply in Egypt and Yemen (but only in Egypt considered a sign of worsening efficiency) and diminishing modestly in Jordan. Two other outcome indicators, one tracked and the other not, did send a clear message of poor system efficiency: continued overstaffing with non-teaching employees in Jordan and Egypt, and high student dropout and repetition rates in Egypt and Yemen.

Effectiveness in Supporting Improved Governance

In the end, project supported changes in governance in the three projects did not bear much fruit: Jordan’s higher education system never came around to acting like a coherent system; Egypt’s main governance reform instrument became stalled in Parliament, and Yemen’s piloting of management reforms never took place. What did occur was the building of some systems that can contribute to better governance: improved ICT in all countries, some improvement in the creation and use of Management Information System (MIS), the acceptance of and some experience with competitive funding and quality assurance. The main message is that it takes a long time, often longer than a single project (based on the experience of these loans/credits) and some deep understanding (for example, through thorough sector analytical work) by all parties for such inputs to be transformed into real and significant governance reforms.
Bank Performance

Higher education reform was a relatively new undertaking, both in the World Bank and the three countries. The Bank brought its best expertise at the time. The project preparation activities in the three countries were constrained by three main shortcomings: a) failure to assure country/institutional buy-in to the reform agenda and to identify reform champions in charge of the project (Jordan), b) weakness in analytical depth related to the most complicated reform components, such as formula funding and increased university autonomy and less than a clear understanding of the problems and complexities residing there (Egypt and Yemen), and c) shortcomings the results framework and laying out a solid monitoring and evaluation agenda.

The quality of supervision varied widely. In Jordan it was quite conscientious and attentive, in Egypt less so, and in Yemen, considerably less so. In all locations episodic project supervision missions tended to rate fulfillment of all objectives as satisfactory, thus failing to alert management that parts of the reform agenda were not progressing well (hence some surprises when Implementation Completion and Results Reports (ICRs) were completed). Supervision in Jordan was attentive to smooth procurement, disbursement processes and technical assistance to project managers. In Egypt complications arose because the Bank did not fully reconcile the government’s implementation structure with that in the Project Appraisal Document (PAD). In Yemen Bank task management changed four times, and early on supported the merging of HEP with other projects without restructuring, which led to a deviation from its original goals and strategies.

Conclusions

The three MNA higher education projects were launched under similar circumstances that called for increased attention to higher education relevance, quality, and efficiency. Each of these goals was conceptualized somewhat differently across projects, but all had one feature in common: in none was there a clear elaboration of expected results or outcomes. With few exceptions project indicators were conceived of inputs, processes or outputs. Thus, it is not possible to clearly answer whether the three projects made any substantial difference in higher education relevance, quality or efficiency. This is not to say that they accomplished nothing: many new services and systems were delivered and substantial changes were made in all three countries.

Certain parts of the Bank-supported higher education reform model flourished in the three countries. Competitively awarded grants motivated departments and staff members to come up with innovative programs, many connected to the labor market or addressing a national development issue. The seeds of quality assurance and accreditation have also been sown and are growing. ICT availability and usefulness have been accelerated, not yet for fully operational and digitized management information systems, but at least for improved internet connectivity, changes in instructional methods, and e-learning experiments.

Some problems remain. There are still vastly more students in the arts, humanities and social sciences than in scientific and applied fields. Despite efforts to attract secondary school graduates into middle-level technical education (by renewing courses and forging ties with industry), students still tend to shy away from it. Moreover, even with significant attempts to improve course structure and provide in-service staff training, there appears (at
least in the one study of improved pedagogy - in Jordan) that not much has changed. Finally, it is not clear whether graduates are prepared for the work place: a study in Jordan shows employers have not changed in their dissatisfaction with technical college graduates. Some of these weaknesses might be explained by the widespread low attention to incentive and accountability structures (see World Bank MNA study “The Road not Travelled”). That is, academic or technical programs can be modernized but students must be motivated to enter them; graduates may not be able to find employment, but they won’t have lost anything since tuition is free and, as in Egypt, so is room and board; and instructors can create attractive new syllabi but there will be no consequence if they don’t show up to teach them. It seems that all projects, designed to provide the conditions for higher education reform, still have missed some crucial ones.

The efforts to reform (or pilot new forms of) university governance were stillborn in all three countries. Funding formulas were drafted but were not used; decentralization and university self-management of budgets failed to get off the ground in Egypt and Yemen. In Jordan, the efforts expected to improve the coherence of the system did not bear fruit. It seems that university governance is the most complex and change-resistant part of the accepted reform model. Some evidence from the PPAR mission suggests that this might be mostly a matter of unanticipated complexity or an underestimate of the implications of intended changes. Dealing with such complexity can be a matter of better research and analysis, or simply a matter of more time to work through it all. Or, it could be that this part the model is too biased towards Western industrialized cultures and economies (the Bank’s “Lessons from Experience” was originally drawn up in the Anglo-American context). This part of the world may call for governance models more consistent with the culture and/or more centralized governance traditions. This is an area for continued analysis and dialogue.

Lessons Learned

- The introduction of a widely adopted change model needs to be preceded by sufficient sector analytic work to create an appreciation of the complexities (implications) of the proposed changes and of the likely sources of resistance. Such analysis could help determine the parts of the model that are appropriate to the context, and the pace of adoption;

- Efforts to improve the quality of higher education need to improve student learning outcomes. Standard assessment of student achievement in higher education is challenging, both in a technical and a political sense. Moves in that direction have already begun in Egypt and Jordan;

- Restructuring higher education courses and programs and ensuring appropriate private sector participation in decision-making are not in themselves sufficient to ensure that reforms will result in more employable graduates. Higher education systems need to systematically monitor the labor market relevance of their offerings and the success of their graduates;

- Free university education in Yemen and Egypt (including generous room and board subsidies) creates the wrong market signals, encouraging enrollment in overloaded
fields since failure to obtain employment represents little financial loss to students and their families;

- Desired change in higher education outcomes may not happen unless these are accompanied by appropriate incentives and accountability structures;

- Competitive systems for awarding grants can lead to some creative new and revised programs, but this needs to be done in conjunction with other university change efforts and on a large enough scale to have a significant effect on the quality and relevance of the university’s offerings;

- Graduate unemployment, which did not decline under the projects as hoped, will not change appreciably with the introduction of a few innovative programs (the main approach used in the project), but requires serious gate keeping by the governments (Numerus Clausus), shifting enrollments away from humanities (as in Yemen) and more serious incentive structures to study needed fields.

- The lack of programs for tracking and awareness-raising about graduate unemployment rates makes this problem less visible than it should be.

Vinod Thomas  
Director-General  
Evaluation
1. Introduction

1.1 The opportunity to conduct a comparative review of higher education reform presented itself with the near simultaneous completion of similar higher education reform projects in three MNA countries, Jordan, Egypt and Yemen. Promoting these reform efforts in the region at the turn of the century was an extension of other programs supported by the Bank in various parts of the world, prompted by its 1994 report on higher education (“The Lessons of Experience”). The 1994 report was followed by a string of higher education analyses and papers—for example, a higher education study with UNESCO (1999), and the Bank’s own Tertiary Education Policy Paper (2002) – and reform projects in Latin America, Asia, and Eastern Europe. The three projects in MNA were the first ones supported by the Bank in the region.

Internal Issues in Higher Education

1.2 The following is a summary of issues that have prompted higher education managers in the MNA region to seek World Bank funds for higher education reform.

1.3 Rapid growth and strained budgets. Over the 1990s university enrollments expanded rapidly in all three countries: by about 17 percent per year in Egypt, 19 percent in Jordan, and an explosive 43 percent in Yemen (see government figures reported in the respective Project Appraisal Documents), far above the roughly 3 percent average population growth rate in the region. The higher education gross enrollment rate, which controls for population growth by comparing enrollments to age-group numbers, also increased rapidly in the countries over 1991 to 2003 (see Figure 1-1) – in Egypt and Yemen by more than double, and in Jordan by more than 40 percent. In all three countries the expansion outstripped the funding capacity of the state: in Egypt higher education expenditures as a percent of gross domestic product (GDP) declined during the early project period; in Yemen annual government expenditure increases (13 percent, on average) were modest compared to enrollment growth; and in Jordan, by 2000 the government had begun a process to reduce the government’s subsidy of public higher education – ultimately from 50 to 20 percent, with the difference being taken up, but not fully, by university revenues from student fees and other sources.²

1.4 Lack of diversity in funding sources and inefficient use of funds. Since the three countries have been unable to expand central government funding for higher education as fast as its student growth rate, and since government budgets, at least in Egypt and Yemen, were almost the only source of funds, there was much discussion during the years preceding the projects of “funding diversification” and more efficient use of resources, consistent with practices in other countries.³ Cost recovery in public universities was a legal option only in Egypt’s higher education Expenditure as a percent of GDP went from 1.43 percent in 2002 to 1.26 percent in 2005 (Egyptian Ministry of Higher Education (2007), Master Plan for Higher Education in Egypt (2007-2022); in Yemen, recurrent government expenditure on higher education increased from YR9.1 to 15.1 million over 1997 to 2001 (Government of Yemen/World Bank (2010), Education Status Report: Challenges and Opportunities); the data from Jordan were government sources, reported in the World Bank (2007), Implementation Completion Report: Higher Education Development Project.

Jordan (where it now accounts for over half of university budgets), but in the other two countries it was banned by law. Nevertheless, in Egypt and Yemen, private higher education, which was fee charging, was beginning its rapid growth, and alternative (“parallel”) programs were under consideration. Other diversity options being implemented or consideration were channeling a higher proportion of secondary school graduates to short cycle (2-3 year) middle level technical or community college courses (see *Middle Level Technical Education* below), allowing departments and programs to earn money from services, and promoting forms of distance education or e-learning (seriously pursued only in Egypt).

**Figure 1-1: Higher Education Gross Enrollment Ratios (1991-2003)**

![Graph showing higher education gross enrollment ratios](image)


1.5 Costs per student, at least in Egypt and Yemen, were showing an upward trend in the early years of the 21st Century (Figure 1-2), viewed by the Egyptian Ministry of Higher Education as indicating falling efficiency (GOE, 2007). This was less clear in Yemen, since its per capacity costs had been far below regional norms. The internal efficiency indicators of student dropout and repetition also revealed low efficiency. For Egypt (OECD/World Bank, 2010) repetition during the 2000s was reported to be around 10 percent per year (18 in the social sciences) and dropout around 9. Graduation rates were estimated to average

---

4 The share of Egyptian university students enrolled in private universities and institutes in 2002/03 was about 28 percent of the total; whereas in Yemen that year it was just 5 percent. In Jordan private universities enrolled one third of higher education students in 1999.

5 Candidates with scores below the cut-off for regular admission but who were allowed to attend for a fee.

6 The World Bank showed that in four of the five MNA countries for which data were available for the year 2000 governments spent 5 to 10 times as much for university students than for primary students, whereas in Yemen the ratio in 2002 was only 2 to 1 (World Bank (2008), *The Road not Traveled: Education Reform in MENA)*.

7 Neither Egypt nor Yemen had credit hour systems so failing student were required to repeat an entire year.
around 75 percent in 2005/06, but the largest public universities were far below that (Cairo, 50 percent and Alexandria 69). In Yemen, student repetition at mid-decade were around 26 percent in the social sciences/humanities and around 16 percent in the applied sciences (World Bank (2010), Yemen: Education Status Report). Finally, managerial efficiency was an issue across the region. In both Egypt and Jordan, according to project PADs, overstaffing in public universities with non-teaching functionaries was problematic: Egypt’s ratio of non-teaching to teaching staff was in 2002 1.25 to 1; whereas in Jordan around the same time it was an astonishing 2.7 to 1 (see Project PADs).

**Figure 1-2: Higher Education Cost per Student (Public Universities) (2002 & 2004)**

1.6 *Low Quality*. Increasing student to staff ratios at the turn of the century were a significant threat to educational quality. In the early years of the new decade Jordan’s growing student numbers and shrinking national government subsidies (see above) started a trend of increasing student to staff ratios, moving from the MNA norm of 23 in 2000 to 27 by 2002/03. In Egypt, this ratio averaged around 29 in 2002/03, a figure that obscures wide variations across fields of study (medicine: below 10 and the fields having the highest enrollments (law and commerce): above 100). In Yemen the figure peaked at around 41, far above regional norms, in the early 2000s.

---

8 Regional and international norms (averages) were revealed in UNESCO Institute of Statistics’ (UIS) Global Education Digest, 2007. The figures for Jordan were drawn from the HEDP Project Appraisal Document (2000) and the Global Education Digest (2005) for 2002/03.


1.7 More qualitative indicators in the early 2000s in all countries pointed to the dominance of the traditional lecture approach to pedagogy (accompanied by lecture notes -- a study in Egypt showed that a typical undergraduate checks out one library book per year); frequent absence of the senior instructor (in Egypt reportedly 75 percent in Medicine and Engineering); an emphasis on rote memorization (as opposed to higher order thinking); and little access to up-to-date laboratory/ICT equipment. Employers and students alike were displeased with the quality and outcomes of education provided. However, little hard evidence was available for assessing overall quality: neither the institutions themselves nor any oversight body had systematically evaluated student learning outcomes nor, as of the launching of these, had any plans to do so in the future.

1.8 Weak Middle-level technical education. In a region where the need for middle level technical skills was growing and where 4-year university education was increasing difficult to finance, middle-level technical education had become a favored growth sector for MNA governments. Still community college enrollments in Jordan declined by around 40 percent in the 90s and in Egyptian Technical College enrollment growth was flat in the early 2000s. In Yemen, community college enrollments increased early in the 21st century, since such colleges were only established in the late 90s, but by 2007/08 they accounted for only about 5 percent of the higher education population. Across the three countries post-secondary technical education suffered from a reputation for being out of touch with the local economy, overly theoretical and outdated, under-resourced with labs and equipment, taught by those having little practical work experience, and poorly linked to industry and commerce. Graduates from post-secondary TE institutions have generally suffered higher rates of unemployment than other tertiary education graduates.

1.9 Low relevance to country needs and conditions. In the three countries higher education reformers took issue with higher education relevance along three lines: a) its relationship to the conditions and needs of the country; b) its connection to advances and developments in the various fields of study; and c) its relevance to labor market demands. In all three countries reviews have generally characterized undergraduate education offerings as narrow, rigid, and outdated, emphasizing theory over practical and “soft” skills, such as critical thinking and problem solving, even in “applied” fields such as teaching and engineering. This was also the case with university-based research, which again emphasized theory and was poorly connected to the practical needs of the country, the governments having little institutional capacity to reward useful research or guide researchers towards needed inquiry.

---


12 During the 2010 IEG missions in Jordan and Egypt, IEG evaluators found new receptivity to this in both countries.

13 As of 2002 in Egypt some 60 percent of recent mid-level technical institute graduates were unemployed even 2 years after completing their programs (World Bank, 2002, PAD: Egypt Higher Education Enhancement Project).

14 For example, in the PAD for Jordan’s HEDP (World Bank 2000) it states: “Undergraduate teaching over-emphasizes theory, and curricula and programs of study are irrelevant to broader economic needs” (p. 3).
Relevance to the needs of the country can be seen by fields of study chosen by students. Whereas in the late nineties/early 2000s increased globalization was creating a growing demand for competitive knowledge and skills in the scientific and technological fields, students in the region were still overwhelmingly choosing to study social science and humanities; see Figure 1-3 which shows more than 75 percent of students in Egypt and Yemen enrolled in those fields and 60 percent in Jordan. In contrast, most Latin American countries are below these levels, and in China and Korea the proportions were 32 and 44 percent, respectively (2008, The Road Not Traveled).

![Figure 1-3: Student Enrollments by Field: 2002/2003](image)

Outdated systems of institutional development and governance. Rapid growth and an expectation for system-wide change presuppose a capacity for strategic planning and institutional restructuring, but in all countries this capacity has been inadequate. In Jordan, at the turn of the century, the collective of semi-autonomous universities had not yet become a coordinated system of higher education, having no effective policy making bodies, and little capacity or authority to undertake strategic planning, quality assurance, substantive guidance, and institutional oversight (until recently there wasn’t even a central repository of management information). The opposite was the case in Egypt, where a controlling, centralized higher education system allowed universities very few decision-making options on student intake, personnel and financial management, and rewarding good performance. In Yemen, given the relatively recent establishment of public higher education, the system had not yet had sufficient time to develop capacities for institutional and financial management. System oversight was recently (2001) shifted from a weak Universities Council to a Ministry of Higher Education and Scientific Research but that body had relatively little experience with strategic planning and institutional governance prior to the BEP. Public institutions still were receiving their funding from the Ministry of Finance (MOF) without any obligation to respect agreed program objectives, instructional standards, or the need for audits. In all three countries, finances were allocated to universities through closed negotiations instead of through objective and transparent processes.
External Issues in Higher Education: Graduate Employment, Knowledge Economy, Community Service, and Research

1.12 *The Road not Traveled* (2008) presented a careful regional analysis of the relationship between education, the labor market, and economic growth during the late 20th and early 21st Centuries. Economic growth in MNA countries during that time was fairly anemic, well below that in East Asia Pacific, South Asia, and even parts of sub-Saharan Africa. Given MNA’s demographics, characterized by a young and rapidly growing labor force, this relatively slow growth has translated into labor market imbalances and high unemployment. This imbalance was especially striking in post-basic education, where secondary and higher education graduates had difficulties in the labor market. For example, in Jordan unemployment of university graduates reached 17 percent in 1994/94, and in Egypt and Yemen it hovered around 10 percent at the turn of the century, before the big bulge of graduates entered the labor market.\(^{15}\) Despite the progress made over the previous decade in providing more education access at all levels and towards Education for All goals, the new skills demanded in the labor market as a result of the global knowledge economy have not been provided sufficiently by the MNA education systems, and the higher education subsector in particular, adding a structural dimension to unemployment in addition to that of slow economic growth. Recent higher education subsector projects in MNA have all attempted to address various dimensions of this challenge.

1.13 Each element of this triad of factors (higher education, the labor market and economic growth) needs to be examined in light of the MNA regional context. Table 1-1 below gives a rough indication of the relationship between economic expansion and labor market growth in MNA compared to East Asia. Comparing East Asia and MNA annual growth rates in GDP over 1980-2002, it can be seen that East Asia has not only grown much faster than MNA in GDP terms (7.4 percent annually versus 2.4 percent annually for MNA in the same period), but that difference between GDP and labor market growth rates is much larger in East Asia than in MNA, suggesting a stronger absorptive capacity for labor in the former region. As seen in Table 1-1, the three PPAR countries are above the MNA average in both GDP growth and Labor Force Growth, but the difference between GDP and labor market growth for them is still smaller than in East Asia, especially in Jordan, where it is negative. Although much more detailed labor market analysis would be needed, this crude indicator gives a rough approximation as to why MNA has such a serious unemployment problem compared to East Asia.

\(^{15}\) For Jordan see HEP Project Appraisal Document (2000); in Egypt the rate in 2001 was reported to be 8.8 percent by Yasmine Fahim (2009), *Financing Higher Education in Egypt*, Cairo: Economic Resources Forum; in Yemen the rate in 1999, based on the Government’s Labor Force Survey was 11 percent.
Table 1-1: Comparison of GDP and Labor Force Growth, East Asia and Pacific and MNA (percent)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia</td>
<td>7.4</td>
<td>1.8</td>
</tr>
<tr>
<td>MNA</td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Jordan</td>
<td>3.7</td>
<td>5.0</td>
</tr>
<tr>
<td>Egypt</td>
<td>4.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Yemen</td>
<td>5.9</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Source: World Development Indicators (World Bank, 2004) Note: the middle column represents a geometric averaging for values reported in two periods 1980 to 1990 and 1990 to 2002; the 1990-2002 data was missing, so its middle column is only for 1980-1990.

1.14 While this may be considered external to the higher education subsector, both education and economic policy makers at the highest level need to collaborate in addressing the economic growth-labor market-higher education interfaces. The report of the Bank’s Growth Commission (2008) gives some generic guidance for policies to promote growth and employment based upon those countries that have done best over the past 50 years.16 Jordan has come closest to such an economy wide approach in its National Agenda exercise led by HM King Abdallah, while Egypt has recently initiated efforts to better link higher education and TVET to the labor market.17 Yemen underwent some strong growth in the 1990s but in more recent years has stagnated and its production of new jobs, especially those requiring high skill levels, has been sluggish.

1.15 An important feature of the MNA labor market has been migration across countries, especially from the non-oil countries to the oil-producing ones. This has had a special impact upon higher education in countries such as Egypt, Jordan and Yemen, which have been sending graduates to work in the oil-rich Gulf Cooperation Council (GCC) countries for many years. In addition to taking some of the pressure off the domestic labor markets, job opportunities in the GCC countries have also provided critical remittances to the families of workers back home. Now many of those countries have established their own competitive higher education systems, so there is less need for Arabic speaking graduates from non-oil countries, except in certain employment niches. Nonetheless, regional aspects of the MNA labor market remain important.

1.16 The higher education-Labor Market interface needs to be addressed across different disciplines and sectors, cognizant of the growing world-wide attention to growth of the Knowledge Economy, or more precisely a “knowledge-driven economy.” As in other regions, the number of projects in MNA with Knowledge Economy components has increased dramatically over the past decade. This has required reforms in the organization

---


of finance, governance, and information communications technology in the region that reflects good practice internationally.\textsuperscript{18}

**Bank Support for Higher Education Reform and the MNA Projects**

1.17 Recognizing the need for higher education reform in the MNA region and around the world, the Bank, in the mid-1990s, initiated a series of steps that would culminate in a program of Bank support to higher education reform in various parts of the developing world. The first of the steps was the release, in 1994, of a policy paper on higher education that identified a package of reform elements that came to be regarded as the Bank-advocated higher education reform model. The elements of this model, initially identified in Europe and the US and then spread to reform movements in Asia, Eastern Europe and Latin America, include a) university autonomy with accountability; b) quality assurance and accreditation; c) transparent financing (formula funding based on student numbers and characteristics) usually under a finance council; d) competition for research and investment funding usually under a research council; e) increased use of ICT for teaching/learning and management; f) differentiated missions among colleges (short-cycle labor market) and universities (long cycle and research programs); g) diversified finance including some public subsidy, h) cost recovery via tuition with equity safeguards through student loans and scholarships; and i) overall system coordination and oversight via some sort of higher education council cum ministry. This “reform package” was refined further in the Bank’s “Constructing Knowledge Societies: New Challenges for Tertiary Education (2002).”

1.18 Adapting this model to the Jordanian situation began with a Bank executed “Higher Education Development Study” (1996), which was followed in 1997 by a Project Concept Document for a higher education reform project. This was in turn followed by an impressive series 15 project preparation studies conducted by international and local consultants funded by a PRHD grant, which became the basis for the Higher Education Development Project, which was launched in the year 2000.

1.19 In Egypt, Bank dialogue with and support to the government in the late 1990s focused on the government’s 20 year (1999-2019) education sector strategic framework, covering reforms to basic, secondary and tertiary education, leading to joint preparation of sector loans for “education enhancement” projects at all three levels. Consistent with its recently articulated model, the Bank supported higher education reforms in governance, financing, efficiency, quality, and quality assurance, that were initially articulated at a National Conference on Higher Education (2000) and in its consequent 25-point Declaration for Action. The Higher Education Enhancement Project of 2002 covered 11 of these original 25 points of action.

\textsuperscript{18} The World Bank, in its Education for Knowledge Economy program, works with developing countries to cultivate the “highly skilled, flexible human capital needed to compete in global markets, an endeavor that affects a country’s entire education system.” (World Bank Web Page).
### Table 1-2: World Bank Higher Education Reform Model and Planned Country (Project) Reforms Features

<table>
<thead>
<tr>
<th>World Bank Reform Model Element*</th>
<th>EGYPT: Higher Education Enhancement Project (HEEP)</th>
<th>JORDAN: Higher Education Development Project (HEDP)</th>
<th>YEMEN: Higher Education Learning and Innovation Project (HEP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University autonomy with accountability</td>
<td>Legislative reform for more university autonomy</td>
<td>Assumption of delegated managerial responsibilities in pilot institutions</td>
<td></td>
</tr>
<tr>
<td>Quality assurance and accreditation</td>
<td>Quality assurance and accreditation systems</td>
<td>Accreditation of public/private U’s and their programs</td>
<td>Quality assurance (university self-evaluation) in pilot locations</td>
</tr>
<tr>
<td>Transparent financing (formula funding)</td>
<td>Use of funding formula for budget allocation</td>
<td>Use of funding formula for budget allocation</td>
<td>Redesign of budget structures/formula funding</td>
</tr>
<tr>
<td>Competition for research/ dev’t funds</td>
<td>Competitive higher ed fund for innovative programs</td>
<td>Competitive grants for new study programs</td>
<td></td>
</tr>
<tr>
<td>Increased use of ICT for teaching/ management</td>
<td>Enhanced ICT facilities and programs; strengthened MIS</td>
<td>Improved access to internet/inter-university library; integrated MIS</td>
<td>Development/piloting of ICT network; MIS for Ministry and two pilot universities</td>
</tr>
<tr>
<td>Differentiated missions (short and long cycles)</td>
<td>Restructured TCs with Boards of Trustees from industry; expanded enrollments</td>
<td>Improved CC oversight and creation of new programs</td>
<td></td>
</tr>
<tr>
<td>Diversified finance</td>
<td>TC to generate a portion of their own revenues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost recovery via tuition + loans/ scholarships</td>
<td></td>
<td>Design of loan/scholarship programs</td>
<td></td>
</tr>
<tr>
<td>Overall system coordination and oversight via higher education council or Ministry</td>
<td>Strengthened Supreme Council of Universities and Supreme Council of Technical Colleges</td>
<td>Strengthened Higher Education Council</td>
<td>Capacity building for Min of Higher Ed &amp; Scientific Research</td>
</tr>
</tbody>
</table>

### Other project elements

<p>| -Upgrading/training of faculty/staff | Staff upgrading/dev’t at universities and TCs | Upgrading of university staff through FDCs** Strengthening of TC teacher staff | Staff upgrading in select faculties |</p>
<table>
<thead>
<tr>
<th>World Bank Reform Model Element*</th>
<th>EGYPT: Higher Education Enhancement Project (HEEP)</th>
<th>JORDAN: Higher Education Development Project (HEDP)</th>
<th>YEMEN: Higher Education Learning and Innovation Project (HEP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Revision of curricula</td>
<td>Revised TC curricula related to work place needs</td>
<td>Reform of CC curricula</td>
<td>Development of a National Higher Education Reform Strategy</td>
</tr>
<tr>
<td>-Higher education strategy planning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: *See summary of the World Bank higher education Reform model in paragraph 1.15.
**Faculty Development Centers.

1.20 In Yemen, the country’s higher education reform agenda was not as clearly articulated as in the other countries; indeed, the main objective of Bank support in that country was the preparation of a new higher education reform strategy. Preparation for that (as noted in the eventual Project Appraisal Document) included reference to Bank-supported higher education reform programs in Asian, Latin American, and African countries, indicating possible reform directions. In these, a common thread was shifting university management away from the central government and empowering universities to manage their own programs and budgets under the direction of -- and with accountability to -- the government ministry. As the Yemeni reform agenda took shape during its Higher Education Learning and Innovation Project, a substantial buy-in to the Bank advocated reform model became clear.

1.21 As is clear from the above, the Bank supported higher education reform projects in Jordan, Egypt and Yemen incorporated many elements of the Bank-advocated reform model. Table 1-2 lists the reform model elements and then lists if and how those appear in the three reform projects.

**Project Development Objectives (PDO) and Design Features**

1.22 Box 1 shows the reform projects and their development objectives. All three projects aspired to strengthen/improve higher (post-secondary) education. Both the Egyptian and Jordanian projects were more specific than that, setting out objectives of improving or “creating conditions for improving” (Egypt) higher education quality, efficiency and relevance (Egypt clearly aimed to cover the latter even though it was not in the project objective statement). In Yemen, the areas of higher education strengthening were not specified, but in strategic documents prepared during the project, it became clear that quality, efficiency and relevance were also important to the Yemeni higher education community (see Republic of Yemen (2006): National Strategy for the Development of Higher Education). The objective statements also provided an indication of the reform strategies to be used for high education strengthening in each country, which include in

---

19 In HEEP, improving “quality and relevance” was in two of three project component statements.
Egypt legislative reform, institutional restructuring and improved accountability systems (QA and monitoring); in Jordan the “reform of sector governance;” and in Yemen, a national higher education reform strategy. System reform was thus the way to improve higher education quality, efficiency and relevance, and the Bank-endorsed higher education reform strategy stood in the background of these reform efforts.

**Box 1. Higher Education Reform Projects and their Objectives**

<table>
<thead>
<tr>
<th>Country</th>
<th>Project Description</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Objective: Create conditions fundamental to improving the quality and efficiency of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the higher education system through legislative reform, institutional restructuring,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and establishment of independent quality assurance mechanisms and monitoring systems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Objective: Initiate improvements in the quality, relevance and efficiency of higher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>education in Jordan and support the Government’s program to reform sector governance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Objective: Assist the Borrower in preparing and carrying out a higher education reform</td>
<td></td>
</tr>
<tr>
<td></td>
<td>strategy, and developing the capacity of the Ministry of Higher Education and Scientific</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research to carry out major reforms aimed at the strengthening of post-secondary education.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Project Documents.

2. **Was the Bank’s Support for Higher Education Reform Relevant?**

2.1 In this review project relevance will be examined from two points of view: 1) Were the projects and their objectives relevant to country needs? 2) Was the higher education reform model adopted (and adapted) relevant to country conditions and context in the three countries?

**Relevance to Country Needs**

2.2 The relevance of the projects and their objectives was substantial in Jordan and Egypt and modest in Yemen. In the former two high priority was given to promoting knowledge-based private investment and to matching that priority with a higher quality higher education system, capable of equipping graduates with the knowledge and skills that will make them employable and improve the competitiveness of local industry, but, given constraints to higher education financing, undertaken in a way that was more cost-effective than before. Thus, the objectives of improving quality, relevance and efficiency (Jordan) or for establishing fundamental conditions for the same (Egypt) were highly appropriate at that time. In Yemen, the higher education system has a similar mandate to supply the higher knowledge and skills needed for national development and national competitiveness, but the

---

20 “Carrying out” is interpreted in this review as implementing reforms in pilot locations for the sake of learning, consistent with the LIC instrument and the vision in the PAD.
higher education system (with its Ministry created only a year prior to project approval) was not yet mature enough to take on the strategic planning and modernization functions that were envisioned in project objectives.

Relevance of Project Designs

2.3 All three projects adopted designs that were heavily input oriented, leaving open questions as to whether their reform efforts had led to desired outcomes. For example, none of them were designed to show the effects of their substantial investments in IT, staff training, curricular change/innovation, and management reforms on the prized higher education outcomes, such as improved student learning, better employment outcomes or increased efficiency. Thus, none of the projects was designed with student learning or graduate employment indicators; nor did they establish more than a couple of measurable indicators of improved efficiency. Furthermore, only in one of the countries was there a plan to measure even intermediate outcomes of improved classroom instruction and in only one was there an indicator of the skills and capacities of higher education graduates. This could also be a reflection on the World Bank higher education change model at the time, from which the countries drew, which itself did not feature assessment of student learning outcomes nor any explicit features for improved connections to the labor market, except for “differentiated missions” (increasing middle-level technical education), which in MNA has so far not proved to be effective.

3. Comparative Analysis: Main Findings

3.1 Given the commonality in approaches and objectives of the projects, results are reviewed around five main questions as follows:

Evaluation Questions

- How well could the Bank-promoted higher education reform agenda be implemented in the MNA region?
- What were the effects of the three projects on higher education quality and relevance?
- How did the three projects improve higher education connection to the labor market?
- To what extent did the projects contribute to the efficiency of higher education in the various national contexts?
- How effective were the higher education projects in supporting capacity development in those areas of governance most critical for quality, relevance and efficiency?

Implementing the Bank-Promoted Higher Education Reform Model in the MNA Contexts

3.2 Table 1-2 listed nine main features the Bank-endorsed higher education reform model and showed how the different countries bought into them through their higher education reform projects. That table is reproduced here (see Table 3-1), but with an additional column showing whether and how the features were implemented (even when they were not included in a Bank-supported higher education project). Revisiting the
material in column 3 (reform features in higher education Projects) it is clear that all three countries bought into most of the reform model features: four features were adopted by all three countries; three by 2 of the 3, and two by only 1 country (diversified finance and cost recovery).

3.3 Summarizing the information in Table 3-1, there were no features in the model which were both incorporated into the higher education reform projects and fully implemented in all three countries. However five features were adopted and relatively well implemented in Egypt and Jordan: quality assurance, competition for research/development funds; increased use of ICT, differentiated missions (less well implemented in Jordan); and overall system coordination (less well implemented in Jordan). None of the features incorporated in Yemen’s HEP were well or fully implemented, but, ironically, there were some parts of the model not in HEP that were successfully instituted in the country during the project period (competition for funds; differentiated missions; cost recovery). The weakest buy-in and implementation record were in features related to higher education finance (diversity, cost recovery, and formula funding), the latter bought into by all three countries but not implemented. Also, university autonomy did not get off the ground in the two buy-in countries (Egypt and Yemen).

3.4 Overall, in the three countries, parts of the reform model have taken root or at least sprouted and other parts have not. Those that have met resistance –formula financing and university autonomy -- have done so largely because of the complex (and sometimes political) nature of the changes they advance which require time to understand and change, i.e., through gradual consensus building. In the meantime, savvy managers are working to design hybrid reform strategies.21 As suggested in the “Road Not Traveled,” the reform agenda in each country will differ and move at its own pace.

Table 3-1: Higher Education Reform Features and their Implementation, by Country

<table>
<thead>
<tr>
<th>World Bank Reform Model Element</th>
<th>Country</th>
<th>Reform Features in higher education Projects</th>
<th>Implementation of Country Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) University autonomy</td>
<td>Egypt</td>
<td>Legislative reform for more university autonomy</td>
<td>Stalled in Parliament</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>Assumption of delegated managerial responsibilities in pilot institutions</td>
<td>Piloting did not take place, only training at all state universities</td>
</tr>
<tr>
<td>b) Quality assurance and accreditation</td>
<td>Egypt</td>
<td>Quality assurance and accreditation systems</td>
<td>Quality assurance &amp; accreditation system fully established under National Authority for</td>
</tr>
</tbody>
</table>

21 For example, Egyptian and Yemeni systems creating unofficial cost recovery systems. Also, in a PPAR mission interview in Egypt a senior HEEP manager and former university president described the complex nature of university decentralization in Egypt and how some decentralization can advance under current laws, and much of the rest (e.g., personnel policies) can move ahead through a temporary melding of new processes with older ones.
<table>
<thead>
<tr>
<th>World Bank Reform Model Element</th>
<th>Country</th>
<th>Reform Features in higher education Projects</th>
<th>Implementation of Country Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quality Assurance and Accreditation (Egypt) (NAQAA) with first faculties accredited in 2010.</td>
<td></td>
</tr>
<tr>
<td>c) Transparent financing formula</td>
<td>Egypt</td>
<td>Use of funding formula for budget allocation</td>
<td>Not implemented</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Use of funding formula for budget allocation</td>
<td>Not implemented</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>Design of budget structures; use formula funding in pilot universities</td>
<td>Not implemented</td>
</tr>
<tr>
<td>d) Competition for research/development funds</td>
<td>Egypt</td>
<td>Competitive higher education fund for innovative programs</td>
<td>HEEPF award 159 grants via competitive process across all 17 universities, many having enduring effects on quality of teaching &amp; research</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Competitive grants for new study programs</td>
<td>33 innovative study programs and 70 research labs funded via grants (well below planned numbers), the last batch of which was fully competitive</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>NA</td>
<td>Competitive processes were used for grants establishing 4 high quality graduate programs (funded by Dutch government not HEP); semi-competitive grants part of HEP follow-on project.</td>
</tr>
<tr>
<td>e) Increased use of ICT for teaching/management</td>
<td>Egypt</td>
<td>Enhanced ICT facilities and programs; strengthened MIS</td>
<td>Broadband access to internet plus digital library and e-learning facilities in all state universities; fully</td>
</tr>
<tr>
<td>World Bank Reform Model Element</td>
<td>Country</td>
<td>Reform Features in higher education Projects</td>
<td>Implementation of Country Reforms</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------</td>
<td>---------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Improved access to internet/inter-university library; integrated MIS</td>
<td>All state universities linked by wide-area network; personal computers for all faculty and 100% access for students; widespread use of ICT in courses; MIS not fully operational.</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>Development/piloting of ICT network; MIS for Ministry and two pilot universities</td>
<td>Master plan for ICT completed and implemented in some universities; MIS module for student records operational.</td>
</tr>
<tr>
<td>f) Differentiated missions (short and long cycles)</td>
<td>Egypt</td>
<td>Restructured TCs with Boards of Trustees from industry; expanded enrollments</td>
<td>47 technical institutes consolidated into 8 regional Technical Colleges having BOT drawn from industry; enrollments expanded by 10% (target 5%).</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Improved CC oversight and creation of new programs</td>
<td>New students enter innovative employment-related CC programs, but closing of other programs made overall CC enrollment fall; CC oversight less effective than expected.</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>NA</td>
<td>CC enrollment grows quickly during project period, but not connected to HEP.</td>
</tr>
<tr>
<td>g) Diversified finance</td>
<td>Egypt</td>
<td>TCs to generate a portion of their own revenues</td>
<td>TCs were not permitted to generate their own income from programs; Universities did so through “specialized centers” (not connected to HEP).</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>World Bank Reform Model Element</td>
<td>Country</td>
<td>Reform Features in higher education Projects</td>
<td>Implementation of Country Reforms</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
<td>---------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>h) Cost recovery via tuition + loans/scholarships</td>
<td>Egypt</td>
<td>NA</td>
<td>“Parallel programs” operating in universities (fee-bearing), enrolling 23% of students by 2006/07 (not connected to HEEP).</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Design of loan/scholarship programs</td>
<td>Scheme for providing loans to students created, with 14% of students receiving them by end of HEDP, 60% of whom were from very poor families.</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>NA</td>
<td>“Parallel programs” operating in universities (fee-bearing), enrolling 14% of students by 2006/07 (not connected to HEP).</td>
</tr>
<tr>
<td>i) Overall system coordination and oversight via higher education council or ministry</td>
<td>Egypt</td>
<td>Strengthened Supreme Council of Universities and for Technical Colleges</td>
<td>Supreme Council of Universities and Supreme Council of Technical Colleges established, with the former taking active role in coordination and oversight (although role not fully developed).</td>
</tr>
<tr>
<td></td>
<td>Jordan</td>
<td>Strengthened Higher Education Council</td>
<td>Higher Council was strengthened and fulfilled its support roles, but formula funding not established and higher education not yet effectively coordinated</td>
</tr>
<tr>
<td></td>
<td>Yemen</td>
<td>Capacity building for Min of Higher Ed &amp; Scientific Research</td>
<td>Newly reconstituted Ministry of HESR successful in managing the drafting of national higher education strategy, but much of capacity building did not take place.</td>
</tr>
</tbody>
</table>

Source: Egypt, Jordan and Yemen PPARs and ICRs; OECD/World Bank (2010), Higher Education in Egypt; Rep of Yemen/World Bank (2010), Education Status Report.
Project Effects on Higher Education Quality and Relevance

QUALITY

3.5 To depict quality change in education, educators often use student to teacher (“staff” in higher education) as a proxy. Student to staff ratios (SSR) in the three countries’ public universities, high and increasing at project start-up, were still high around project completion: 29 to 1 in Egypt and Yemen and a staggering 38 to 1 in Jordan (the norm in MNA was around 23 and among all lower-middle income countries 17). However, during the project period SSRs moved in different directions in the three counties: staying about the same in Egypt, falling in Yemen, and rocketing in Jordan (Figure 3-1). In Egypt during the period, enrollments increased unabated based on government policies to increase higher education enrollments and to make it fee free (including providing support for room and board), combined with continuing constraints on hiring new faculty. In Jordan the government culminated its policy of shifting higher education financing to the universities (by 2005 the national government subsidy had fallen from an earlier 50 percent to 20 percent), but the universities – still growing -- were not able to fill the void, resulting in overcrowding. Finally, in Yemen, the government stopped enrollment expansion during 2003 to 2006 and at the same time expanded university staffing by 36 percent over 2002/03 to 2007/08, bringing its SSR way down. Bringing these ratios down to international or even regional norms was not the stated goal of any of the three countries’ higher education projects, but by not doing so, the countries failed to establish one of the important enabling conditions for quality improvement.

Figure 3-1: Student to Staff Ratios in Public Universities 2002 and 2007


3.6 There was some attempt to influence/measure intermediate outcomes, such as improved instruction and increased satisfaction among students, but these were found to be ineffective or inconclusive. For example, Jordan assessed changes in university instruction (pedagogy), but found no significant improvements, and in student satisfaction: more than 12 thousand student evaluations of courses were collected, but, in a missed opportunity, trends were not presented (Jordan higher education PPAR). Egypt’s MOHE mounted an “impact analysis” at the end of HEEP, which showed some positive changes in higher education pedagogy, but the sample for this was too small to be conclusive.23

3.7 In the end, the projects were most successful at creating inputs or immediate conditions (drawing from the higher education reform model) for improved quality. For example, all three higher education communities improved their information technology (IT) infrastructure and its use in teaching, learning and research; all three provided staff upgrading and in-service training; all used competitive grants to stimulate program innovation and renewal efforts, and all at least initiated quality assurance and accreditation systems. In Egypt these systems operated effectively, in Jordan somewhat less so, and in Yemen with first steps (see country higher education PPARs). However, in none of the three was there any evidence that these inputs have made a difference in terms of student outcomes (improved learning and/or better preparation for the labor market), given such outcomes were not measured in any of the projects or even by the countries’ higher education systems.24

3.8 Using the vocabulary of the “Road not Traveled,” it appears that the higher education systems completed some serious quality “engineering tasks,” but the enabling conditions (e.g., Student of Staff Ratio (SSRs)), incentives and accountability (Monitoring and Evaluation (M&E)) structures put in place were not strong enough to produce any recorded improvements in desired higher education outcomes - or any that may have been produced were not well documented.

RELEVANCE

3.9 Relevance was a serious issue in higher education for three project countries, with Jordan putting it up front as a project development objective; Egypt, as a part of two project components; and Yemen, among the main features of its main HEP deliverables, the National Strategy for Higher Education. In all countries, relevance was conceptualized as bringing higher education into better alignment with economic and social needs of the country. Market place relevance was a special concern in Jordan for both higher education

---

23 Reported in MOHE (Egypt) (2007), HEEP Impact Assessment Report. The question: “Staff using small group teaching” 28 percent of respondents indicated this was true before HEEP and 48 percent said so during/after; for “Staff using technological aids in teaching” the before and during/after numbers were 15 percent and 44 percent. However, the impact assessment drew respondents from four faculties in only 3 of 17 universities and there was a high refusal rate among target subjects; also, there was no baseline data.

24 This was not just a problem in MNA countries. Assessing learning achievement in higher education has progressed at a much slower pace across the world than assessing that in primary or secondary education. Nothing like the internationally standardized math and science tests for primary and secondary students (TIMSS) coordinated by the International Association for the Evaluation of Educational Achievement, or OECD’s PISA exists for higher education, although OECD is now working to create new instruments and the Collegiate Learning Assessment program in the United States is in progress.
and middle level technical education, but in Egypt and Yemen such relevance was a focus more for mid-level technical education. In the latter two countries, university relevance more often meant updating curricula and teaching styles (in line with international norms), getting both instructors and students connected to the vast resources of the worldwide web, and shifting course offering to more applied fields. *Except for the indicator of improved employer satisfaction with technical education graduates in Jordan, there were no formal outcome indicators for the improved relevance goal in any of the projects.*

3.10 It was, however, possible to assess one outcome that background documents showed widespread concern about, namely an improved balance between theoretical (social sciences and humanities) and applied fields (medicine, engineering and agriculture), and for that there were mixed results (see Table 3-2 with results taken from external sources). As seen in the table, Jordan and Yemen both showed a reduction in the share of students enrolled in the social sciences/humanities; while Egypt showed almost no change over 4-5 years. In Yemen the 10 percentage point decline was influence by the higher education Ministry’s policy of limiting admissions to such programs more than to the applied programs. In Egypt the lack of change reflects the fact that 70 percent of secondary school graduates are in the social science fields, and that many students enter higher education with less concern for employment than for the social status that comes with a university degree. Finally, on the one specified outcome indicator for relevance, Jordan’s evaluators found employers did not increase their regard for technical college graduates; they still found their training overly theoretical and that trainees lack practical skills.

**Table 3-2: Share of University Enrollment in Social Sciences and Humanities**

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>79</td>
<td>78</td>
</tr>
<tr>
<td>Jordan</td>
<td>60</td>
<td>56</td>
</tr>
<tr>
<td>Yemen</td>
<td>76</td>
<td>66</td>
</tr>
</tbody>
</table>


26 See the PPAR for Yemen’s HEP for a discussion of how the project-generated National higher education Reform Strategy and the conferences mounted to disseminate its features led to heightened Ministry understanding of higher education enrollment imbalances and to both a reduction in admissions’ growth and a rebalancing of fields that students enrolled to study.


28 Personal communication to PPAR investigator during mission in Egypt, Nov-Dec, 2010.

29 The baseline year for Jordan was 2001.
Connection to the Labor Market

3.11 Reformers in all three countries had serious programmatic concern about the weak connection between their higher education systems and outputs to their countries’ labor market needs, but this was not matched in their reform programs with design features to track progress in overcoming the mismatch. Most project performance indicators were instead about project outputs (for example, the number of programs with more work-oriented curricula and the number of students enrolled in them).

3.12 Data external to the projects painted a grim picture of the recent labor market success of university graduates (Figure 3-2). In all three countries unemployment among university graduates remained high (over 17 percent in Jordan) or (in Egypt and Yemen) climbed at a brisk pace by the new decade’s midpoint - in Egypt it tripled from around 9 percent in 2001 to almost 27 percent in 2005, and in Yemen (assuming the figures are correct) it increased 5 fold from 11 percent in 1999 to 54 percent in 2005.\[30\] \[31\]

Figure 3-2: Unemployment Rate among University Graduates: Pre-Project and Late Project


\[31\] Such high rates of graduate employment represent not only a waste of human resources but a contributor to social unrest and political change. Unemployed university graduates have been at the forefront of social and political change movements in the region in early 2011, which begin in Tunisia in January with the self-immolation of an underemployed university graduate.

3.13 Results on project outputs were more positive. For example, they revealed that Jordan and Egypt can create new or restructure old programs to be more relevant -- in their...
curricula and processes -- to labor force needs, but, again, there is no evidence anywhere to show that graduates of such programs are finding jobs in larger numbers. Also, Egypt has developed promising accreditation schemes and competitive grant-giving mechanisms (to the point of being called new “cultural norms”) to leverage more innovative and relevant programs, but again there is no sense so far that these leads to better market place results. The strategy used in Yemen, to build world class graduate studies programs through competitive selection and twinning with excellent mentoring institutions was successful in producing some very employable and influential graduates (although many were already senior government or business managers before entering the programs). However, given the relatively small number of graduates from these programs they will not be very influential, unless they fulfill their expected mandate to raise general quality and relevance through example, a proposition that must be carefully fostered and assessed in the near future. While state M&E frameworks in the countries do not appear to be covering labor market relevance in a routine way, there are some raw data (e.g., in MISs) that could be used to show more labor market-relevant university and TC outputs. In the meantime, the injunction in the “Road not Travelled” that MNA countries shift emphasis from inputs to results is resoundingly relevant to issues of labor market relevance.

Contribution to Higher Education Efficiency

3.14 The almost total absence of outcome indicators for efficiency once again prompted the search for external data to show results for this objective. In this case the indicator was change in cost per student, on which results were equivocal (Table 3-3). A 45 percent rise over the project period was taken by Egyptian policy commentators as a sign of decreased efficiency (MOHE, 2007), given the fact that student-staff ratios remained high over the same period (see the results section on Quality above). The modest fall in Jordan (presumably underestimated since there was no inflation adjustment) was accompanied by a serious fall in service delivery (evidenced by drastically rising student-staff ratios) and thus cannot be interpreted as sign of improved efficiency. Finally, while the large increase in per student cost in Yemen could be sign of diminished efficiency, it probably was not so, since Yemen had been underspending in higher education (see background section). In sum, while cost per student was not used as an indicator of efficiency in any of the three projects, external data was available to show changes during the project period and the results failed to confirm any improvements in efficiency.

3.15 Two other outcome indicators, one tracked and the other not, did send a clear message of poor system efficiency. In HEDP Jordan evaluators did not find the expected decline in the ratio between non-teaching and teaching staff in public universities during the project: instead the ratio increased slightly from 2.7:1 to 2.8:1 (see country PPAR). In Egypt a snapshot on the use of university resources revealed that only 35 percent of resources were going to direct support of student learning while 65 percent went for

32 This was both because governments did not track such results and the fact that in many programs graduates had not emerged from the programs by project closing.

33 Such programs were indirectly supported by HEP through its connection to a large Dutch government grant which provided most of their funding. They have now become the centerpiece of the follow-on Bank-supported Higher Education Quality Improvement Project (see its Project Appraisal Document, 2010).
university overhead, revealing an intractable support staff overload problem, recognized well before HEEP.

Table 3-3: Cost per Public University Student - Egypt, Yemen and Jordan: 2002/03 and 2006/07 (in Constant Local Currency)\textsuperscript{34}

<table>
<thead>
<tr>
<th></th>
<th>2002/03</th>
<th>2006/07</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>2,875</td>
<td>5,265</td>
<td>45%</td>
</tr>
<tr>
<td>Jordan</td>
<td>1,886</td>
<td>1,775</td>
<td>-6%</td>
</tr>
<tr>
<td>Yemen</td>
<td>24,305</td>
<td>35,291</td>
<td>31%</td>
</tr>
</tbody>
</table>


3.16 Conventional measures of internal efficiency, student dropout, repetition and graduation rates, were surprisingly not systematically tracked in the projects, although ingredients for these can be found in the new MISs (at least in Egypt and Jordan). What is available now reveals relatively low internal efficiency, for example, in Yemen repetition were between 12 percent (females in applied fields) and 30 percent (males in the humanities) at the second half of the decade (Government of Yemen, 2007) and in Egypt, graduation rates varied from 50 to over 100 percent, with the lowest rates found in the best quality universities (e.g., Cairo and Alexandria) and vice-versa (OECD/World Bank, 2010).

3.17 Finally, through the higher education projects the governments did work to establish some conditions for improved efficiency (many consistent with the Bank-supported reform model), such as, more decentralized decision making; improved management information systems and their use; improved use of ICT for management and decision making; more cost recovery; self-generation of revenue; and use of distance education (e-learning). Success in implanting these was uneven: on the effective side were e-learning in Egypt and cost recovery in Yemen; on the less effective: decentralized decision making in Egypt and use of MIS for management in Jordan. Ultimately, higher education projects did establish some conditions for improved efficiency (many consistent with Bank-supported higher education reform model), but there is no evidence that any of this led to real change in efficiency outcomes.

Effectiveness in Supporting Improved Governance

3.18 Reforming higher education governance is a complex undertaking, requiring deep understanding of existing power structures and decision-making processes, many of which are not open to scrutiny. This review begins with the premise that understanding the socio-culture context of participating countries is one of the keys to successful governance reform. Large differences appear across projects in the extent to which such understanding was reached. In Jordan, the Bank’s project preparation activities included the production of 15 studies, two explicitly on higher education planning, management and governance; however, there were shortcomings in the extent to which higher education stakeholders

\textsuperscript{34} Currencies: Egypt: 2007 Egyptian Pound; Jordan: Jordanian Dinar (nominal); Yemen: 2007 Yemeni Riyal.
reached consensus on and “bought into” HEAP’s governance reform agenda. In Egypt, a long process of consultation and consensus building preceded HEEP, but there were complexities in university governance (e.g., covered by the decentralization package) that were not sufficiently understood at the outset (i.e., no specific analytical work on them) and that led to a lack of clarity and consistency in the project governance components. In Yemen, there was no analytical work on financial and institutional management capacity and on the culture of decision making and little stakeholder consultation on these, leading to some unrealistic expectations in HEP’s piloting of governance reforms. During HEP implementation processes for creating the National higher education Strategy were extraordinarily participatory and did lead to a wide-spread buy-in to many of the reform strategies in that document.

3.19 In the end, project supported changes in governance were not that significant in the three projects: Jordan’s higher education system never came around to acting like a coherent system; Egypt’s main governance reform instrument became stalled in Parliament, and Yemen’s piloting of management reforms never took place. What did occur was the building of some systems that can contribute to better governance: improved ICT in all countries, some improvement in the creation and use of MIS, the acceptance of and some experience with competitive funding and quality assurance. The main message is that it takes a long time, often longer than a single project (based on the experience of these loans/credits) and some deep understanding (for example, through thorough sector analytical work) by all parties for such inputs to be transformed into real and significant governance reforms. It also seems plausible that some governance features of the reform model draw too heavily on the Anglo-American experience (recalling that the Bank’s “Lessons from Experience Paper” emerged from that context) and for at least these Arab countries they need to be better aligned with Middle East/Northern Africa context, perhaps drawing examples from more centralized countries around the world.

4. World Bank Performance

Quality at Entry

4.1 The reform of higher education was a relatively new undertaking, both in the World Bank and in the three cooperating countries. To this the Bank brought its best expertise at the time and the benefits of recent investigations and strategizing in the field. The project preparation activities in the three countries, however, were constrained by three kinds of shortcomings: a) failure to assure country/institutional buy-in to the reform agenda and to make sure well know reform champions were in charge of the project (Jordan), b) weakness in analytical depth related to the most complicated reform components, such as formula funding and increased university autonomy and less than a clear understanding of the problems and complexities residing there (Egypt and Yemen), and c) shortcomings in specifying appropriate outcome indicators for its objectives and laying out a solid monitoring and evaluation framework (all countries, but especially Yemen, where its Learning and Innovation Loan instrument was particularly demanding of such). More particularly, in Jordan it was unfortunate that the Bank team did not respond more proactively to the Government of Jordan cancellation of Technical Assistance funding during negotiations and a reduction in the government’s financial contribution. Also, due to lack of consensus and implementation readiness it was necessary to use cumbersome dated
covenants in the legal agreement to avoid overlooking important design features. Moreover, the decision to entrust an autonomous agency to manage the project implementation unit resulted in its having little clout in the higher education community. In Egypt, it was unfortunate that implementation arrangements were insufficiently developed prior to project start-up, especially in the complicated areas. And in Yemen, it was regrettable that measures for procurement support and technical/financial supervision – procurement and contract management were not even identified as risks – were not solidly supported from the outset, despite clear government shortcomings.

Quality of Supervision

4.2 The quality of Bank supervision varied widely across projects, with that in Jordan being quite conscientious and attentive, that in Egypt less so, and that in Yemen, considerably less so. However, supervision in all locations had one common weakness: in all locations episodic project supervision missions tended to rate fulfillment of all objectives as satisfactory, thus failing to alert management that parts of the reform agenda were not progressing well (hence some surprises when ICRs were completed). It is not clear why this occurred, but perhaps it relates to frequent reports of disconnects between what was being implemented and project indicators of success. Also in common was closer supervision attention to the delivery of commodities and services (inputs) than to outputs and outcomes (the few that were identified), mirroring weaknesses noted in project implementation and effectiveness.

4.3 On the strong side, supervision in Jordan was very attentive to smooth procurement and disbursement processes and able to provide technical assistance to project managers that in large measure made up for technical assistance not being financed by the project. In contrast, in Egypt the Bank team never was able to adequately reconcile the government’s implementation structure (five sub-projects) with the PAD’s structure (project components) which complicated the use of progress indicators (a situation that probably should have led to restructuring). There were also some lapses in financial management supervision wherein university staff members were allowed to be paid as consultants. Finally, in Yemen, Bank task management changed four times, and during the course of this (especially before the midterm review) the Task team Leader consistently supported the move towards merging HEP with other projects in implementing a sector wide-support program (even giving no objections to contracts that ignored original Project features), giving little official attention to the mismatch this created between the revised project directions and the original performance indicators. The obvious need for restructuring was never taken up, although the Bank had reminded project managers that they were accountable to the original project agreements.

5. Conclusions and Lessons Learned

Conclusions

5.1 The three MNA higher education projects were launched during the first 3 years of this century under similar circumstances: a rapidly expanding higher education population
outstripping government capacity to maintain funding levels, consequent reductions in educational quality; and a mismatch between the output of the universities and technical colleges and the needs of the countries and their labor forces. These circumstances called for increased attention to higher education relevance, quality, and efficiency, goals which all three projects attended to, either through formal objectives (Jordan), project activities (components) (Egypt), or policy strategies developed during the project (Yemen).

5.2 Each of these goals was conceptualized somewhat differently across countries, but in one way the projects all had something in common. In none of the countries and for none of the goals was there a strong elaboration of expected results or outcomes. With few exceptions project indicators were conceived of in terms of inputs, processes or outputs. For this reason it is not possible in any of them to clearly answer whether they made any substantial difference in higher education relevance, quality or efficiency. This is not to say that they accomplished nothing: many new services and systems were delivered and changes were made in all three countries.

5.3 In fact, some parts of the Bank-supported higher education reform model flourished in the three countries. In all three competitively awarded grants motivated departments and staff members to come up with innovative programs, many connected to the labor market or addressing a national development issue. The seeds of quality assurance and accreditation have also been sown and are growing, albeit at different speeds. And ICT availability and usefulness have been accelerated, not yet for fully operational and digitized management information systems, but at least for improved internet connectivity, changes in instructional methods, and e-learning experiments.

5.4 However, some problems remain intractable: there are still vastly more students in the arts, humanities and social sciences than in scientific and applied fields. Also, despite efforts to attract secondary school graduates into middle-level technical education (by renewing courses and forging ties with industry) students still tend to shy away from it. Moreover, even with significant attempts to improve course structure and provide in-service staff training, there appears (at least in the one study of improved pedagogy - in Jordan) that not much has changed. Finally, it is not clear whether graduates are prepared for the work place: again, a study in Jordan shows employers have not changed in their dissatisfaction with technical college graduates. Some of this might be explained by the weakness of incentive and accountability structures that was lamented in the World Bank MNA study “The Road not Travelled”. That is, academic or technical programs can be modernized but students must be motivated to enter them; graduates may not be able to find employment, but they won’t have lost anything since tuition is free and, as in Egypt, so is room and board; and instructors can create attractive new syllabi but there will be no consequence if they don’t show up to teach them. It seems that all projects, designed to provide the conditions for higher education reform, may still have missed some crucial ones.

5.5 Concerning the project goals to reform (or pilot new forms of) university governance, the efforts in all three countries were stillborn. Funding formulas were drafted but were not used; decentralization and university self-management of budgets failed to get off the ground in Egypt and Yemen. In Jordan, the efforts expected to improve the coherence of the system did not bear fruit. It seems that university governance is the most complex and change-resistant part of the accepted reform model. Some evidence from the PPAR mission suggests that this might be mostly a matter of unanticipated complexity or an
underestimate of the implications of intended changes. Dealing with such complexity can be a matter of better research and analysis, or simply a matter of more time to work through it all. OR, it could be that this part the model is too biased towards Western industrialized cultures and economies (the Bank’s “Lessons from Experience” was originally drawn up in the Anglo-American context). For this part of the world it may need governance models more consistent with Arab culture and/or more centralized governance traditions. This indeed is an area for continued analysis and dialogue.

Lessons Learned

5.6 The following are some of the lessons learned from the comparative PPAR:

- When a widely adopted change model is being introduced to an area for the first time, it needs to be preceded by sufficient sector analytic work to create an appreciation of the complexities (implications) of the proposed changes and of the likely sources of resistance; such analysis could help determine the parts of the model that are appropriate to the context, and the pace of adoption.

- Efforts to improve the quality of higher education need to be submitted to the same general test that is widely accepted for pre-university education: Does it improve student learning outcomes? Standard assessment of student achievement in higher education is challenging, both in a technical and a political sense, but moves in that direction have already begun in Egypt and Jordan.

- Restructuring higher education courses and programs and even ensuring appropriate private sector participation in decision-making are not in themselves sufficient to ensure that reforms will result in more employable graduates. Higher education systems need to systematically monitor the labor market relevance of their offerings and the success of their graduates.

- Free university education in Yemen and Egypt (including generous room and board subsidies) creates the wrong market signals, encouraging enrollment in overloaded fields since failure to obtain employment represents little financial loss to students and their families.

- Competitive systems for awarding grants can lead to some creative new and revised programs, but this needs to be done in conjunction with other university change efforts and on a large enough scale to have a significant effect on the quality and relevance of the university’s offerings.

5.7 Graduate unemployment, which did not decline under the projects, will not change appreciably with the introduction of a few innovative program (the main approach used in the project), but requires serious gate keeping by the governments, shifting enrollments away from humanities (as in Yemen) and more serious incentive structures to steer students towards needed fields. The lack of programs for tracking and awareness-raising about graduate unemployment makes this issue less visible than it should be.
Annex A. Egypt – Higher Education Enhancement Project (Loan 46580)

Principal Ratings

EGYPT: HIGHER EDUCATION ENHANCEMENT PROJECT (LOAN 46580)

<table>
<thead>
<tr>
<th></th>
<th>ICR*</th>
<th>ICR Review*</th>
<th>PPAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td>Satisfactory</td>
<td>Moderately</td>
<td>Moderately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Satisfactory</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Risk to Development</td>
<td>Moderate</td>
<td>Low to Negligible</td>
<td>Low to Negligible</td>
</tr>
<tr>
<td>Outcome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Performance</td>
<td>Satisfactory</td>
<td>Moderately</td>
<td>Moderately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unsatisfactory</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>Borrower Performance</td>
<td>Satisfactory</td>
<td>Moderately</td>
<td>Moderately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Satisfactory</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

EGYPT: HIGHER EDUCATION DEVELOPMENT PROJECT (LOAN 46580)

<table>
<thead>
<tr>
<th>Project</th>
<th>Task Manager/Leader</th>
<th>Division Chief/ Sector Director</th>
<th>Country Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal</td>
<td>Mae Chu Chang</td>
<td>Jacques Baudouy</td>
<td>Mahmoud A. Ayub</td>
</tr>
<tr>
<td>Completion</td>
<td>Ernesto P. Cuadra</td>
<td>Mourad Ezzine</td>
<td>Emmanuel Mbi</td>
</tr>
</tbody>
</table>
Summary

1. The Higher Education Enhancement Project (HEEP) was created at a critical time in Egypt's economic development. The country had been restructuring its economy to better compete in the global marketplace and had recently signed a partnership agreement with the European Union. In order to successfully compete in this international arena Egypt needed to quickly build capacity to fully participate in new knowledge-based enterprises. The speed with which Egypt could make this economic transition would be either facilitated or hindered by the relevance and quality of its higher education system-its universities and middle technical institutes (MTIs)-and its capacity to bridge the growing digital divide. Even focusing purely on the domestic economy, Egypt recognized the need to produce higher level higher education graduates with skills needed for an increasingly privatized labor market, which in some cases had begun to use foreign workers instead of local ones due to the poor or irrelevant preparation of the latter.

2. The issues that the HEEP designers faced were difficult and various: a) university enrollments had doubled during the last 25 years of the 20th Century, accelerating in the 1990s (during which decade gross enrollment rates went from 13 to 27 percent), with expansion outpacing growth in public higher education funding, leading to high student-staff ratios (at the turn of the Century  29:1 compared to a regional average of 23:1) and decaying infrastructure and instruction supports (library, ICT, etc.); b) enrollment was skewed in the direction of social sciences and humanities (around 80 percent), fields where there are no employment opportunities, despite attempts to change the attractiveness of technical education, c) governance of higher education was judged by reformers to be overly centralized with universities having little say in their student admissions, academic offerings (fields of study), staffing, and allocations of budgets; and d) teaching at the university and technical colleges considered narrow, rigid and out of date, using old syllabi and employing traditional lecture style pedagogy.

3. Preparation for the Higher Education Enhancement Project, designed to address these issues, was based in large part on a highly participatory Ministry of Higher Education (MOHE) consultation process which culminated in a National Conference on Higher Education (2000) and its 25-point Declaration for Action, 11 points of which became the core of HEEP. HEEP focused on identified problems of relevance, quality and efficiency, but indirectly, by creating the essential (“fundamental”) conditions for their improvement. The project objective, as stated in the PAD, was 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.” The given objective was considered relevant to Egypt’s needs and aspirations and to Country Assistance Strategies at the beginning and end of the project, however, the design was viewed as lacking a set of solid outcome indicators and questions were raised as to whether all of the “fundamental” or relevant conditions were specified in the design.

4. Efficacy. With respect to improved efficiency (rated modest), the enactment of legislative reforms in support of greater university autonomy, application of a rationalized funding formula, and conduct of social assessment of cost-recovery did not come to fruition
during the project, putting a damper on the Project Development Objectives (PDO) of efficiency improvement. However, despite a slow start, the MIS moved towards fruition under HEEP, becoming fully operational under Second Higher Education Enhancement Project (HEEP2). Its impact on efficiency is yet to be determined, but it is now providing annual and biennial reports to the government and public. Finally, concerning academic management: the Supreme Council of Universities has been fully established but only now under HEEP2 is it feeding essential information to the university community, while for the Technical Colleges, consolidating multiple middle-level training institutes under eight new regional Training Colleges, each with its own Boards of Trustees, is leading to improved management for at least half of the colleges.

5. Improved quality (rated substantial) was assessed at two levels, one for universities and the other for technical colleges. **For universities,** there were deep institutional changes under this objective. State-of-the-art ICT infrastructure and IT applications have been laid down which have brought the system into the digital age. Staff and leadership development has been deeper than originally planned under HEEP, now being managed by a permanent, internationally accredited center at the national level and internationally accredited instructors at the university level, covering courses that have been refined over recent years. Its breadth has expanded to cover all instructors, now that their promotion depends in part on their completing course sequences. A university-wide quality assurance and accreditation system has also been established, with faculties already undertaking self-evaluation in relation to new national standards and receiving site visits. The competitive grant “project” (HEEPF) ran long enough to spawn lasting new study programs and labs, and to promote a change in the university “culture” towards the use of such grants in allocating all kinds of funds, including supporting accreditation preparation. These features of quality improvement reinforce one another in various ways: ICT connectivity provides new e-channels for staff development; increased quality standards under quality assurance and accreditation further drives the use of new instructional media; innovative, entrepreneurial programs under HEEP feed on examples gleaned for the world-wide web; and new research brings the university into contact with community needs. The widespread impact of these changes on university quality was not confirmed by hard evidence from predesigned outcome indicators, nor was there evidence of positive change in “external” outcome measures. However, a positive picture of success was visible from the somewhat limited project-conducted “impact analysis.” The depth, synergy, and expanding nature of these HEEP reforms have helped to create credible – even if not all essential – conditions for improvements in the quality of Egyptian public universities.

6. **For technical colleges,** efforts to improve educational quality appear to have been successful in increasing enrollments, while at the same time reducing staff-student ratios. Additional quality improvement efforts were reflected in curriculum updating, lab and workshop refurbishing, and instructor upgrading. Major restructuring of the middle-level technical education system also appears to have better connected it to the commercial and industrial world (relevance), through having its leaders on TC Boards of Trustees (effective in at least 50 percent of TCs) and by linking new courses directly to productive enterprises and their needs (expanding quickly under HEEP2). Many of the above changes were too recent to have been reflected in improved student learning and employment outcomes; even so, as with university education, there was no project system for measuring these systematically (a design flaw). A challenge to the use of TCs as a “short track option” in higher education is the fact
that a majority of recent graduates from large metropolitan TCs have continued on to university education.

7. On efficiency (rated substantial), HEEP overcame an early delay and ended up disbursing all of its funds by the end of a one year extension, with funding distributed well across the revised components and according to targeted amounts. The project vastly increased the scope of two sub-components (QA and Accreditation; Faculty Leadership and Development Training) but managed them within the original budget (with some buy-in from universities), and appeared to have covered many of the same activities as the follow-on government-funded HEEP2, but at lower costs.

8. Outcome. The overall outcome of the project is rated moderately satisfactory, based on relevance ratings that are substantial for objectives and modest for design; efficacy ratings of modest for improving efficiency and substantial for improving quality; and an efficiency rating of substantial.

9. Concerning Bank Performance at Entry (rated moderately unsatisfactory), it was the Bank that initiated the dialogue in Egypt about higher education reform and it continued to support this dialogue during the long preparation process, including the Government’s participatory planning process. It also brought lessons learned from similar projects and prior operation in the sector. However, for the complex and sensitive parts of the reform agenda, it would have been better if there had been more sector analytical work. Also, the Bank team could have helped with stronger outcome indicators and clearer M&E strategies.

10. On Supervision (rated moderately unsatisfactory), the Bank team worked closely with the Project Management Unit (PMU) to ensure smooth operation and to resolve issues encountered. However, it could have done a better job reconciling two different versions of the projects design, helping to operationally define terms (relevance, quality and efficiency), and establishing early on a well functioning M&E system. Also the Bank Team’s own progress tracking left the impression that there were no issues meeting project objectives, even in the face of problems with the legislative agenda. Finally, the Bank could have been more candid and paid more attention to procurement issues (e.g., university staff being paid as consultants) that arose during the project.

11. On Government performance (rated moderately satisfactory), the Ministry of Higher Education had full ownership of the project from the beginning and used strong participatory processes for consensus building and broad program design. During implementation it showed commitment to the reform agenda through the establishment of a high-level steering committee with some quality control mechanisms. Also, despite delays, counterpart funding was provided, and legislation was adopted to consolidate technical institutes and establish the National Authority for Quality Assurance and Accreditation (NAQAA). However, it was overly optimistic about its ability to push legislative reforms on university governance and financing through the Parliament and was not able to find a compromise solution during the course of HEEP. Concerning Implementing Agency Performance (rated moderately satisfactory), the PMU faced real challenges in implementing such a complex and sector wide project given the lack of details in project design. Its structure was strengthened by the appointment of directors for the five sub-projects. The PMU had to develop action plans,
operation manuals and guidelines for these subprojects. Despite the additional delays due to the change of some directors and the release of Government contribution, the PMU was able to successfully complete almost all the activities planned in the project. The PMU performance is however mitigated by shortcomings in monitoring and evaluation and in fiduciary compliance.

12. The PPAR mission determined that the following lessons could be derived from the implementation of HEEP and its performance assessment:

- Higher education reforms supporting improved quality are easier to put in place than those for improved institutional efficiency and financial management, leading to decreases in cost-effectiveness. In Egypt this imbalanced pace of reform (quality outstripping efficiency) cannot be sustained.

- Programs to improve the condition for higher education quality, relevance and efficiency cannot be expected to do so just because they have been made operational. Appropriate outcome indicators need to be formulated and used to determine whether the conditions have been sufficient to leverage real change.

- There are currently few disincentives for students enrolling in overcrowded and non-employment-conducive fields. Adding some elements of student cost recovery (which did not receive due consideration in HEEP) is a controversial topic, but some aspects of it (high subsidies for room and board) should be open to discussion as well as fees for other non-instructional aspects of higher education.

- When a widely adopted institutional change model is being introduced in a field like higher education for the first time in a country, it needs to be preceded by sufficient sector analytic work to create an appreciation of the complexities and the implications of the proposed changes and of the likely sources of resistance; such analysis could help determine the parts of the model that are appropriate to the context, and the pace of adoption.

- Even parts of the reform model (e.g., competitive funding), considered by leaders in higher education to be highly appropriate in the Egyptian setting, can be met by resistance from other quarters (or even the universities themselves), and are only accepted after a period of negotiation and trial. This suggests getting buy-in to such change takes longer than is often provided.

- Reform managers confirmed their assumptions (see planning HEEP documents) that a period of time in which change comes through top-down approaches can be followed, if significant buy-in is carefully nurtured, by a new phase of bottom-up activity (HEEP followed by HEEP2).

- While awaiting the establishment of the complete reform package the government can make many of the desired changes, even those contained in the stalled parts of the package, if they are formatted in different ways, for example, achieving “decentralization” through universities’ being allow to set up revenue-generating “parallel programs” or specialized Research and Development centers, giving them some discretion over their finances.
Background

Overview

13. The Higher Education Enhancement Project (HEEP) was created at a critical time in Egypt's economic development. The country had been restructuring its economy to better compete in the global marketplace and had recently signed a partnership agreement with the European Union. In order to successfully compete in this international arena Egypt needed to quickly build capacity to fully participate in new knowledge-based enterprises. The speed with which Egypt could make this economic transition would be either facilitated or hindered by the relevance and quality of its higher education system—its universities and middle technical institutes (MTIs)—and its capacity to bridge the growing digital divide. Even focusing purely on the domestic economy, Egypt recognized the need to produce higher level higher education graduates with skills needed for an increasingly privatized labor market, which in some cases had begun to use foreign workers instead of local ones due to the poor or irrelevant preparation of the latter.

The Education Sector Context

14. Change in higher education was part of a comprehensive education sector reform strategy in Egypt at the end of the 20th century. The Bank was already supporting basic education reform through the Education Enhancement Project (1997-2006) (US$200 million) and the Secondary Education Enhancement Project (1999-2006 -- extended to 2012) (US$50 million). Both the Education Enhancement and the Secondary Education Enhancement Project (SEEP) were supporting Government's efforts to significantly upgrade the quality and relevance of education, by changing pedagogies so students' conceptual and problem-solving capacities are developed, and by introducing information technology into classrooms and instructional practices. Additionally, SEEP was supporting reform of the secondary technical and vocational stream to shift current focus on narrow specialization towards generic skills which were considered more fungible across industries and which would increase the employability of graduates. SEEP also supported a shift in the balance of vocational vs. general secondary schooling; targeting a shift from an existing vocational:general mix of 70:30 to 50:50 over the lifespan of the project, a move to broaden educational opportunities for youth and provide more access to higher quality (general) education.\textsuperscript{35} Also, near universal primary education and rapid expansion of pre-university education in the late 20th Century created a growing demand for higher education, enrollments rates doubling over a 25 year period, a rate that could not be matched by growth in public higher education funding.

Higher and Middle-Level Technical Education

15. With the national constitution guaranteeing free public higher education in recent years, including generous subsidies for student room and board, higher education has become a heavy financial burden to the state. With the enrollment growth outstripping the central

\textsuperscript{35} This is somewhat inconsistent with the goal of HEEP to increase the number of youth entering the middle-level technical colleges.
government’s capacity to keep pace financially, reductions have been made in the expenditure per student, negatively affecting facilities and educational quality (e.g., high student-instructor ratios (29:1 compared to a regional average of 23:1), weak ICT infrastructure, and poor instructional supports—a timely study showed that a typical undergraduate checked out one library book per year). Talks about diversifying sources of funding and improved efficiency have not led far, since cost recovery has been politically difficult (except for some charging for “parallel programs”), there is little precedent for self-generation of income, and a myriad of central government structures has constrained university capacity to use their finances rationally (e.g., national employment policies pack the staff with unneeded support staff and do not permit downsizing).

16. Attempts to make higher education more relevant to national needs and the workplace have also not born much fruit. Despite an awareness of a skewed enrollment towards social sciences and humanities (almost 80% near the turn of the century) this proportion has not substantially changed in recent years (in part because admission by field of study is not controlled by the universities themselves) and the proportion entering technical vocation also been unchanged over recent years. Technical education was established to be a lower cost option to university education and more relevant to the needs of the economy, but its low quality (extra-ordinarily high student-teacher ratios of between 100-300), weak connection to industry, and low job-placement of graduates have meant that it has continually struggled to become accepted as a promising path by students and their parents.

Project Objectives and Design

17. The objective of the project was 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” (PAD version). The Legal Agreement uses the term “conducive” instead of “fundamental,” which makes the conditions seem less essential than the original term did. Since the Government of Egypt (GOE) was clearly committed to creating the essential (“fundamental”) conditions for improved higher education, this review stands with the original formulation in the PAD.

18. The project originally had three components:

Component 1: Improving efficiency through the reform of governance and management (US$29.55 million at appraisal, US$30 million actual) – efforts to reform legislation governing higher education; rationalize funding allocation mechanisms; establish a National Quality Assurance Council and build capacity; develop a management information system (MIS) and train management; establish a Higher Education Enhancement Project Fund to support teaching and learning improvements in academic departments through program and course innovations;

36 A further illustration, according to the PAD, was that university enrollments increased by a phenomenal 42 percent between 1997/98 and 1998/99, but the teaching staff only increased by 7 percent.
37 “Parallel programs” are those used in Egypt and Yemen in which the universities admit students whose test scores are below the cut off for admission on the condition that they pay for their courses.
improve collaboration between universities, technical colleges, and the private sector; enhance management and administration in the higher education sector; and conduct a social assessment of parents, students, and other key stakeholders to identify acceptable cost recovery mechanisms.

Component 2: Improving the quality and relevance of university education (US$7.67 million at appraisal, US$6.2 million actual) – efforts to establish an integrated computer and network infrastructure and connectivity to the world-wide web; train faculty and staff; install and operationalize an inter-university library system; and provide competitive grants in support of innovative programs relevant to national development and workforce needs.

Component 3: Improving quality and relevance of mid-level technical education (US$13.55 million at appraisal, US$13.4 million actual) – efforts to consolidate of 47 middle technical institutes into 8 self-governing Technical Colleges (TCs) (having their own Boards of Trustees drawing from industry); enhance the quality of TCs through civil works, updated equipment, and technical assistance; develop new TC programs in collaboration with employers; update curriculum design and instructor training to provide customized in-service employee training programs for industry on a cost-recovery basis; and strengthened academic administration and management.

Implementation

19. The project experienced substantial delays in its early implementation phases, the result of complex and poorly defined project design features, inadequate project implementation arrangements, a change in the Project (Project Management Unit) Director, and delays in appointing sub-project managers. Disbursement was therefore behind schedule throughout the project, but reaching 100 percent during a one year project extension (from December 31, 2007 to December 31, 2008).

20. During implementation the MOHE and its project managers structured their efforts not according to the agreed-upon project components but along the lines of 5 government “sub-projects,” each having its own manager and emphases somewhat different from the PAD components (see relevance of design). 38 These differences were never formally reconciled during the project nor even mentioned in Implementation Status and Results Report (ISRs), causing some confusion about how to charge expenses and what to monitor and evaluate (should non-agreed upon sub-components be considered in output assessment?). Concerning financial management, the Bank questioned the appropriateness of the Project’s paying university professors to manage QA or HEEP fund activities on their own campuses, arguing that this should have been part of their regular duties, and at least should have been discussed.

---

38 The sub-projects created by the Ministry were: 1) Quality Assurance and Accreditation Project (QAAP); 2) Higher Education Enhancement Project Fund (HEEPF); 3) Information & Communication Technology Project; 4) Faculty Leadership Development Project; and 5) Egyptian Technical Colleges Project. Quality Assurance and Accreditation went far beyond the PAD-specified goal of establishing an accreditation council, adding sub-components such as QA units in all universities, university/faculty self-evaluation activities, and campus visits by peer reviewers; Faculty Development exceeded the original scope of training faculty in instructional technologies, providing instead a broad range of professional development courses.
during project preparation. There were also problems with HEEP’s not having its financing accounting and reporting systems in order at the beginning of the project, which caused some aspects of financial management to lag behind until late in the project.

Relevance

Relevance of Objectives

21. The improvement of the quality and efficiency of national education at all levels remains a major challenge in Egypt. The need for improving the higher education system to ensure competitiveness of the Egyptian labor force, mentioned in the Country Assistance Strategy (CAS) 2001, is still valid as the economy is becoming more global and more knowledge-based. One of the three pillars of the CAS 2006 is to enhance the provision of public services, including the improvement of quality and relevance of education at all levels. The objectives are also intimately connected to the Government of Egypt’s long range plans for higher education reform, which were articulated in a landmark National Conference on Higher Education held at the turn of the century. It articulated 25 reform initiatives for improving the quality, relevance, and efficiency of higher education, of which 11 were addressed by the Higher Education Enhancement Project. One omission in the Project Objectives statement is any specific reference to relevance as an objective, even though it was clearly a concern in the 2006 CAS and at the National Conference, and is featured, along with quality, in two project components. Since in many ways relevance in HEEP is associated with quality (e.g. curricula more in line with country needs and conditions; the creation of more marketable skills) this review will consider relevance as an integral part of the quality objective. (Rated Substantial.)

Relevance of Design

22. While improving quality and efficiency were at the core of the project’s objective, there were no explicit indicators to monitor effects of the project on quality and efficiency; moreover these terms were never operationally defined. Instead, success in the project was conceived almost entirely in terms of inputs or outputs. Also, the project design used by the implementers, with its 5 sub-projects, was, as mentioned, different from the design in project documents, with its 3 components, leading to some confusion as how project success would be determined. Finally, there are questions as to whether the set of “fundamental conditions”

---

39 The Borrower clearly intended this project to include the objective of improved relevance as reflected in its statement of objectives in its own implementation completion report, as follows: “The project objectives were derived from the key issues in the Higher Education [Reform Strategy], the need to: (i) restructure the legislative, governance, and financing systems of the higher education system to support efficiency and quality enhancement initiatives; and (ii) improve the quality and relevance of higher education so graduates have the knowledge and skills demanded by Egypt’s developing and globalizing economy.” (World Bank, HEEP ICR, Annex 7. Summary of the Borrower’s ICR, p. 71.)

40 One senior manager acknowledged that HEEP had mainly emphasized “input parameters” (PPAR mission, December, 2010).

41 For example, establishing a National Quality Assurance council was originally classified in the PAD as a strategy (sub-component) for increased efficiency (considered a kind of higher education inspectorate), but as it expanded under the government’s sub-project 1, it clearly became a program for improving higher education...
included all of the important ones. For example, there was no strategy for confronting high faculty absenteeism (due to multiple jobs), reportedly to be over 75 percent in the professional programs, nor was there any project attention to high student dropout and repetition in universities and technical colleges, skewed admissions practices (admitting 80 percent in the social sciences/humanities), and the generous government student subsidies for housing and meals.42 (Rated Modest.)

Efficacy

23. This section reviews the evidence for efficacy for the two main objectives of the project, a) create conditions for improving efficiency, and b) create conditions for improving quality. Since the project used mostly output indicators to show efficacy, this review will present them first (the subheadings represent key performance indicators). Next is a set of outcome indicators, which, given the few tracked by the project, were mainly constructed by reviewer from non-project data for the pre- and end-of-project periods. The review for quality improvement is in two sections, first for universities and the second for technical colleges.

24. **Objective (a): Create Conditions for Improved Efficiency. (Rating – Modest)**

Outputs

a. **Key legislative reforms on university self-governance.** Although the project facilitated a discussion among stakeholders on system reform, the new legislative framework to award more autonomy to universities faced resistance in Parliament and has not yet been adopted. The Ministry decided to pursue implementation of many elements of its reform agenda in an ad-hoc manner until a new framework was ready for Parliament’s consideration.43

b. **Rationalized funding.** The MOHE has developed a model to estimate and analyze student unit costs, and worked on a funding formula, but it was not adopted. Recurrent and investment budgets continue to be allocated through direct negotiations between individual universities and the Ministry of Finance and the Ministry of Planning. There was no tracking of the social assessment of cost recovery mechanisms and no record of its having been conducted.

c. **Develop higher education Management Information System (operating, annual reports published, guiding decisions).** MIS applications for undergraduate students, graduate studies and staff administration were completed and MIS centers were established in universities but...
were not fully operational at the Supreme Council of Universities at the close of HEEP, but became so under HEEP.44

d. **Strengthening academic admin/management (universities and TCs).** Supreme Council of Universities and Supreme Council of TCs were in place by 2008, but at this point it is not clear to what extent they have power or will to make substantial changes.45 The 47 MTIs were consolidated under 8 Technical Colleges which are now guided by Boards of Trustees. A Gap Analysis undertaken by USAID for the 3 pilot TCs (Mataria, Mahella and South Valley) in 2008, indicate that BOTs have little authority over governance of the Colleges and that the majority of authority and decision making was done centrally at the MOHE.46

**Outcomes**
e. **Cost per student.** According to MOHE planning data, the cost per student increased by 45 percent between 2002/03 to 2006/07, a sign of diminished efficiency since at the same time the student-staff ratio did not change.47 In other words, the government was spending more for students on average, but a major enabling condition for improved quality (SSR) did not improve.
f. **Graduation rates.** The average graduation rate for public universities in 2005/06 was 75 percent, but in the large elite public universities (Cairo and Alexandria) it was well below that average (50 and 69 percent respectively) and international norms.48

**Summary**
Outcome indicators for higher education efficiency drawn from non-project sources reveal low, and in the case of cost per student, declining efficiency. Although there were no explicit strategies to address these specific issues, HEEP did support an efficiency improving agenda. Many of the planned actions, however, did not come to fruition, for example, enactment of legislative reforms for greater university autonomy, the application of formula funding, and social assessment of cost-recovery mechanisms. HEEP was able to get a functional MIS in place by the end of HEEP (see Box 1), with routine statistical reporting coming under HEEP2; and to establish its higher education councils for universities and technical colleges (which are operational but have yet to become strong agents of change). Consolidation of 47 MTI under 8 regional colleges, all guided by Boards of Trustees (about half of which are effective), was a move in the direction of efficiency, but as of yet there is no hard evidence to demonstrate that they are so.

---
44 Improvements in ICT and the MIS system at the end of HEEP and during HEEP2 have led to the SCU being able to publish two new reports based in MIS data: a) *Higher Education in Numbers* (annually in January – can be found on its website), and b) a higher education country report, that presents analysis of data and indicators showing progress in the whole sub-sector (once every 2 years).
45 According to OECD/World Bank (2010) SCU goes through the motions of establishing funding guidelines for universities, but the Ministries of Finance and Planning allocate budgets by line item; also according to a recent study (Novak, MacTaggart and Gholam, 2006) the SCU is supreme in its power but slow in its pace of managing change.
46 HEEP2 managers shared with the Mission more recent studies that showed 50 percent of BOT’s to be active and effective (e.g., 4 of 8).
48 OECD/World Bank (2010).
25. **Objective (b): Create Conditions for Improved Quality** (Rating – Substantial)

Universities

**Outputs**

a. **Integrated computer network infrastructure**: all faculty/students have access to IT and new teaching methodologies. All 17 universities in 2008 were connected to the unified fiber optic informational network and over 60 percent of university computers were connected to the internet; videoconference, streaming and e-learning facilities were set up in all universities and staff trained in their use. (See Box 2). Over 50 percent of students have used electronic forms of learning and of those who have, 70 percent preferred electronic courses.

b. **Integrated computer network infrastructure: inter-university library system**. The Project established the Egyptian universities libraries consortium including all the public Egyptian Universities and some foreign and private universities in Egypt. As of 2008 the digital library included 16 international databases and 10 free web resources that served most of the Egyptian scholars’ academic needs. All these resources have been made available through the Egyptian Universities Network website (see Box 2). A catalog database of the universities holdings contained the data of 60 libraries in 15 universities. At that time more than 2,220,000 records were indexed and stored in the system.

c. **Train faculty and staff training**. Staff training goals (5000 instructors) for IT applications was met by Information & Communication Technology (ICT) project trainers. Beyond that the project supported a much broader staff training agenda, through its Faculty Leadership and Development subprojects. The sub-project supported the establishment of training centers in 17 universities and the collaboration with an international partner (ICT project). About 760 trainers have been trained under the project, including a core group of 40 certified trainers expected to play a leading role in promoting quality in their respective institutions. The project supported the development of 16 specialized and 3 TOT training packages, and the delivery of more than 220,000 trainee hours to staff members who are now required take a certain number of courses in order to be promoted. Leading this effort was the internationally accredited National Center for Faculty Leadership and Development. Results of the "impact evaluation" covering staff members from fours fields (arts, commerce, engineering, and medicine) from 3 universities showed an average of 52 percent of courses taken was considered "clearly beneficial."

---

49 In this review, relevance is considered as part of quality, as discussed in paragraph 9 above.
50 Since the close of HEEP at the end of 2008, this e-library network has continued to expand.
51 This is an instance of the inconsistency between the government’s project structure and the original project subcomponents. The original subcomponent had a target of only training for 5000 instructors in IT applications, but the HEEP sub-project on Faculty Leadership and Development followed a plan to provide in-service training to all academic staff members in the public university system. In this review the sub-project goal of reaching all academic staff members is acknowledged.
52 This began as the Faculty and Leadership Development “Project” under HEEP, but has now become a semi-autonomous national center. Its accreditation is by the International Board of Certified Trainers, that has been certifying trainers and human resource professionals in USA and Europe since 1988, and to which the Egyptian Center is now affiliated. University efforts are now self-managed at FLD centers on university campuses, 4 of which are also now (2010) internationally certified.
Box 2. Egyptian Universities on Line

One of HEEP’s main approaches to improving the quality and relevance of higher education was to expand the use of information and communication technology (ICT) in the processes of teaching, learning, and research, relying on world-wide web to help bring the university system into the 21st Century. The table below shows the status of ICT facilities in the Egyptian Higher Education in 2004, the first full year of HEEP and in 2010, after 5 years of HEEP support followed by 2 years of government-funded HEEP2 support:

<table>
<thead>
<tr>
<th>ICT in 17 Public Universities</th>
<th>In 2004</th>
<th>End of 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>Copper cables; bandwidth 2 Mbps</td>
<td>Fiber Optic cables; Bandwidth 68 Mbps</td>
</tr>
<tr>
<td>Internet connectivity</td>
<td>Few faculty and students</td>
<td>58 percent of faculty; 49 percent of students</td>
</tr>
<tr>
<td>Network servers</td>
<td>50</td>
<td>350</td>
</tr>
<tr>
<td>Video conference units</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>MIS Applications</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Published e-courses</td>
<td>0</td>
<td>292</td>
</tr>
<tr>
<td>International scientific journals via e-library</td>
<td>0</td>
<td>12,000</td>
</tr>
<tr>
<td>MA/PhD theses via e-library</td>
<td>0</td>
<td>2.6 million</td>
</tr>
</tbody>
</table>

Source: Data collected from the MOHE during the PPAR Mission, November 2010.

Currently through the Egyptian University Network website (soon to be converted into the “University Portal”) internet browsers can download -- and even view graphic displays of -- student data (such as student field of study by year and region), download e-learning courses, such as one on “Bovine Diseases,” read the latest articles in the American Journal of Medicine, email instructors and fellow-students, do a Google search, determine whether a needed book is available in a certain (or any) state university library, and read any one of 2 million+ graduate theses.

It is difficult to determine the impact of improved ICT connectivity on learning, teaching and research, but one piece of evidence shows an increase in research productivity: from 2003 to 2007 the number of Egyptian studies published in international journals increased 22 percent.


d. Establishing a National QA Council through legislative reforms. A National Authority for Quality Assurance and Accreditation in Education, reporting directly to the Prime Minister, was established in 2006 with the mandate of assessing and providing accreditation to public and private institutions at all levels of education (not by the legislature but by Presidential Decree). This act was accompanied by a substantial program of staff training on QA and accreditation processes through HEEP’s Quality Assurance and Accreditation Project (QAAP), plus the establishment of QA centers/units in all universities and faculties, the creation of
national academic standards, and the beginning of university/faculty self-evaluation and site visits in relation to the standards.53

e. **Establish an higher education Enhancement Project Fund.** The HEEPF funded 159 small projects, at least one in every public university and in 5 of 8 technical colleges (surpassing the goal of 50 percent of universities). They were selected through competitive processes, from a group of 563 proposals. The project contributed to creating a “culture” of competitive funding, as shown by the number and quality of proposals submitted for other competitive programs, such as the GOE’s Science and Technology Development Fund, the European Union’s TEMPUS,54 and QAAP’s grants to faculties for accreditation preparation (under HEEP2). HEEPF projects were selected on the basis of their plans to enhance quality and relevance in areas such as new curriculum and program development, innovative teaching methods, and entrepreneurship among faculty. Program impact was analyzed by a coalition of senior cademics and found to have made a positive difference on many variables.55 Good examples of the legacy of HEEPF are found on the HEEP website (www.heepf.org.eg) - at least 23 projects showing relevance to the work place or local problems. Two of those are described in Box 3.

---

53 As with item “c” this was substantially expanded in scope during HEEP and became more identified with quality improvement. During HEEP2 the Quality Assurance and Accreditation “sub-project” matured into a permanent MOHE program, the “Program of Continuous Improvement and Qualifying for Accreditation,” which has awarded competitive grants to more than 1/3 of university faculties in support of their accreditation efforts, and expects to see 80 faculties accredited by 2012. (MOHE (2010), HEEP2 Project).

54 Trans European Mobility Programme for University Studies, a competitive grants program funded by the European Union to promote mutual understanding between partner countries (including Egypt) and EU countries, cooperation, and higher education modernization.

55 MOHE (2007), *Higher Education Enhancement Project: Impact Assessment*. The results showed a significant positive difference between program “beneficiaries” and “non-beneficiaries” on variables such as student satisfaction over relationship with staff; scientific papers accepted for international publication; and acquiring knowledge and skills applicable to a specific job. These results are to be used with caution, however, since there was low fulfillment of sample targets.
Box 3. HEEP Fund Innovations

Renewable Energy Program in the Agricultural Engineering Department, Alexandria University

For several years prior to HEEP the Department had unsuccessfully sought research funds in support of a vision to conduct experiments in renewable energy, drawing from the sun and wind, in the desert of northern Egypt. When the HEEP Fund came along the department submitted a proposal and was finally awarded a small HEEP grant. With the grant the renewal energy program built a small experimental station in the desert not far from the University, which used a hybrid mix of solar and wind energy to power a pump for a 200 foot well and a desalination apparatus to convert the well’s water from brackish to fresh. The experiment was a success, and soon the opportunities for new grants came along, culminating in 2010 in the awarding of a grant for over $1 million from the prestigious national Science and Technology Development Fund. With the new grant the station will be expanded so that it can provide sweet water for a diversity of crops to over 60 acres of land, plus enough electricity for a small village. Added will also be fish ponds, poultry raising and other features of an integrated renewable rural energy and production network. This station always was and will continue to be an important location for training and education, not only for graduate students who run the station and helped to design and construct it, but for undergraduates who go to the site to learn about renewal rural energy. (Based on PPAR Mission site visit, November, 2010.)

Chemical Pathology Lab in the Science & Technology Faculty, Assuit University

For the development of an in-house laboratory in the field of applied science and technology, the HEEP-funded project at the Assuit University served as another model. A new chemical pathology laboratory was created with HEEP funds in accordance with international standards for quality and quality control. The program included the renovation of laboratories for final year students and the introduction of new statistical programs. A new diploma for environmental chemical pathology was also created. As a result of this program, students have graduated with certified knowledge and skills at an advance applied level, and increased practical experience, which have led to better job opportunities.

Source: www.heepf.org.eg.

Outcomes

a. **Student-staff ratio.** Used as a proxy for quality (i.e., enabling conditions for quality), the indicator was high at the beginning of HEEP (30:1 in 2002) and stood almost unchanged by its final year (29:1 in 2007).

b. **Change in Instructional Methods.** This was an intermediate outcome indicator taken from HEEP’s 2007 “Impact Assessment,” which showed a before/after project change in *staff use of small group teaching* (71 percent increase) and in *staff using technological aids in teaching* (200 percent increase).

c. **Proportion of students enrolled in social science and humanities programs.** According to MOHE records, the proportion was 80 percent in 2003 and by 2007 it was almost unchanged (79 percent), given particularly high unemployment rates among such graduates, the lack in shift towards disciplines for which there is higher labor market demand is of concern.

---

56 At the time the MNA average was around 23:1 and the average for lower-middle income countries 17:1. OECD/World Bank (2010).

57 MOHE (2007), *Impact Assessment Report*. This report needs to be viewed with caution since it only sampled from 3 universities and the refusal rate was high among potential respondents; also, it is based mostly on staff self-reports. In contrast, a PPAR Mission discussion with about 50 students at Alexandria University (admittedly not representative) showed dissatisfaction among large size of their classes and the rare use of instructional technology.

d. **Graduate Unemployment rate.** Data drawn from labor force and household surveys revealed graduate unemployment to have been around 9 percent just prior to HEEP and around 27 percent near its end, a serious deterioration in job acquisition.\(^{59}\)

**Technical Colleges**

**Outputs**

a. **MTIs links to industry.** The MTIs were consolidated into 8 Technical Colleges. Boards of Trustees were formed to include representatives of the private sector. Programmatic links to industry through customized training programs were established in some colleges, such as the new programs in fast food service, refrigeration, and “autotronics” (in conjunction with BMW) at Mataria TC.\(^{60}\)

b. **Curricular redesign, related instructor training, and improved facilities.** The project supported rehabilitation and equipment for 3 pilot TCs (Mahalla, Mataria and South Valley), revision of the curricula and development of new courses, training courses to upgrade qualifications of existing staff, and recruitment of qualified new staff, resulting in the reduction in student-staff ratios shown above. In all, 26 academic programs were revised and 6 new programs of improved relevance to commerce and industry (see footnote 30) were designed by expert committees in collaboration with the potential employers.\(^{61}\) Also, HEEP records show refurbishment of computer labs in \(\frac{3}{4}\) of training institutes by 2008 (90 percent by 2010); and even more extensive rehabilitation of workshops and laboratories.\(^{62}\)

c. **Collaboration between Universities, TCs, and the private sector.** The project made little effort to improve collaboration between Universities and TCs,\(^{63}\) however, the improved collaboration between TC and the private sector was one of HEEP’s success stories (see points “a” and “b” in this section).

\(^{59}\) The survey findings are summarized in Yasmine Fahim (2009), *Financing Higher Education in Egypt*. An interpretation is found in Diego Angel-Urdinola, and Amina Semlali (2010), *Labor Markets and School-to Work Transition in Egypt: Diagnostics, Constraints and Policy Framework*. Washington, DC: World Bank (MNSHD). The spiking graduate unemployment rate appears to be largely a result of the huge surge of late 90s enrollees coming into the market with mostly social science/humanities degrees and finding both a decrease in government employment opportunities and a stagnant private sector job market for this skill. Women were employed at lower rates than men, and in fact had falling labor force participation rates, given that most new jobs were in the informal sector which did not provide any protection for them in their roles as mothers, unlike government jobs, in which most graduate women were employed in earlier years.

\(^{60}\) By 2010 many new training programs connected to specific industries were added, including those with Olympic Electric Group, CISCO labs, , Amadeus Tourism Co. (tourism software), and Proctor and Gamble, most of which had arrangements for guaranteed hiring of program graduates.

\(^{61}\) By the time of the PPAR (November 2010) HEEP2 had overseen the overhaul of 54 programs (1500 courses), all submitted for QAAP review.

\(^{62}\) Progress report from the Egyptian Technical Colleges Project (ECTP) prepared for the PPPAR mission in November, 2010.

\(^{63}\) One new form of connection between TCs and university level education development by the MOHE is the Integrated Technical Cluster, which the Ministry is setting up in ten locations around the country, which forms a structural link among institutions in the same field: technical high schools, Technical Colleges, and Advanced Technical Colleges, allowing motivated students to earn a Bachelors degree in their field after graduating from the ATC, and even going on to earn an MA or Doctoral degree in technology.
Outcomes

a. **Student-Staff Ratio.** This ratio fell sharply over the course of HEEP, from 118:1 to 40:1 in the industrial subjects, and from 305:1 to 98:1 in the service subjects, a result of hiring more (and more qualified) TC staff.\(^{64}\)

b. **Graduate unemployment rate.** Prior to HEEP, about 60 percent of Middle Technical Institute graduates had not found relevant employment at least 2 years after graduating (HEEP PAD). It is unclear whether this had improved by the end of HEEP, largely because entrants into new work-place connected programs had not yet graduated. MOHE records examined during the Mission indicate a majority of recent graduates had deferred entry into the workforce by moving on to university education.\(^{55}\)

c. **Student enrollments.** This intermediate outcome was tracked by HEEP. Technical student enrollments increased by 10 percent over the project, double the targeted increase of 5 percent.

Summary

Universities. Deep changes in the university system took place under this objective. State-of-the-art ICT infrastructure and IT applications have been laid down which have brought the system into the digital age. Staff and leadership development has been deeper than originally planned under HEEP, now being managed by a permanent, internationally accredited center at the national level and internationally accredited instructors at the university level, covering courses that have been refined over recent years. Its breadth has expanded to cover all instructors, now that their promotion depends in part on their completing course sequences. A university-wide quality assurance and accreditation system has been established, with faculties already undertaking self-evaluation in relation to new national standards and receiving site visits. The competitive grant “project” (HEEPF) ran long enough to spawn lasting new study programs and labs, and to promote a change in the university “culture” towards to use of such grants in the allocating of all kinds of funds, including that supporting accreditation preparation. These features of quality improvement reinforce one another in various ways: ICT connectivity provides new e-channels for staff development; increased quality standards under quality assurance and accreditation further drives the use of new instructional media; innovative, entrepreneurial programs under HEEP feed on examples gleaned for the worldwide web; and new research brings the university into contact with community needs. The widespread impact of these changes on university quality was not confirmed by hard evidence from predesigned outcome indicators, a design flaw, nor was there evidence of positive change in “external” outcome measures; but a positive picture of success was visible (however dimly) from the somewhat limited project-conducted “impact analysis,” which, among other things demonstrated some improvement in instruction and research productivity. The depth, synergy, and expanding nature of these HEEP reforms have helped to create credible – even if not all of the essential – conditions for improvements in the quality of Egyptian public universities.

\(^{64}\) These findings were reported in the project’s Implementation Completion Report (World Bank 2009), but were inappropriately placed in the Efficiency section, instead of as an outcome within the Efficacy section.

\(^{55}\) Among industrial program graduates from the three metropolitan TCs, over half went on university education, and only around 10 percent entered the working force. (Mission gathered data from MOHE, November, 2010).
Technical Colleges. Efforts to improve educational quality in the TCs appear to have been successful in increasing enrollments, while at the same time reducing staff-student ratios. Additional quality improvement efforts were reflected in curriculum updating, lab and workshop refurbishing, and instructor upgrading. Major restructuring of the middle-level technical education system also appears to have better connected it to the commercial and industrial world (relevance), through having its leaders on TC Boards of Trustees (effective in at least 50 percent of TCs) and by linking new courses directly to productive enterprises and their needs (expanding quickly under HEEP2). Many of the above changes were too recent to have been reflected in improved student learning and employment outcomes; even so, as with university education, there was no project system for measuring these systematically (a design flaw). A challenge to the use of TCs as a “short track option” in higher education is the fact that a majority of recent graduates from large metropolitan TCs have continued on to university education.

Efficiency

26. During the first two project years, during which implementation was minimal (see Implementation section), there was little disbursement of funds. After that, and with amendments to the budget, disbursement followed the expected curve, accelerating at the end so that loan funds were fully disbursed within a one year extension. Disbursement was spread evenly over all of the amended budget areas (components), aligned with the five GOE sub-projects, averaging about 20 percent per component, and at the end spending came very close to amended budget targets. Operational costs (e.g., funding the Project Management Unit) only accounted for 3 percent of project expenditures, a sign of management efficiency. Another sign of efficiency was the large expansion of project scope in both Faculty Leadership and Development and Quality Assurance and Accreditation without the need for any increase in project budgets. Likewise, at no additional expense, the project spawned the creation of a Strategic Planning Unit within the MOHE, which produces regular statistical reports (drawing from the MIS), and advises the ministry on reform options.

27. Some locally funded civil works (for example, for TC buildings and workshop upgrading) were delayed because of difficulties obtaining construction permits and complexities in making payments from local funds, but all were completed eventually, even if after the close of HEEP, and their costs, which had not grown but could no longer be charged to HEEP (local funds having lapsed), were covered under the follow-on government funded HEEP2. Also there was a problem with HEEP’s not having its financing accounting and reporting systems in order at the beginning of the project, which caused financial management to lag until late in the project (although not causing qualified audit reports), but eventually this was rectified by the establishment of a totally autonomous and more efficient Financing Unit. After project completion all components (subprojects) from HEEP, except the HEEP Fund, were carried forward into the government funded HEEP2. Most of these subprojects were funded at much higher levels than they were during the Bank loan for similar activities, suggesting good value for money under HEEP.

28. (Rated Substantial.)
Outcome

29. The overall outcome of the project is rated Moderately Satisfactory, based on relevance ratings that are substantial for objectives and modest for design; efficacy ratings of modest for improving efficiency and substantial for improving quality; and an efficiency rating of substantial.

Monitoring and Evaluation

M&E Design

30. The ME framework that was adopted included plans for a project information system, the production of quarterly financial management reports, and an annual substantive progress report, and use contracted independent auditors to undertake technical review of each component. The set of performance indicators in the logframe to measure progress against project objectives included five outcome indicators and 12 output indicators, but, as mentioned under “Relevance of Design,” the indicators used to measure outcomes were actually inputs (ICT infrastructure), outputs (consolidation of MITs, implementation of MIS) or processes (legislative reforms). The output indicators identified in the PAD (some of which could have been considered intermediate outcomes, e.g., were often vague and lacking baseline and/or target values. Finally, the failure to reconcile the PAD and the GOE project structure meant some ambiguity as to the application of the logframe indicators (see paragraph 9).

M&E implementation

31. Although the PMU has made substantial effort to document HEEP activities and achievements through quarterly progress reports, several publications and its website, the lack of robust M&E output was found to be one weakness of the project. From project mid-term to near project completion the PMU was repeatedly reminded to put in place a system to track and report progress made towards the developmental objectives and the problems facing implementation, and to appoint an M&E specialist, but this was not actively taken up, nor were the technical audits commissioned. In the last year the PMU did implement an impact assessment on a sample of students and staff, sharing the results with the Bank for the implementation completion report, but there were some limitations, due to its small sample size and the lack of baseline data.

M&E utilization

32. Despite the lack of a well documented M&E system at the project level, sub-projects such as the HEEP Fund and the Faculty Learning and Development Project had built-in monitoring systems that allowed them to take some corrective actions such as adjusting geographical and sectoral coverage or training content. The impact assessment (see previous
paragraph) was used as an input to the ICR, was published, and was used to inform the next phase of HEEP.\textsuperscript{66}

33. The overall rating for monitoring and evaluation is \textbf{modest}.

**Risk to Development Outcome**

34. With an objective calling for the creation of conditions fundamental to higher education improvement, there was an expectation from the beginning that this project would lay the foundations for continuous change and reform. One way to assess that is to ask whether the conditions became a permanent feature of the university and technical education systems. In fact all of the HEEP subprojects except one (the HEEP Fund) have continued under the government funded HEEP2 and have retained most of their original features. HEEPF was not continued, but competitive funding has, being used as a way to distribute other funds (for example, under the continuation of the QA and Accreditation Project (QAAP), universities are given the chance to compete for grants to finance additional accreditation preparation activities with a funding package far greater than that managed by HEEPF). One big difference is that now HEEP is more decentralized: a) QAAP action is now based on university proposals; Faculty Learning and Development is conducted and planned by local trainers at university centers and locally funded (with only guidance from the national center); ICT use and training for it is now controlled at university IT centers and e-learning courses are created within faculties; and TC have their own Boards of Trustees, which provide in at least half of TCs real “corporate” leadership. One risk is that the drafted legislative package which was stalled in Parliament and its related formula funding strategy will lose momentum and perish, but the Minister of Higher Education during the IEG mission and the head of the HEEP2 PMU both indicated that the package had been revised and had a good chance of being adopted by a new Parliament.\textsuperscript{67} (Rated \textbf{Low to Negligible}).

**Bank Performance**

\textit{Quality at Entry}

35. The Bank engaged in a long process of consultations with the GOE before preparation and supported the MOHE in the preparation of the reform. The Bank’s team also brought lessons learned from similar projects and prior operations in the sector, and sought guidance from its own Quality Assurance Group at the project concept stage. However, in retrospect it is clear that the sector analysis conducted was not of sufficient depth to reveal how complex and difficult it was going to be to put into place some of the more controversial elements of the reform agenda (e.g., university autonomy and financial self-management) and the kinds of opposition these reforms would face. There was some reference in the PAD to the risks

\textsuperscript{66}Although data from the MIS was not disseminated through regular SCU reports during the project, as called for in the logframe, this has become the practice under HEEP2.

\textsuperscript{67}Personal communications to the IEG mission on November, 2010. With the Parliament having been dissolved in February of 2011 and a new Minister appointed by the transitional government, this process can now be expected to take longer than the Minister in 2010 imagined.
involved in these undertakings, but since the risks were not well understood mitigation strategies did not adequately address them. Also, a chance to reconcile the project design in the Legal Agreement with that used by the Project Management Unit (five sub-projects) was missed at the outset, and this had repercussions in the clarity and consistency of project strategies and their indicators. Finally, project design work left it unclear as to how specific features of the reform agenda would be implemented, and overlooked the need for critical outcome indicators and clear M&E strategies for use in demonstrating the fulfillment of objectives. (Rated Moderately Unsatisfactory.)

**Quality of Supervision**

36. Overall, the Bank team worked closely with the PMU to ensure smooth operation of the project and to resolve issues encountered over project implementation. However, the Bank did not take early actions to correct the mismatch that arose between the two versions of the project design (components) (Bank and PMU), to help define project objectives in operational terms (e.g., operationally defining quality, relevance and efficiency), and to ensure that a well functioning monitoring and evaluation system was established. Also the Bank Team’s own progress tracking was flawed: despite almost no progress on the reforms related to university autonomy and resource allocation, supervision missions reported progress on PDOs as satisfactory. Finally, the Bank could have been more candid and paid more attention to procurement issues, such as university staff being paid as consultants in their own institutions that arose during the project (see Implementation Section). (Rated Moderately Unsatisfactory).

37. The overall rating for Bank Performance was Moderately Unsatisfactory.

**Borrower Performance**

**Government Performance**

38. The Government had full ownership of the project from the beginning and used strong participatory processes for consensus building and broad program design. During implementation it showed commitment to the reform agenda through the establishment of a high-level steering committee with some quality control mechanisms. Also, despite delays, counterpart funding was provided, and legislation was adopted to consolidate technical college and establish the NAQAA. However, it was overly optimistic about its ability to push legislative reforms on university governance and financing through the Parliament and was not able to find a compromise solution during the course of HEEP. (Rated Moderately Satisfactory).

**Implementing Agency Performance**

39. The PMU had to face real challenges in implementing such a complex and sector wide project given the lack of details in project design. Its structure was strengthened by the appointment of directors for the five sub-projects. The PMU had to develop action plans, operation manuals and guidelines for the five subprojects. Despite the additional delays due to the change of some directors and the release of Government contribution, the PMU was able to
successfully complete almost all the activities planned in the project. The PMU performance, however, is somewhat mitigated by shortcomings in monitoring and evaluation, and minor problems in fiduciary compliance (see Implementation Section). (Rated Moderately Satisfactory). Overall Borrower Performance is rated Moderately Satisfactory.

Conclusions and Lessons Learned

Conclusions

40. The Egyptian Higher Education Enhancement Project was designed to create the necessary conditions for improving higher education efficiency, quality and (by implication) relevance. This goal was vigorously pursued by the Ministry of Higher Education over a period of 5 years (2003-2008) with financial support from the World Bank and continues into the current decade under HEEPS with Egyptian Government funds. In retrospect, however, is it clear that it had a serious design flaw in viewing project success almost exclusively in terms on the delivery of programs and services, paying little attention to their relation to measures of efficiency, quality and relevance; at least not until late in the project when implementers hurriedly constructed an impact assessment. By then, it was essentially too late, since without operational definitions, good indicators, baseline data, and appropriate control groups, it was difficult to convincingly demonstrate the impact of HEEP interventions.

41. Nevertheless, higher education managers were justifiably proud of the almost full and complete implementation of their reform program. In almost every sub-project implementers reached or exceeded project targets, whether they be implanting a culture of competitive grant giving; the in-house upgrading of teaching and management skills; the use of QA and accreditation systems and/or small grants to reinvigorate moribund programs; accelerating the application of high speed IT to better teaching/learning, research and management; or linking technical training directly to the workplace. It is no accident that these are all programs for improving the quality and relevance, where change comes relatively easily. Met by hesitation and doubt at first, these programs eventually took off and are now running almost entirely on domestic funds, either those from the center or from the universities themselves. Risk to development outcomes is almost negligible here, as these programs have become institutionalized and are now entering into their “bottom-up” phase.68

42. More difficult to sell were the intended reforms for improving efficiency – more autonomy for universities, fundamental changes in the way funds are allocated, and exploring mechanisms for cost recovery. These features of higher education reform were not instituted, and in some cases (university autonomy) encountered opposition. Some of this could be traced back to project preparation, during which there was little analysis of the political economy of higher education governance reform, including the likely winners and losers under different change scenarios. Likewise, diagnostic studies of the reasons for Parliamentary rejection of the

---

68 Domestic HEEP planners always saw the endeavor running in two phases, the first (HEEP “1”) considered top-down, and, the second, after the widespread acceptance of the change model, bottom up (HEEP2), namely, reforms recommended and pursued (owned) by the universities themselves.
reform package have also not been undertaken. Not even the analyses that were planned under the project (e.g., the social analysis of cost-recovery mechanisms) was undertaken, even such mechanisms are needed more than ever. Analyses like these, conducted either by Ministry researchers or academics, could even examine whether there are features in the Bank-advocated higher education reform package that lies at the heart of the HEEP that are not entirely appropriate for the MNA region, at least for 21st Century Egypt; and for those reform features that are deemed appropriate but not yet implemented, the conditions needed for them to take root.

43. Some things, however, are already apparent. For example, Egypt’s failure to define precisely what it meant in HEEP by improved efficiency, quality and relevance, has led to unanswered questions about whether the many HEEP innovations were making a difference in the things policy makers and the public care about. Were the interventions really conditioning change towards valued outcomes? In all fairness to HEEP organizers and managers, one cannot expect them to do what was not envisioned at the time. However, they will certainly need to focus on outcomes going forward, and there are indicators that the MOHE is now in a better position to do so, for example, by its acknowledging late in HEEP the importance of there being an impact analysis, and its current participation in the OECD partnership on the Assessment of Higher Education Learning Outcomes, which will begin to produce some standard, comparative assessment results in 2012.

44. Also, it has been increasingly clear that not all of the “fundamental conditions” for improved efficiency, quality and relevance have been put in place. For example, there was no strategy for confronting high faculty absenteeism (due to multiple jobs), reportedly to be over 75% in the professional programs. Likewise, there was little attention to high student dropout and repetition rates at universities and technical colleges, which the Ministry’s Strategic Planning Unit estimates wastes as much as one fifth of a year’s higher education recurrent budget. Also, despite some discussion of capping higher education enrollments, especially in over-subscribed fields, there has been no recent movement in that direction, in part because of political pressures for continued expansion and a reality that higher education has no responsibility for: 70 percent of secondary school graduates now come through the humanities track. Finally, there are market signals coming to students and their families through the cost free nature of public higher education, including almost fully subsidized room and board, that add up to a sense of minimal loss if higher education does not lead to remunerative employment, creating a sense of apathy about the low marketability of higher education credentials.

69 This year ahead would be a good time for this, as new political alliances area being formed and the legislature is being rebuilt.
70 OECD/World Bank (2010), Higher Education in Egypt.
71 The vigorous activism among unemployed higher education graduates in early 2011 may reveal a significant shift in such attitudes.
Lessons Learned

45. The following lesson can be generated from this review:

- Higher education reforms supporting improved quality are easier to put in place than those for improved institutional efficiency and financial management, leading to decreases in cost-effectiveness. In Egypt this imbalanced pace of reform (quality outstripping efficiency) cannot be sustained.

- Programs to improve the condition for higher education quality, relevance and efficiency cannot be expected to do so just because they have been made operational. Appropriate outcome indicators need to be formulated and used to determine whether to conditions have been sufficient to leverage real change.

- There are currently few disincentives for students enrolling in overcrowded and non-employment-conducive fields. Adding some elements of student cost recovery (which did not receive due consideration in HEEP) is a controversial topic, but some aspects of it (high subsidies for room and board) should be open to discussion, as well as fees for other non-instructional aspects of higher education.

- When a widely adopted institutional change model is being introduced in a field like higher education for the first time in a country, it needs to be preceded by sufficient sector analytic work to create an appreciation of the complexities and the implications of the proposed changes and of the likely sources of resistance; such analysis could help determine the parts of the model that are appropriate to the context, and the pace of adoption.

- Even parts of the reform model (e.g., competitive funding), considered by leaders in higher education to be highly appropriate in the Egyptian setting, can be met by resistance from other quarters (or even the universities themselves), and are only accepted after a period of negotiation and trial. This suggests getting buy-in to such change takes longer than is often provided.

- Reform managers confirmed their assumptions (see planning HEEP documents) that a period of time in which change comes through top-down approaches can be followed, if significant buy-in is carefully nurtured, by a new phase of bottom-up activity (HEEP followed by HEEP2).

- While awaiting the establishment of the complete reform package the government can make many of the desired changes, even those contained in the stalled parts of the package, if they are formatted in different ways, for example, moving towards “decentralization” through universities’ being allow to set up revenue-generating “parallel programs” or specialized R&D centers, giving them some discretion over their finances.
Appendix 1. Basic Data Sheet - Egypt Higher Education Development Project (Loan 46580)

Key Project Data (amounts in US$ million)

<table>
<thead>
<tr>
<th></th>
<th>Appraisal estimate</th>
<th>Actual or current estimate</th>
<th>Actual as % of appraisal estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total project costs</td>
<td>60.0</td>
<td>60.0</td>
<td>100</td>
</tr>
<tr>
<td>Loan amount</td>
<td>50.0</td>
<td>50.0</td>
<td>100</td>
</tr>
<tr>
<td>Cofinancing</td>
<td>9.5</td>
<td>9.5</td>
<td>100</td>
</tr>
<tr>
<td>Cancellation</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Cumulative Estimated and Actual Disbursements

<table>
<thead>
<tr>
<th></th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal estimate (US$M)</td>
<td>11.59</td>
<td>24.96</td>
<td>35.64</td>
<td>45.21</td>
<td>50.00</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Actual (US$M)</td>
<td>2.00</td>
<td>2.18</td>
<td>13.16</td>
<td>22.94</td>
<td>34.72</td>
<td>48.89</td>
<td>50.00</td>
</tr>
<tr>
<td>Actual as % of appraisal</td>
<td>17.26</td>
<td>8.73</td>
<td>36.92</td>
<td>50.74</td>
<td>69.44</td>
<td>97.78</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Date of final disbursement: 03/31/2009

Project Dates

<table>
<thead>
<tr>
<th></th>
<th>Original</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating memorandum</td>
<td>09/10/1999</td>
<td>05/02/2000</td>
</tr>
<tr>
<td>Negotiations</td>
<td>05/04/2002</td>
<td>02/19/2002</td>
</tr>
<tr>
<td>Board approval</td>
<td>06/13/2000</td>
<td>04/16/2002</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>04/29/2002</td>
<td>04/29/2002</td>
</tr>
<tr>
<td>Closing date</td>
<td>12/31/2007</td>
<td>12/31/2008</td>
</tr>
</tbody>
</table>
### Staff Inputs (staff weeks)

<table>
<thead>
<tr>
<th>Stage of Project Cycle</th>
<th>Staff Time and Cost (Bank Budget Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lending</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. of staff weeks</td>
</tr>
<tr>
<td>FY98</td>
<td>22.89</td>
</tr>
<tr>
<td>FY99</td>
<td>63.11</td>
</tr>
<tr>
<td>FY00</td>
<td>45 249.65</td>
</tr>
<tr>
<td>FY01</td>
<td>14 71.42</td>
</tr>
<tr>
<td>FY02</td>
<td>18 68.85</td>
</tr>
<tr>
<td>FY03</td>
<td>2 31.07</td>
</tr>
<tr>
<td>FY04</td>
<td>3 3.07</td>
</tr>
<tr>
<td>FY05</td>
<td>4.01</td>
</tr>
<tr>
<td>FY06</td>
<td>0.00</td>
</tr>
<tr>
<td>FY07</td>
<td>0.00</td>
</tr>
<tr>
<td>FY08</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>82 514.07</td>
</tr>
<tr>
<td><strong>Supervision/ICR</strong></td>
<td></td>
</tr>
<tr>
<td>FY98</td>
<td>0.00</td>
</tr>
<tr>
<td>FY99</td>
<td>0.00</td>
</tr>
<tr>
<td>FY00</td>
<td>2.00</td>
</tr>
<tr>
<td>FY01</td>
<td>1.48</td>
</tr>
<tr>
<td>FY02</td>
<td>6.17</td>
</tr>
<tr>
<td>FY03</td>
<td>14 41.54</td>
</tr>
<tr>
<td>FY04</td>
<td>14 83.19</td>
</tr>
<tr>
<td>FY05</td>
<td>21 93.92</td>
</tr>
<tr>
<td>FY06</td>
<td>29 91.39</td>
</tr>
<tr>
<td>FY07</td>
<td>39 109.10</td>
</tr>
<tr>
<td>FY08</td>
<td>35 139.24</td>
</tr>
<tr>
<td>FY09</td>
<td>16 0.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>168 568.03</td>
</tr>
</tbody>
</table>
Task Team Members (for Supervision and ICR)*

<table>
<thead>
<tr>
<th>Names</th>
<th>Title</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohamed Yahia Ahmed Said</td>
<td>Financial Management Specialist</td>
<td>AFTFM</td>
</tr>
<tr>
<td>Abd El Karim</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noha Nabih Abdel Gawad</td>
<td>Sr Accounting Asst.</td>
<td>MNACA</td>
</tr>
<tr>
<td>Ghassan N. Alkhoja</td>
<td>Senior Operations Officer</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Amy Champion</td>
<td>Operations Analyst</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Ahmed Mohamed Mahmoud</td>
<td>Consultant</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Dewidar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christina W. Djemmal</td>
<td>Operations Officer</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Linda K. English</td>
<td>Sr. Education Spec.</td>
<td>HDNED</td>
</tr>
<tr>
<td>Brigitte S. Franklin</td>
<td>Program Assistant</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Mahmoud Gamal El Din</td>
<td>Senior Operations Officer</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Ingy Raafat Halim</td>
<td>Temporary</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Sahar Mohamed Hegazy</td>
<td>Program Assistant</td>
<td>MNC03</td>
</tr>
<tr>
<td>Arun R. Joshi</td>
<td>Sr. Education Spec.</td>
<td>AFTH1</td>
</tr>
<tr>
<td>Maiada Mahmoud Abdel Fatt Kassem</td>
<td>Consultant</td>
<td>MNAFM</td>
</tr>
<tr>
<td>Sebastian Martinez</td>
<td>Economist</td>
<td>HDNVP</td>
</tr>
<tr>
<td>Samih W. Mikhail</td>
<td>Consultant</td>
<td>MNSHD</td>
</tr>
<tr>
<td>Mona Ezzat Abdel Hamid Mostafa</td>
<td>Temporary</td>
<td>MNC03</td>
</tr>
<tr>
<td>Alenoush Saroyan</td>
<td>Consultant</td>
<td>ECSPE</td>
</tr>
<tr>
<td>Hisham Ahmed Waly</td>
<td>Sr Financial Management Specialist</td>
<td>OPCFM</td>
</tr>
<tr>
<td>Mona Sabet Zikri</td>
<td>E T Consultant</td>
<td>MNSHD</td>
</tr>
</tbody>
</table>

*Information of Responsibility/Specialty not available.

Other Project Data

HEEP was followed by a second phase project, HEEP2, which is totally funded by the Egyptian Government.
Appendix 2. Persons Interviewed for Egypt Higher Education Development Project (Loan 46580)

EGYPT

Cairo

Prof. Dr. Hany Helal,
Minister of Higher Education
Arab Republic of Egypt

Prof. Dr. Mohsen Mahdy
Advisor to the Minister on International
Cooperation
Ministry of Higher Education

Prof. Dr. Hassan Nadir Kheirallah
Executive Director
HEEP Project Management Unit
Ministry of Higher Education

Prof. Dr. Salwa el-Gharib
Secretary General
Supreme Council of Universities

Dr. Rasha Sharaf, Director
Strategic Planning Unit
Ministry of Higher Education

Heba Adel Soliman
Database Manager
Strategic Planning Unit
Ministry of Higher Education

Prof. Dr. Mostafa Mohsen Radwan, Expert
Program of Continuous Improvement and
Qualification for Accreditation in HEI
Ministry of Higher Education

Dr. Doaa Khalil, Expert
Program of Continuous Improvement and
Qualification for Accreditation in HEI
Ministry of Higher Education

Dr. Tarek El-Ahmady El-Tobely
Executive Director
Information and Communication Technology Project
Higher Education Enhancement Project
Ministry of Higher Education

Dr. Ahmed Hassan Mohamed
Technical Coordinator for MIS Projects
Information and Communication Technology Project
Higher Education Enhancement Project
Ministry of Higher Education

Dr. Ahmed M. Metwally
Deputy Director
National Center for Faculty and Leadership Development
Ministry of Higher Education

Prof. Dr. Tarek Osman, Director
Egyptian Technical Colleges Project
Ministry of Higher Education

Prof. Dr. Saad Kassem
Former Director
Egyptian Technical Colleges Project
Ministry of Higher Education

Engineer Ahmed Abdel Aziz Ahmed
Head of the Central Administration
Technical Education
Ministry of Higher Education

Prof. Dr. Hussein Khaled
Vice-President
Graduate Studies and Research
Cairo University

Prof. Dr. Hani M. Gohar, Director
Quality Assurance and Accreditation Center
Cairo University

Prof. Dr. Ahmad Hassan,
Director of UPMU
Quality Assurance Center
Cairo University

Prof. Dr. Faten A. Nour El-Dien
Head of HEEP-II for Cairo University
Prof of Analytical Chemistry
Faculty of Science
Cairo University

Prof. Dr. Nawal A. Fouad
Dean, Faculty of Nursing
Cairo University
Prof. Dr. Ashraf Maider Ghaleb
Quality Assurance Unit
Faculty of Medicine
Cairo University

Dr. Eman Swelan, Director
E-Learning Center
Cairo University

Prof. Dr. Mostafa M. Kamel
Secretary General of the Board of Trustees
Matariah Technical College

Dr. Eng. Medhat Awad El-Hadek, Manager
Technical Education Cluster Project
Ameerya Integrated Technical Cluster

Alexandria
Prof. Dr. Hind Mamdouh Hanafy, President
Alexandria University

Prof. Dr. Essam Khamis Ibrahim
Vice-President for Graduate Studies and Research
Alexandria University

Prof. Dr. Rouchdy R. Zahran
Vice President for Education & Student Affairs
Alexandria University

Prof. Sonia Gafour, M.D.
Director, Quality Assurance Center
Alexandria University

Dr. Haitham M. Yakout, Assoc. Prof
Deputy Director, Quality Assurance Center
Alexandria University

Prof. Dr. Fawzy M. Kishk
Soil and Water Sciences Department
Alexandria University
Prof. Dr. Abdel Wahab S. Kassem  
Renewable Energy and Food Engineering  
Agricultural Engineering Department  
Alexandria University

Prof. Dr. Ezzat Khamis Amine  
Professor of Nutrition  
High Institute of Public Health  
Alexandria University

Dr. Amira M. Senbel, Asst Prof.  
Department of Pharmacology and Toxicology  
Alexandria University

Assuit  
Prof. Mostafa Mohamed Kamal, President  
Assuit University

Prof. Dr. Mohamed Ragab Bayoumi  
Vice President for Postgraduate Studies & Research Affairs  
Assuit University

Prof Dr. Ahmed Abdou Geies  
Vice-President for Community Services & Environmental Affairs  
Assuit University

Prof. Dr., Ahmed Hassan Sayed, Director  
Quality Assurance Center  
Assuit University

Prof. Dr. Abd El-Aziz Ahmed Said  
Dean, Faculty of Science  
Assuit University

Prof. Dr. Mervat Ahmed Mostafa El-Hadad  
Head, Department of Geology  
Faculty of Science  
Assuit University

WORLD BANK  
Ernesto P. Cuadra  
Lead Education Specialist, and  
HEEP Task Team Leader  
Middle East and North Africa Region  
Washington, D.C.
Diego F. Angel-Urdinola
Senior Economist
Middle East and North Africa Region
Washington, D.C.

Mahmoud Gamal El Din
Senior Operations Officer
Egypt Country Office, Cairo
Annex B. Yemen – Higher Education Learning and Innovation Project (CR 36740)

Principal Ratings

YEMEN HIGHER EDUCATION LEARNING AND INNOVATION PROJECT (CR 36740)

<table>
<thead>
<tr>
<th></th>
<th>ICR*</th>
<th>ICR Review*</th>
<th>PPAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td>Moderately Unsatisfactory</td>
<td>Unsatisfactory</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>Risk to Development</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>Outcome</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>Bank Performance</td>
<td>Unsatisfactory</td>
<td>Unsatisfactory</td>
<td>Highly Unsatisfactory</td>
</tr>
<tr>
<td>Borrower Performance</td>
<td>Unsatisfactory</td>
<td>Unsatisfactory</td>
<td>Unsatisfactory</td>
</tr>
</tbody>
</table>

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

YEMEN HIGHER EDUCATION DEVELOPMENT PROJECT (CR 36740)

<table>
<thead>
<tr>
<th>Project</th>
<th>Task Manager/Leader</th>
<th>Division Chief/ Sector Director</th>
<th>Country Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal</td>
<td>Ousmane Diagana</td>
<td>Jacques Baudouy</td>
<td>Mahmoud A. Ayub</td>
</tr>
<tr>
<td>Completion</td>
<td>Gillian Perkins</td>
<td>Mourad Ezzine</td>
<td>Emmanuel Mbi</td>
</tr>
</tbody>
</table>
Summary

1. Public higher education is a relatively recent phenomenon in Yemen, with its first state universities being founded in 1970. However, in recent years it has grown very rapidly, as evidenced by the fourfold increase in enrollments in the 1990s. Given the fact that the system is fully state funded, this growth represents a heavy financial and administrative burden. By the early 2000s financial allocations were not able to keep pace with expansion, leading to sharp growth in student-staff ratios (increasing from a previous 24:1 to 41:1) and deterioration in the condition of educational facilities and resources. In addition, planning for and managing the growth has been beyond the capacity of central agencies, leading to a sense of disorder. The growth in enrollment over the time has been distinctly imbalanced, with a large majority of students (about 2/3) selecting education, humanities and social sciences in favor of hard science and applied fields, putting university output out of sync with Yemen’s needs and that of the sub-regional labor market to which Yemen has traditionally contributed.

2. The Higher Education Learning and Innovation Project (HEP) of 2002 was developed jointly by the World Bank and the Ministry of Higher Education and Scientific Research (MHESR) to address in an initial way many of these problems. As a Learning and Innovation Credit (LIC), its size was modest (original total cost at appraisal $5.2 million and actual $2.72 million) and its expected duration 4 ½ years (extended to 6). Its objectives, based on a combination of the Project Appraisal Document (PAD) formulation and the Development Credit Agreement (DCA), were to: a) Assist the Borrower in preparing a higher education reform strategy and in piloting initial phases of its implementation, and b) Assist the Borrower in developing the capacity of the MHESR to carry out major reforms aimed at the strengthening of post-secondary education.

3. The project was constructed without the benefit of strong subsector analysis, and consequently was overly optimistic about the government capacity and motivation to carry it out, and indeed it moved very slowly during the first two years, given reservations about it on the part of a new Ministry team. When implementation accelerated, the main focus was on the creation of the National Strategy for Higher Education in Yemen. The Strategy, to cover a 10 year period, appeared in 2005, the product of effective cooperation among universities, government officials, and private sector stakeholders, and was both approved by the Cabinet and endorsed at the national conference in 2006. The strategy’s main objectives were to: improve higher education governance (including efficiency); increase institutional diversity; provide and optimally deploy sufficient resources; and improve the quality of teaching, research and service. The strategy was relevant and comprehensive, although less focused than expected on labor-market relevance, and logically constructed, but far too ambitious, given Yemen’s capacity and readiness for reform.

4. Once the strategy was produced the Ministry pressed for the implementation of initial Strategy phases in all public universities, bolstered by its receipt of a substantial grant from the Dutch government for higher education development. The Bank team acquiesced to this pressure, informally merging its HEP funds with other donor resources in a system-wide reform effort, and the concept of limited piloting was set aside. So instead of trying out new...
approaches to university governance (creating strategic plans and connecting faculty budgets to them through transparent processes), the expanded project provided wide-ranging training in planning and financial management to all rectors and their management cadres, but with little assessment of the effectiveness of the training and how well the reforms could be operationalized. Likewise, for quality improvement, instead of upgrading the quality in a few exemplary departments in the pilot universities, the expanded project provided general core training in English, computer and pedagogical skills to staff members throughout the university community, again with little assessment of the impact of this training (aside from participant satisfaction). On capacity building for carrying out major reforms, what was designed to be confined to the Ministry of Higher Education was spread throughout the higher education community. In the end this dramatic expansion of scope had the effect of diluting the project impact and, ultimately, did not lead to any major insights into the viability or effectiveness of reform elements in the strategic plan, as would be expected from a LIC (a combination of diluted interventions and poor monitoring and evaluation).

5. There was some positive movement on some of the outputs. For example, self-evaluation was conducted at selected faculties and relevant training was provided (although planned guidelines were not produced). Also, draft standards for accreditation of private higher education institutions were delivered, although by the end of the project they were not formally endorsed. Furthermore, a proposal was prepared by the MHESR for a Quality Assurance System and National Accreditation Council and subsequently approved. Concerning the construction of a management information system, much of this was taken over by the Dutch partner, but the HEP delivered the software, hardware and training for one module (student registration) of the Management Information System (MIS), which was functioning on limited basis at project close.

6. Objective 1, covering the national strategy preparation and piloting initial phases of it is rated Modest. Objective 2, capacity development, is also rated Modest.

7. The expansion of the scope of the project, from two pilot universities to the sector as a whole, clearly diluted the planned HEP interventions, but it did create some positive spins offs. For example, delegates to a national conference on the reform plan in 2008 concluded that training and workshop activities under the project contributed to an increased level of understanding of the issues facing the sector, and the breadth of stakeholder engagement in the dialogue on reform. Also, adoption of the national strategy was said to contribute to a substantial increase in donor interest in supporting the sector (totaling some $40 million by the end of the project). Finally, a number of policy adjustments, outlined in the main text, were made during HEP that were not explicit goals of the project but arose from the sector reform dialogue generated by it.

8. Concerning Bank performance, quality at entry was solid in some ways but was not backed up by relevant sector analytical work which contributed to an unrealistic and overly ambitious project design, also lacking the kind of monitoring and evaluation framework that would be expected of a LIC. Supervision of the project was characterized by varying levels of attention and support, with less than expected support given to continued policy dialogue, technical assistance to the Project Coordination Unit (PCU) and fiduciary support. During the middle years of the project the Bank team acquiesced to a substantial increase in the
scope of the project, informally agreeing to changes in objectives and indicators, but not formally registering these changes in a restructuring of the project, which led to a mismatch between what was implemented during the rest of the project and what the formal documents held the project accountable for. Quality at entry for the Bank is rated unsatisfactory and quality of supervision highly unsatisfactory, leading to an overall Bank performance rating of highly unsatisfactory.

9. With respect to Borrower performance, MHESR facilitated the development and adoption of the National Higher Education Strategy, developed relationships with other partners, including donors and universities, and worked to ensure counterpart funding (although the low amount provided led to problems). However, cumbersome Government approval procedures and a new Ministry leadership that was weakly committed to the project contributed to early implementation delays. Also implementation was slowed by friction between MHESR and the PCU partly stemming from ambiguity about their respective roles and responsibilities. Furthermore, the Steering Committee that was expected to meet semi-annually to review progress and supervision reports, identify problems and take action to remedy them, only met once a year on average. The Project Coordination Unit also got off to a slow start and was missing crucial staff members (and familiarity/competence with Bank procedures) during most of the project. When the project effectively merged with the Dutch higher education support program, the PCU was called to manage the merged operation which stretched it to the limit. The projects credit agreement required that progress reports be produced semi-annually, but by the end of the project only two progress reports and seven financial monitoring reports were officially produced and these did not include clear indicators or adequate objective measures to monitor and evaluate the project. Both government performance and implementing agency performance are rated unsatisfactory, as is overall Borrower performance.

Lessons

- In cases where a good practice model is being tried out by the Bank and its country partnerships in a new location (like the model for higher education reform), it is important that this be preceded by significant sector analytical work of a kind that will predict the viability of a reform agenda or certain parts of it and the likely pockets of resistance;

- For projects that are created as Learning and Innovation Credits/Loans, and thus contain substantial piloting efforts, it is essential that a good M&E framework be part of the design and that government arrangements and capacity to implement the framework be secured prior to project start-up;

- When major features of a project are modified at the request of the borrower that affect fulfillment of original objectives or the continued relevance of performance indicators, formal restructuring must be initiated by the Bank team; otherwise, accounting for original expected outcomes becomes problematic;

- Capacity building for university managers and instructors needs to be grounded in a specific change program (e.g., creation of new departments or the implementation of
accreditation procedures) as opposed to being given as a general training exercise, since there was no evidence in the project that such training led to changed behavior;

- For government institutions that have not had time to build up a presence and specific professional expertise (the MHESR was in existence one year before the approval of HEP), it is best to focus lending support on specific deliverables of a tangible sort instead of expecting the delivery of wide-spread reforms in governance and resource management -- a change in emphasis recognized in the follow-on Higher Education Quality Improvement Project.

- For a country with an educated unemployment rate as high as Yemen’s (54 percent during the project), more attention to the relevance of higher education to labor market needs (domestic and international) – lightly emphasized in the national strategic plan – is called for.

**Background**

**Overview**

10. Yemen is one of the poorest countries in the Arab world, with a Gross Domestic Product (GDP) in 2000 of about $550 per capita. In the mid-1990s the Yemeni economy witnessed strong growth due to the onset of oil production and high oil prices, but has been buffeted by periodic declines in oil prices since. In 1990 it achieved unification of its traditionalist northern area and its formerly Marxist south, but this unity is tenuous and various challenges to the central government demand high attention to national security. In 2003, the country’s labor force was about 3.7 million, with approximately 11 percent working in the Government sector and 89 percent in the private sector. The official unemployment rate stood at 14.8 per cent (unadjusted for a significant amount of under-employment), with jobless levels being particularly high among university graduates (estimated in 2005 Household Budget Survey to be around 54 percent!). New job creation has been slow in recent years (although there has been some expansion in the manufacturing sector). In 2003 the GDP growth of 3.3 percent was barely above the population growth, so per capita GDP growth was very modest. The slow per capita income growth together with the Government’s plan to reduce the proportion of GDP consumed by public expenditure makes growth in public spending on universities unrealistic.

**The Education Sector Context**

11. During the past generation Yemen experienced impressive expansion in education, halving the illiteracy rate from 90 to 45 percent. Between the late 70s and the year 2000 basic education enrollments increased 6 times, from less than a half million to over 3 million, and since 2000 have increased further to roughly 4 million, which is approximately a 74 percent gross enrollment rate (a major increase, but still low for the region). Participation

---

also increased in secondary education (by more than 80 percent over 1996 to 2004) to a 2004/05 gross enrollment rate of 38 percent, which highly favored boys (60 percent) over girls (26 percent). Financial support from the World Bank for basic education began in 1992 and has continued through two additional projects along side its higher education support projects. The Bank would eventually also provide IDA support to secondary education (2008) emphasizing enrollment of girls and improved quality (better preparation for the workforce and post-secondary education), and to technical-vocational education (2 projects). However, since primary and secondary education, technical education, and higher education are all managed by different ministries, there is little coordination across the subsectors.

Issues in Higher Education\(^{73}\)

12. Growth has also been a dominant theme in higher education, with public university enrollments quadrupling over 1999-91 to 1998-99 from 35,000 to 155,000, and reaching a 13 percent gross enrollment rate by 2007 (7.5 percent for females). Enrollment growth has been distinctly imbalanced, mainly in education and other non-hard-science subjects, and bears little relation to Yemen's skill needs, qualitatively or quantitatively,\(^{74}\) or to the sub-regional labor market in which Yemen is a traditional labor supplier.\(^{75}\) In recent years private university growth has outstripped that of public, representing 70 percent of the higher education expansion between 2002 and 2006. Such growth has been so explosive and management systems so inexperienced that expansion has often verged on chaotic. In the early 2000s university governance was found to be lacking in overall vision, strategic planning and budgeting capacity, and the design and use of a monitoring/evaluation framework. Concerning budgeting, public universities receive annual allocations directly from the Ministry of Finance (MOF) without any obligation with respect to agreed program objectives, instructional standards, expenditure norms, or the carrying out of audits. Another consequence of ballooning enrollments has been reduction in education quality, as evidenced by an increase in the student-instructor ratio (from around 24:1 to 41:1 in recent years), without any compensatory expenditure on instructional materials. Library stocks, another proxy for quality, stood at two volumes per student, although available library funds often remained unspent, reflecting both a failure of instructors to keep up with recent publications in their fields and a style of teaching which favors formal lectures and use of lecture notes above student engagement with published material.

---

\(^{73}\) Based heavily on the HEP Project Appraisal Document, 2002.

\(^{74}\) Even though primary and secondary education has grown rapidly in Yemen over the past two decades, the Faculties of Education (FOE) have in recent years been producing about 3 times more teachers than can be absorbed. FOE graduates also top the list of those waiting for civil service jobs (along with those from commerce, administration, arts and law). See Rep of Yemen and World Bank (2010), *Education Status Report.*

\(^{75}\) Skilled labor migration rates for Yemen in 2000 was estimated to be around 35 percent, about 3 times the MNA average, but its migration to OECD nations was well below the regional average (6 percent compared to 9 percent), given the low demand in that region for the Yemeni graduate skill types and competence levels. Instead Yemeni emigrants were mainly taking lower skill jobs in countries of the Gulf Cooperation Council. (See F. Docquier, S. Johansson deSilva, A. Marfouk (2009), “Skilled Migration from the MENA Region: Trends, Impacts and Policy Responses.” World Bank Migration Series Paper.)
Project Objectives and Design

13. Project Objectives were formulated differently in the PAD and DCA as follows:

| PAD | “The development objective of the proposed Learning and Innovation Credit is to assist the Government of Yemen in preparing a higher education reform strategy and to pilot initial phases of its Implementation.” |
| DCA | “The objectives of the Project are to assist the Borrower in: (i) preparing, and carrying out, a higher education reform strategy; and (ii) developing the capacity of the Ministry of Higher Education and Scientific Research to carry out major reforms aimed at the strengthening of post-secondary education.” |

14. Both put forward an objective to prepare a higher education reform strategy. However, they differed in the next step, with the PAD having the further objective to “pilot initial phases of [strategy] implementation” and the DCA that of “carrying [it] out.” Also, the DCA presented an objective of “developing the capacity of the Ministry” which the PAD formulation did not contain. This report will evaluate against the PDOs as stated in the DCA, however, since this was a learning and innovation credit, carrying out reforms is interpreted as piloting reforms, as intended by the PAD.

15. In support of the Project Development Objectives the PAD articulated the following three key areas or “measures” that were to become the foundation for reform and reform implementation (used here as Project Components):

   Governance (US$1.8 million at appraisal; US$0.65 million actual): participative development of a national reform strategy, capacity building for the Ministry of Higher Education and Scientific Research, and training for two universities for the assumption of delegated managerial responsibility;

   Finance (US$0.3 million at appraisal, US$0.19 million actual): redesign of budget structures, a new funding mechanism (formula funding), and an MIS serving the MHESR and the two universities; and

   Quality (US$3.15 million at appraisal; US$1.88 million actual): upgrading selected faculties (medicine, education, commerce) through faculty development, developing and piloting an Information and Communication Technology (ICT) network, assisting the two universities in self-evaluations.

Implementation

16. The Implementation of the Project moved very slowly during the first two years, mainly due to reservations about it on the part of a new Ministry team and management instability. In the third year, with yet another change in the Higher Education Minister, implementation picked up, leading to the participatory drafting of the expected National Strategy for Higher Education in Yemen (2005/2006), which was approved by the Cabinet and endorsed by stakeholders at a National Conference in 2006. After the National Strategy
endorsement the Ministry pressed for the implementation initial strategy phases in all public universities, bolstered by its receipt in 2004 of a 26 million Euro grant from the Dutch government for a broad program of higher education development. The Bank team acquiesced to this pressure, informally merging its HEP funds with other donor resources in a system wide reform effort, and the concept of limited piloting was set aside; however, this change was not formalized through project restructuring. At the point, the Project Coordination Unit (PCU) was tasked by the Minister to oversee both HEP and the Dutch-funded sector support program.

17. In the end only 51 percent ($2.74) of the $5.3 million in allocated funds were disbursed (36, 48 and 60 percent respectively of Components 1, 2 and 3). The Government was unable to deliver its agreed upon share of $0.3 million. The Bank disbursed 54 percent of its $5 million commitment. The project was extended for 18 months (changing the closing date from December 31, 2006 to June 30, 2008) to make up for lost time at the beginning; a Government request for an additional 6 month extension was turned down by the Bank.

Relevance

Relevance of Objectives

18. The project was consistent with CAS 2006 Pillar I (diversifying growth through better governance and better delivery of public services, including improving skills through technical education and vocational training and higher education), and Pillar III (increasing fiscal sustainability through improved public expenditure management). However, neither the recent CAS nor the one before it (1999) envisioned any lending to the higher education sector, anticipating rather that the Bank support would help provide a technical basis for reforms in this sector. Nevertheless, project objectives went straight to preparing, and building capacity for, a comprehensive reform strategy, without the benefit of extensive analytic work to inform just what a higher education reform strategy should hope to correct or achieve. (Although the Bank produced one relevant piece of analytic work before the HEP design, it was not cited in the PAD.) On the other hand, the piloting element of the first objective was highly relevant to the country’s situation, and probably should have been implemented prior to the development of a subsector strategy. (The PAD is ambivalent on this, sometimes suggesting that piloting come first, sometimes not). The objective of capacity building of a recently reestablished ministry (Objective 2) was beyond the appropriate scope of a learning and innovation credit, which is meant to focus on experimentation, learning and piloting, in advance of larger-scale operations.

(Rated Modest.)

76 An unofficial division of labor was established in which some of the HEP programs were blended with the Dutch grant programs and some (such as constructing a financial information system and program piloting in two universities) were dropped.
Relevance of Design

19. The sequencing of the objectives of the LIC was ambiguous. The PAD version of the PDO refers to preparing a higher education reform strategy and piloting initial phases of it, but the three components already identify some strategies in the realms of governance (pilot universities assuming more managerial responsibility), finance (new funding formulas and information systems designed), and quality (faculty development, use of ICT, and university self-evaluation). In fact, one key outcome indicator suggests an intention to pilot “key reform measures” before putting out the strategic plan. Even under the assumption that try-out was to proceed at least simultaneously with overall strategy development, some measures specified did not map well onto the objectives (but others do). For example, capacity building for university staff (through faculty development) is a measure specified, but the objective calls only for capacity building in the Ministry. Also, the key outcome indicators (specified in the Efficacy section) are only related to the first objective (there are no outcome indicators for the second), and not well aligned with that objectives: for example, one calls for “strategic development plans linked with faculty budgets” in the two pilot universities, but this is not mentioned in either the objectives statement or the components. Another calls for “budget execution with greater transparency and accountability between the university and faculty” but the finance component only mentions the creation of a new funding formula. In addition, the first two of the three key outcome indicators call for outputs (e.g., national and university plans), not outcomes. In the PAD there is a passage describing the outcome levels for the components (e.g., quality of the plans and how to judge it), but these descriptions do not make it into the indicators. Finally, despite the experimental nature of the project (with its LIC instrument), the project design did not adequately elaborate M&E strategies for use in evaluating pilots and try-outs, and learning from them (Rated Modest.)

Efficacy

20. **Objective 1: Preparing and carrying out a higher education reform strategy**

(Rating – Modest)

21. The project fully achieved the first part of the objective, the preparation of a higher education reform strategy, but largely failed to implement the piloting of strategic plan initial phases in two universities. Instead, HEP was drawn into an agency partnership to support initial phase implementation in all universities. This shift in HEP strategy was not covered by project restructuring, so fulfillment of project objectives are assessed in the PPAR according to the original performance indicators, as follows:

- **A strategic plan and multi-year development program, with donor support, building on the measures piloted.** Under the project, a sound National Strategy for Higher Education was developed through a consultative process including university,

---

77 As mentioned in the Project Objectives and Design section, “carrying out” reforms is interpreted in this review as “piloting” reforms, consistent with the vision in the PAD.
government, and private sector stakeholders. Reaching consensus among stakeholders on this document was a significant achievement of the project. The strategy was approved by Cabinet and endorsed at a national conference in 2006 and five-year implementation plans were prepared. The first higher education investment program drawn from the strategy was included in the government’s five-year plan. The strategy and implementation plans were published and disseminated widely, including at a national conference in March 2008; however, no external quality assessment was undertaken as suggested in the PAD. Adoption of the strategy contributed to a substantial increase in donor interest in supporting the sector (totaling some $40 million by the end of the project). The Ministry is using the strategy as a framework for coordinating donor assistance to the sector.

- **Strategic development plans linked with faculty budgets for Sana’a and Aden Universities.** The work on strategic development planning at the University level was extended from two to all seven of Yemen’s universities. The project provided technical assistance, development workshops, and other assistance to the universities. However, only two universities completed the exercise and only one of the plans was considered by the Ministry to be satisfactory. In no location, not even where strategic plans were created, were the plans linked to faculty budgets as called for.

- **Budget execution with greater transparency and accountability between the university and faculties for resources.** Through the project a Budget and Financial System Plan with formula funding was developed and approved but has not yet been implemented even on a pilot basis. Development of a related financial management information system (FMIS) (called for in the PAD) was dropped from the project. Actual budget execution practices at the central and university levels have not yet significantly changed and there is no evidence that the project achieved “greater

---

78 See Republic of Yemen, Ministry of Higher Education and Scientific Research (2006), *National Strategy for the Development of Higher Education in Yemen.* The strategy’s overall vision was to create “a higher education system characterized by quality, broad participation, [and] multiple and open routes… that is effective and efficient and delivers quality programs… to enhance Yemen’s quality of life” (p58). The strategy’s main objectives were to a) improve higher education governance at the national and institutional levels in order to optimize decision making and system development; b) increase institutional diversity in order to meet increasingly diverse needs; c) provide and optimally deploy sufficient resources to enable a high quality system; and d) improve the quality of teaching, research and service.

79 Retrospectively, it is clear that there was considerable skepticism about the plan, especially the decentralized financial management part of it, within the Ministries of Finance and Planning.

80 The IEG Mission informally assessed the plan and found it to be relevant and comprehensive (although less focused than expected on labor-market issues), and logically constructed, but far too ambitious, given Yemen’s capacity and readiness for reform. Some Mission informants indicated that the Ministry would not be able to (indeed had not yet) put much of the plan into practice.

81 One of the original 7 universities was split into two, so as of 2010 there are eight state universities.

82 The 2010-approved follow-on program supported by the Higher Education Quality Improvement Project (HEQIP), includes a new effort to build financial management capacity on a pilot basis at Taiz University (see World Bank (2010), *Project Appraisal Document: HEQIP.*
transparency and accountability” between the university and faculty resources. The project did carry out training of Ministry and university staff in university management and finance, as well as workshops on the funding formula, to help prepare for introduction of the new budget and financial system, but the effectiveness of this training is unknown due to inadequate evaluation. Since the funding formula was not put to use or even piloted, the relevant intermediate outcome indicators – related to transparency of income and expenditures, and annual reporting on implementation results – could not be addressed.

22. Overall, for this objective, a major accomplishment was the creation and dissemination of the new (first) national strategy for the reform of higher education, but because of non-recognized project restructuring and poor M&E systems, piloting was either not conducted or not learned from.

23. **Objective 2. Developing the capacity of the Ministry of Higher Education and Scientific Research to carry out major reforms. (Rating – Modest)**

24. The HEP worked to strengthen capacity in the new MHESR through technical assistance, professional development, and establishment of an MIS to serve the needs of the Ministry and the higher education institutions. This component was integrated with ongoing Dutch projects for ministry strengthening and a higher education ICT Master Plan. These projects absorbed the Ministry strengthening component of HEP and established an ICT center for higher education. Within the ICT Master Plan, the HEP financed software development, hardware, and training for one module of the MIS – for student registration – which was functioning on a limited scale. Other modules had yet to be implemented. These activities have not yet had a substantial impact on the capacity of the Ministry which still lacks access to an adequate current information base for policy and planning.

25. **Outputs.** Outputs of the project geared to building capacity for quality improvement were mixed. The goal of piloting renewal of medicine, education and commerce programs was not met, although a limited beneficiary survey conducted for the Implementation Completion Report (ICR) found that training in professional skills (English, computer and pedagogical skills) was highly appreciated and found to be useful by recipients. Some progress was made in quality assurance and accreditation (after receiving some training, two universities drafted strategic plans – one considered acceptable – and did some self-evaluating), although the target indicators were not fully achieved. Self-evaluation was conducted at selected faculties and relevant training was provided, but a specific guideline was not produced as planned. For the accreditation, the contractor delivered draft standards for accreditation of private higher education institutions, but these were not formally endorsed or adopted. A proposal was prepared by the MHESR for a Quality Assurance System and National Accreditation Council, and later was approved by Cabinet and guidelines developed. The guidelines for the Accreditation Council were also prepared, but due to the fact that a director has not been appointed, it has not become functional.

---

83 The survey was conducted in compliance with Bank requirement for a LIC, but was of limited coverage, having been conducted in two of the seven universities and having achieved a sample size of 43.
26. Although project capacity building results were assessed by trainees during workshops and participants in project conferences to be positive, learning from project activities and outputs was more limited than expected for a Learning and Innovation Project. Evidence of this was the number of the intermediate output indicators that were not addressed due to the lack of systematic monitoring and evaluation (M&E). For example, although indicator 1 required the project use external evaluators in assessing the effectiveness of technical assistance at least twice (mid-term-review and project closing); such an assessment was never conducted. Similarly, indicator 4 stipulated that the project collect “student and faculty feedback” on the faculty upgrading pilots but this was not consistently done, resulting in a only a limited amount of faculty feedback, and none from students. Finally, on indicator 5 (the cost-effectiveness of the training modules for faculty upgrading): numerous faculty training modules were created, yet no cost-effective assessment was made.

27. **Other direct and indirect effects of the project.** Expansion of the project scope, from piloting in two universities to attempts at capacity building across the higher education sector, significantly diluted project effects on specific project targets, but it did assure that almost the entire university community was touched by HEP in some way. As concluded by participants in a national conference held by the Ministry in 2008, training and workshop activities under the project contributed to an increased level of understanding of the issues facing the sector, and the breadth of stakeholder engagement in the dialogue on reform. Also, a number of policy adjustments were made during HEP that were not explicit goals of the project but arose from the sector reform dialogue generated by it. For example, some of the problems identified at the time of preparation, such as unbalanced growth/spending among education subsectors, were addressed through policy changes during project implementation. Also, the public accepted a major decision by the Government to reduce the pressures imposed by uncontrolled and imbalanced growth of higher education and facilitate internal reform: new admissions were cut by 50 percent compared to the previous year. This policy is ongoing and resulted in setting an admissions ceiling by the Higher Council of Universities of 80,000 students: 55,000 to be admitted in public universities and 25,000 in private universities in the academic year 2008-2009. Similar actions have dealt with imbalanced enrollments, with enrollment in applied fields increasing by 50 percent over 2002-2007, and in social science/humanities decreasing by 5 percent. Along the same lines, the strategic dialogue initiated through HEP contributed indirectly to development of a rationalization plan (approved by the Cabinet in fall 2008), defining primary and secondary fields of specialization among Yemen’s universities. This plan provides a strong basis for the development of individual universities’ development plans and priority programs, to be supported under the Higher Education Quality Improvement Project. Finally, by partnering with the Dutch project, HEP indirectly contributed to the success of three competitively selected graduate studies centers (two in Sana’a University and one in Aden University – funded by the Dutch grant) that have achieved world-class stature, prompting HEQIP to showcase a similar program under its quality improvement objective.

**Efficiency**

28. Total disbursement for the project was only about 55 percent of the planned total, which might have revealed high efficiency except for the fact that most of the project goals
were not met. Funds for the creation of the higher education strategy can be considered well spent, but any for capacity were not, since little of the capacity building effort resulted in tangible improvements in higher education management effectiveness and quality (project outcomes). Moreover, as a Learning and Innovation Credit, the project was expected to create new policy-relevant learning from evaluated pilots and reform strategy try-outs, which, because of lack of piloting and M&E shortcomings, did not come to fruition, meaning that any funds allocated for reform model testing were also inefficiently spent. (Rated modest.)

Outcome

29. The outcome of this project is rated as unsatisfactory, given the ratings of modest for relevance of project objectives and design; modest for efficacy of the two objectives; and modest for efficiency.

Monitoring and Evaluation

M&E Design

30. Although the PAD identified weak M&E capacity in both the newly-created MHESR and in Yemen's public administration in general, the project did not have a specific blueprint for tracking project outputs and outcomes; let alone a comprehensive plan to plan to develop M&E capacity for the sector. The PAD did specify that the project’s startup workshop would produce an initial evaluation plan, but this never occurred. As a learning and innovation credit this project was expected to generate a rich flow of information from the monitoring and evaluation of its pilots and capacity building, but this was never done; instead HEP was redefined as a partnership for wide subsector support (without formal restructuring), leaving its knowledge-building functions unfulfilled.

M&E Implementation

31. Project activities were scaled up without an assessment of their effectiveness. Also, there was no systematic monitoring or evaluation of the project’s progress. Neither clear monitorable indicators nor instruments to measure them were ever developed and there was no M&E officer at the PCU until four months before the project closed. Instead of being produced semi-annually, only two reports tracking implementation were ever produced over the course of the project.

M&E Utilization

32. Project monitoring, documentation, and reporting were deficient overall, and in any case, the capacity of the PCU and MHESR to utilize M&E (including MIS) data to inform budgeting,

Risk to Development Outcome

34. Under the HEP, an ambitious National Strategy for the Development of Higher Education in Yemen was created and widely endorsed though participatory processes, and much technical assistance provided to help with implementing some of its reform ideas and strategies. Many reform features that were to have been piloted on a limited scale already were, in fact, brought to scale (introduced to all universities) within the unofficial expanded scope of the project without having been tried out and evaluated, or were dropped in favor of a broader higher education agenda. Thus, there were few of the original HEP outcomes (aside for the National Strategy itself) that were achieved, and thus, few outcomes to be carried into the future. This was applicable to the governance features that were to have been piloted (e.g., linking university strategic plans to faculty budgets, improving the transparency and accountability of budget execution) to creating accreditation guidelines, piloting a full set of MIS modules, upgrading specific faculties, and establishing MHESP capacity for evidenced planning and management). A feature of the joint sector support effort, that HEP became a part of, was the competitive funding of three graduate studies centers (two in Sana’a University and one in Aden University – funded by the Dutch grant) that have achieved world-class stature and will endure and become exemplary programs into the future. The funding of special studies centers, selected competitively on strength of their proposals and their determination to address country development needs, is an idea that has been taken up in the Bank-supported follow-on project, Higher Education Quality Improvement Project. In addition, the initial work on quality assurance and accreditation will be built upon. However, given their continued risky nature, future work on governance and financing reforms will be scaled back to pilots again.84 (Rated Significant.)

Bank Performance

Quality at Entry

35. A participatory approach was taken to solicit feedback from various stakeholders, and their feedback was well reflected in the initial project design. However, there was little substantive analytical work conducted by the Bank preceding or during preparation, leaving many baseline or contextual conditions unclear, such as prevailing governance and decision-making patterns, planning and management capacity in the ministry and universities, financial allocation and fiduciary management patterns (e.g., within the Ministry of Finance and the universities), prevailing incentives and disincentives for higher education reform and quality improvement, precedents for using piloting and related monitoring and evaluation as inputs into program and policy formulation – a factor contributing to an unrealistic and overly ambitious project design. Concerning the design, it is unfortunate that the Bank design team did not ensure that an adequate M&E framework was in place prior to project start-up, particularly given the fact that the project was a LIC. Also, in the PAD, the place and definition of some proposed activities were left ambiguous (e.g., use of a competitive fund; student aid; FMIS; cost-effective training modules), and project development

84 See HEQIP Project Appraisal Document.
objectives (PDO) outcome indicators were both poorly defined and weakly related to the project description. Finally, Bank supports for procurement, financial and contract management (high risks, but not identified so) were not well established, contributing to implementation and disbursement delays, and making it difficult for PCU managers to effectively follow Bank guidelines. (Rated unsatisfactory)

**Quality of Supervision**

36. Although the PAD states that close supervision would be provided, the intensity and quality of Bank supervision efforts were uneven. None of the project’s four different Task Team Leaders seem to have been provided adequate resources to ensure quality supervision: for example, supervision shortcomings were apparent in the areas of continuous policy dialogue, technical assistance and fiduciary support. Also, the Bank did not provide sufficiently close guidance in Bank operational procedures, procurement guidelines, managing contracts, and financial management issues, areas needing particularly intensive support given that the PCU burdened with managing both Bank- and Dutch-financed activities.

37. In the period leading up to mid-term review in 2005, the Government pressed for an expansion of the project’s scope and beneficiaries by merging it with other donors programs and taking a broad subsector-wide approach. During the related discussions and consultations the Bank team consistently supported the Government’s request to move towards a broader higher education reform strategy. However, despite the expansion of project scope and the dropping of some of the original objectives/activities, a formal restructuring of the project was never formally proposed. The Bank team issued non-objection to modifications of contracts – such as dropping the FMIS – without commenting on the possible implications for meeting project objectives and indicators. The Government was not even made aware until the final year of the expanded project that its outcome would have to be evaluated against the development objectives it had originally agreed to.

38. Finally ratings in Implementation Status Reports (ISRs) were unrealistic, with PDO progress rated “satisfactory” even though the disbursement and overall implementation was very slow, with missed deadlines repeatedly for planned activities, and the (legally required) six-monthly reports were not available to substantiate the progress. These problems were not raised forcefully in management review. Until the last year of the project, ISRs failed to highlight the disconnect between planned activities and the agreed indicators. If the team had focused fully on the implications of the changes proposed by the Ministry and considered a formal restructuring, the trade offs and the capacity requirements could have been better taken into account and the indicators revised to match agreed revised objectives. As it was, the Ministry was not fully aware until a late stage that the project would be judged in terms of the original indicators. (Rated highly unsatisfactory.)

39. The overall rating for Bank Performance was highly unsatisfactory.
Borrower Performance

Government Performance

40. MHESR facilitated the development and adoption of the National Higher Education Strategy, developed relationships with other partners, including donors and universities, and worked to ensure counterpart funding. Early on, the Ministry of Finance (MOF) allocated too little funding, resulting in counterpart funding constraints. MHESR requested additional funds from MOF, and also requested that Bank raise the percentage of Operational Expenditures that could be financed from the credit from 25 percent to 100 percent. However, cumbersome Government approval procedures contributed to implementation delays. MHESR leadership changed during the first year of the project, and there was inconsistent government commitment, ownership, and leadership, especially during the first two years. Early in the project, implementation was also slowed by friction between MHESR and the PCU partly stemming from ambiguity about their respective roles and responsibilities. The Steering Committee was expected to meet semi-annually to review progress and supervision reports, identify problems and take action to remedy them, but only met once a year on average. Also, the Ministry was not proactive in recruiting efforts. (Rated unsatisfactory.)

41. Eventually, when the PCU reached full strength, it managed a large program of technical assistance (8 contracts) which helped move the project along and contributed significantly staff/management training. However, much of the time the PCU lacked familiarity with Bank procurement rules and practices, and also suffered from lengthy vacancies, poor delegation, and confusion among staff about responsibilities. Both the Project Director and Financial Management officer positions were vacant for many months. For most of the project, only one staff member was responsible for all aspects of accounting, leaving the project’s internal controls at risk. The PCU never had a contract management specialist. There was no M&E officer until four months before the project closed. Finally, ambiguity about distribution of responsibilities among PCU staff resulted in some staff members being overstretched even while some responsibilities fell through the cracks. Though the Bank team raised concerns about these staffing and fiduciary issues, the PCU either acted late or failed to act at all to address them. The DCA required that substantive progress reports would be produced semi-annually, but by the end of the project only two progress reports and seven financial monitoring reports were officially produced and these did not include clear indicators or adequate objective measures to monitor and evaluate the project. (Rated unsatisfactory)

42. The overall rating for Borrower Performance was unsatisfactory.

Conclusions and Lessons Learned

Conclusions

43. The Higher Education Learning and Innovation Project (HEP) was designed with the modest expectations of a LIC – the drafting of a national strategy for higher education and the piloting of the initial phases of its implementation. Despite a slow start, a comprehensive
strategy document was eventually completed through a participatory processes involving serious engagement of the university community. At that point the Ministry started to press for implementing initial phases in all public universities, bolstered by its receipt of a substantial grant from the Dutch government for higher education development across the subsector. The Bank team acquiesced to this pressure, informally merging its HEP funds with other donor resources in a system wide reform effort, and the concept of limited piloting was set aside. So instead of trying out new approaches to university governance (creating strategic plans and connecting faculty budgets to them through transparent processes), the expanded project provided wide-ranging training in planning and financial management to all rectors and their management cadres, but with little assessment of the effectiveness of the training and how and how well the reforms could be internalized. Likewise, for quality improvement, instead of upgrading the quality in a few exemplary departments in the pilot universities, the expanded project provided general core training (in English, computer and pedagogical skills) to staff members throughout the university community, again with little assessment of the impact of this training (aside from participant satisfaction). The capacity building in the MHESR for carrying out major reforms was similarly spread throughout the higher education community. In the end this dramatic expansion of scope had the effect of diluting the project impact and, ultimately, did not lead to any major insights into the viability or effectiveness of reform elements in the strategic plan.

44. One outstanding feature of the partnership program that HEP evolved into was building up of several premier university programs (funded by Dutch grant money), and selected through a competitive process. Three such programs, in public management, business management, and women’s studies, have become centers of excellence in their respective universities, with the help of their Dutch university counterparts with which they were “twinneD.” Such an approach was mentioned in HEP PAD as a means of upgrading departments, but was never implemented. However, it has now become a central feature of the Bank-supported follow-on project, the HEQIP. That project has adopted a much simpler design than that of HEP, laying aside system-wide attempts to build and implement strategic plans, and to implement wide-reaching reforms in governance and financing systems (for which the young Yemeni higher education system may not be ready). The World Bank’s 2008 MENA higher education paper, “The Road Not Taken,” demonstrated the need for attention to 

*85 The Mission received no independent evaluations of these programs in Sana’a (the first two) and Aden Universities (the third), but was informed (and observed) that the Dutch project worked to make them equivalent in quality to their Dutch counterparts, and at least the MBA program was accredited by an international body, the Association of MBAs.

*86 The Higher Education Quality Improvement Project (HEQIP), an IDA grant, was approved on 4/29/2010 for US$13 million (equiv). Its main objective is to “create enabling conditions for the enhancement of the quality of university programs and graduate employability” (p.3). Its main component (to absorb over half of the funding) is to raise the quality of selected priority undergraduate programs in established public universities through a Quality Improvement Fund (QIF). (See World Bank (2010), HEQIP PAD.)

early for widespread reforms in incentive and accountability systems; that the country is still in the engineering stage. However, HEPII may be providing a path forward, by building into its grants program both incentives (through competitive grant giving) and accountability mechanisms (performance-based continued support), it can present small scale but implementable examples of how engineering, incentives and accountability can work together.88

Lessons Learned

45. Among the many lessons learned from the implementation of HEP in Yemen are the following:

- In cases where a good practice model is being tried out by the Bank and its country partnerships in a new location (like the model for higher education reform), it is important that this be preceded by significant sector analytical work of a kind that will predict the viability of a reform agenda or certain parts of it and the likely pockets of resistance;
- For projects that are created as Learning and Innovation Credits/Loans, and thus contain substantial piloting efforts, it is essential that a good M&E framework be part of the design and that government arrangements and capacity to implement the framework be secured prior to project start-up;
- When major features of a project are modified at the request of the borrower that affect fulfillment of original objectives or the continued relevance of performance indicators, formal restructuring must be initiated by the Bank team; otherwise, accounting for original expected outcomes becomes problematic;
- Capacity building for university managers and instructors needs to be grounded in a specific change program (e.g., creation of new departments or the implementation of accreditation procedures) as opposed to being given as a general training exercise, since there was no evidence in the project that such training led to changed behavior;
- For government institutions that have not had time to build up a presence and specific professional expertise (the MHESR was in existence one year before the approval of HEP), it is best to focus lending support on specific deliverables of a tangible sort instead of expecting the delivery of wide-spread reforms in governance and resource management -- a change in emphasis recognized in the follow-on Higher Education Quality Improvement Project;
- For a country with an educated unemployment rate as high as Yemen’s (54 percent during the project), more attention to the relevance of higher education to labor market needs (domestic and international) – lightly emphasized in the national strategic plan – is called for.

88 The HEQIP design also shows learning from HEP about the need for good M&E indicators and strategies, as evident in the following passage from its PAD, “One of the important lessons learned from [HEP] is that monitoring and evaluation should play a central role during project implementation. Hence, the proposed Project will systematically document all inputs, processes and outputs to detect in a timely manner whether implementation is on track and whether project revisions and restructuring are needed. The Project will also devote sufficient resources to assess the extent to which the Project has achieved the intended results (p. 7).
Appendix 1. Basic Data Sheet -Yemen Higher Education Learning and Innovation Project (CR 36740)

Key Project Data (amounts in US$ million)

<table>
<thead>
<tr>
<th></th>
<th>Appraisal estimate</th>
<th>Actual or current estimate</th>
<th>Actual as % of appraisal estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total project costs</td>
<td>5.30</td>
<td>5.00</td>
<td>94.34</td>
</tr>
<tr>
<td>Loan amount</td>
<td>5.00</td>
<td>3.55</td>
<td>71.00</td>
</tr>
<tr>
<td>Cancellation</td>
<td>-</td>
<td>2.72</td>
<td>-</td>
</tr>
</tbody>
</table>

Cumulative Estimated and Actual Disbursements

<table>
<thead>
<tr>
<th></th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal estimate (US$M)</td>
<td>0.24</td>
<td>0.67</td>
<td>2.21</td>
<td>4.57</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Actual (US$M)</td>
<td>0.23</td>
<td>0.34</td>
<td>0.42</td>
<td>1.44</td>
<td>2.11</td>
<td>2.72</td>
<td>3.02</td>
<td>3.55</td>
</tr>
<tr>
<td>Actual as % of appraisal</td>
<td>95.83</td>
<td>50.75</td>
<td>19.00</td>
<td>31.51</td>
<td>42.20</td>
<td>54.40</td>
<td>60.40</td>
<td>71.00</td>
</tr>
<tr>
<td>Date of final disbursement:</td>
<td>06/30/2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Dates

<table>
<thead>
<tr>
<th></th>
<th>Original</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating memorandum</td>
<td>11/01/2001</td>
<td>12/18/2001</td>
</tr>
<tr>
<td>Negotiations</td>
<td>04/21/2002</td>
<td>04/23/2002</td>
</tr>
<tr>
<td>Board approval</td>
<td>05/28/2002</td>
<td>06/18/2002</td>
</tr>
<tr>
<td>Signing</td>
<td>07/17/2002</td>
<td>07/17/2002</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>09/19/2002</td>
<td>09/19/2002</td>
</tr>
<tr>
<td>Closing date</td>
<td>12/31/2006</td>
<td>06/30/2008</td>
</tr>
</tbody>
</table>
### Staff Inputs (staff weeks)

#### Stage of Project Cycle | Staff Time and Cost (Bank Budget Only)

<table>
<thead>
<tr>
<th>Lending</th>
<th>No. of staff weeks</th>
<th>USD Thousands (including travel and consultants costs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY02</td>
<td>19</td>
<td>93.16</td>
</tr>
<tr>
<td>FY03</td>
<td></td>
<td>6.38</td>
</tr>
<tr>
<td>FY04</td>
<td></td>
<td>1.50</td>
</tr>
<tr>
<td>FY05</td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>FY06</td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>FY07</td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>FY08</td>
<td></td>
<td>0.19</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>101.23</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supervision/ICR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY02</td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>FY03</td>
<td>7</td>
<td>22.78</td>
</tr>
<tr>
<td>FY04</td>
<td>7</td>
<td>24.03</td>
</tr>
<tr>
<td>FY05</td>
<td>17</td>
<td>70.98</td>
</tr>
<tr>
<td>FY06</td>
<td>23</td>
<td>84.67</td>
</tr>
<tr>
<td>FY07</td>
<td>19</td>
<td>71.48</td>
</tr>
<tr>
<td>FY08</td>
<td>34</td>
<td>146.68</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>107</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>420.62</strong></td>
</tr>
</tbody>
</table>

### Mission Data

<table>
<thead>
<tr>
<th>Names</th>
<th>Title</th>
<th>Unit</th>
<th>Responsibility/ Speciality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ousmane Diagana</td>
<td>Country Manager</td>
<td>AFMNE</td>
<td>TTL, Institutional Assessment, Planning and Budgeting</td>
</tr>
<tr>
<td>David Forrester</td>
<td>David Forrester</td>
<td></td>
<td>Governance and Quality</td>
</tr>
<tr>
<td>Michael J. Wilson</td>
<td>Consultant</td>
<td></td>
<td>Quality, ICT and EMIS</td>
</tr>
<tr>
<td>Gary T. Theisen</td>
<td>Sr. Education Spec.</td>
<td></td>
<td>Quality</td>
</tr>
<tr>
<td>Mario Zelaya</td>
<td>Consultant</td>
<td></td>
<td>Procurement Spec</td>
</tr>
<tr>
<td>Rafika Chaouali</td>
<td>Financial Management Spec</td>
<td></td>
<td>Financial Management</td>
</tr>
<tr>
<td>Afif Al-Saqqaf</td>
<td>Financial Management Spec</td>
<td></td>
<td>Financial Management</td>
</tr>
<tr>
<td>Mira Hong</td>
<td>Operations Analyst</td>
<td>MNSHD</td>
<td>Program Assistant</td>
</tr>
</tbody>
</table>
### ANNEX B

<table>
<thead>
<tr>
<th>Names</th>
<th>Title</th>
<th>Unit</th>
<th>Responsibility/Speciality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamal Abdulla Abdulaziz</td>
<td>Procurement Spec.</td>
<td>MNAPR</td>
<td>Procurement</td>
</tr>
<tr>
<td>Shereen Abdulmalik Aleryani</td>
<td>Program Assistant</td>
<td>MNCYE</td>
<td>Program Assistant</td>
</tr>
<tr>
<td>Ghassan N. Alkhoja</td>
<td>Senior Operations Officer</td>
<td>MNSHD</td>
<td></td>
</tr>
<tr>
<td>Abdallah Awad</td>
<td>Information Officer</td>
<td>MNC04</td>
<td>Information Technology</td>
</tr>
<tr>
<td>Takako Yuki</td>
<td>Education Spec.</td>
<td>MNSHD</td>
<td>Task team leader</td>
</tr>
<tr>
<td>Soren Nellemann</td>
<td>Sr. Education Spec.</td>
<td>MNSHD</td>
<td>Task team leader</td>
</tr>
<tr>
<td>Brigitte S. Franklin</td>
<td>Program Assistant</td>
<td>MNSHD</td>
<td>Program Assistant</td>
</tr>
<tr>
<td>Celine Gavach</td>
<td>Operations Analyst</td>
<td>MNSHD</td>
<td>Operations, implementation arrangements</td>
</tr>
<tr>
<td>Samira Ahmed Hillis</td>
<td>Operations Officer</td>
<td>MNSHD</td>
<td>Operations</td>
</tr>
<tr>
<td>Richard R. Hopper</td>
<td>Sr Education Spec.</td>
<td>ECSHD</td>
<td>Higher Education Spec.</td>
</tr>
<tr>
<td>Maiada Mahmoud Abdel Fatt Kassem</td>
<td>Consultant</td>
<td>MNAFM</td>
<td>Financial Management</td>
</tr>
<tr>
<td>Mikael Sehul Mengesha</td>
<td>Sr Procurement Spec</td>
<td>MNAPR</td>
<td>Procurement</td>
</tr>
<tr>
<td>J. Roger Pearson</td>
<td>Consultant</td>
<td>MNSHD</td>
<td></td>
</tr>
<tr>
<td>Gillian M. Perkins</td>
<td>Sr Education Spec.</td>
<td>MNSHD</td>
<td>Task Team Leader</td>
</tr>
<tr>
<td>Karine M. Pezzani</td>
<td>Operations Analyst</td>
<td>MNSHD</td>
<td>Operations</td>
</tr>
<tr>
<td>Hind Shaker Tawfeek</td>
<td>Senior Prog Assistant</td>
<td>MNCYE</td>
<td>Program Assistant</td>
</tr>
<tr>
<td>Rosita Maria Van Meel</td>
<td>Sr Education Spec.</td>
<td>ECSHD</td>
<td>Education Spec</td>
</tr>
<tr>
<td>Ayesha Y. Vawda</td>
<td>Sr Education Spec.</td>
<td>MNSHD</td>
<td>Education Spec</td>
</tr>
<tr>
<td>Tomomi Miyajima</td>
<td>Education Spec.</td>
<td>MNSHD</td>
<td>ICR author</td>
</tr>
</tbody>
</table>

### Other Project Data

Borrower/Executing Agency: Republic of Yemen/Ministry of Higher Education and Scientific Research

#### Follow-on Operations

<table>
<thead>
<tr>
<th>Operation</th>
<th>Credit no.</th>
<th>Amount (US$ million)</th>
<th>Board date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education Quality Improvement Project</td>
<td>IDA GR H558-RY</td>
<td>13.0</td>
<td>04/29/2010</td>
</tr>
</tbody>
</table>
Appendix 2. Persons Interviewed for Yemen Higher Education Learning and Innovation Project (CR 36740)

Prof. Dr. Mohamed Mohamed Al-Mottahar,  
Vice Minister of Higher Education and  
Scientific Research  
Republic of Yemen

Dr. Ali Kasim Ismail  
Deputy Minister for Education Affairs  
Ministry of Higher Education and  
Scientific Research  
Republic of Yemen

Azziz Alhadi, former Head of Project Coordination Unit,  
Higher Education Project  
Ministry of Higher Education and  
Scientific Research  
Republic of Yemen

Hani A. Enam  
Director General of External Aid  
Ministry of Finance  
Republic of Yemen

Prof. Dr. Dawood A. Al-Hidabi  
Vice Chairman of the Board of Directors  
Al-Mawarid Company for Educational and Health  
Services, and former Rector, University of Science  
and Technology, Sana’a, Yemen

Prof. Dr. Kahled Abdullah Tamin  
Rector, Sana’a University  
Sana’a, Yemen

Abdu M. Ghanem Almutalles  
Director, University Education Development Center  
Sana’a University  
Sana’a, Yemen

Dr. Mahyoub Ali Anaam  
Curriculum Reform Leader  
Faculty of Education  
Sana’a University  
Sana’a, Yemen
Dr. Ahmed A. Bin-Mubarak  
Director, Center of Business Administration  
Sana’a University  
Sana’a, Yemen

Dr Arif Saeed Aqlan Alhammadi  
Associate Professor  
Department of Biology  
Science Faculty  
Sana’a University  
Sana’a, Yemen

Prof. Sultan Al-Mekhlafi,  
Head, Academic Development Department Program  
Taiz University  
Taiz, Yemen

Prof. Dr. Mohammed A. M. Ibrahim,  
Dean, Computer Center and IT Program, and Director,  
IT and Management MA Program  
Taiz University  
Taiz, Yemen

Prof. Dr. D.R. Nabil Sufian, Dean  
Faculty of Education  
Taiz University  
Taiz, Yemen

Abed Naji  
Assistant Professor  
Department of English  
Faculty of Arts  
Taiz University  
Taiz, Yemen

Kamel Braham  
Senior Education Specialist  
Middle East and North Africa Region  
Human Development Group (posted in Yemen)  
The World Bank

Gillian Perkins, World Bank (retired)  
Former Task Team Leader,  
Yemen: Higher Education Learning and Innovation Project  
The World Bank

Tomomi Miyajima
Education Specialist
Middle East and North Africa Region
Human Development Group
The World Bank
Author of the HEP ICR

Lianqin Wang
Senior Education Specialist
Middle East and North Africa Region
Human Development Group
Co-Task Team Leader, Higher Education Quality Improvement Project

J. Roger Pearson
Consultant to the Higher Education Learning and Innovation Project
Annex C. Summary of Jordan Higher Education Development Project Performance Assessment

1. IEG assessed the performance of the Jordan Higher Education Development Project (HEDP), in a cluster project performance assessment of two Jordanian education projects. This Annex summarizes the findings of this evaluation pertaining to the Higher Education Development Project. The full evaluation will be available on IEG’s website.

2. The Jordan Higher Education Development Project with a total cost of US$65.8 million, was supported by an IBRD loan (No. 4539-JO) of US$34.7 million (equivalent). The loan was approved on February 29, 2000, became effective on October 7, 2000 and closed on June 30, 2007.

3. With a Gross National Income per capita of $3,310 (2008), the economy of Jordan depends very much upon remittances from its skilled labor working abroad in the oil rich countries of the region and external grants/loans from international and regional partners. During the 1970s the economy showed robust economic growth in the range of 10 percent as oil prices were high and remittances from Jordanian workers abroad drove economic growth. However, during the 1980s, especially after oil prices dropped, Jordan experienced a difficult economic period. After working through an IMF adjustment program the economy stabilized, but the robust growth of the 1970s has not yet resumed. In recent years the Kingdom enjoyed good economic growth of about 6 to 7 per cent except for a slowdown in 2009 with onset of the global financial crisis.

4. Despite this good macroeconomic growth, there are still persistent problems with high unemployment (overall about 12.1 percent in 2008), even among university graduates (about 17.7 percent in 2005 and falling to 12 percent in 2008). Partly this is due to rapid population and labor force growth which requires even higher rates of economic growth. However, there is evidence that this unemployment problem also has structural causes rooted in mismatches between job expectations and skills needed in the growing economy. Thus the education system is in need of reforms to produce skills needed for the global knowledge economy. Based upon concerns about the declining quality of its higher education, the government requested the Bank to conduct an in-depth study, resulting in the “Jordan Higher Education Development Study” (1996), which also set the stage for preparation of the Higher Education Development Project (2000). The objective of the Jordan Higher Education Development Project was to: “initiate improvements in the quality, relevance and efficiency of higher education in Jordan and support the Government’s program to reform sector governance”. The project aimed to achieve these objectives by investing in ICT, scientific equipment and faculty training needed to upgrade university academic programs, as well as a Management Information System (MIS) to improve system wide efficiency. The reform program for sector governance aimed at increasing relevance by strengthening recently created governance structures such as the Higher Education Accreditation Council for quality assurance and the Higher Education Council for overall policy making. The system of Community Colleges under the oversight of Al Balqa Applied University was to be reformed to improve links to the labor market.
5. The overall outcome of the HEDP is rated as moderately unsatisfactory. Some improvements in quality resulted from provision of much needed ICT equipment for teaching and learning and some changes in teaching methods. However, the reforms of governance fell short of most of their objectives. The Higher Education Council did not implement the formula funding for recurrent budgets, the MIS needed for the formula funding was not completed, the competitive fund for new academic programs only became fully competitive near the end of the project, and the reforms of the CCs under the oversight of Al Balqa Applied University to improve labor market relevance were not completed. Thus the objectives for quality, relevance, efficiency and governance were only modestly attained. The risk to development outcome is moderate since there are many outstanding issues in reform to be addressed. The performance of the Bank was moderately unsatisfactory, given the long delays in preparation and insufficient focus on reforms during supervision. The performance of the Borrower was moderately unsatisfactory based upon insufficient leadership for the reforms during implementation.

6. The performance assessment draws the following lessons:

- The continuing high unemployment rates among university graduates is a cause for concern, despite attempts to make higher education more relevant. Although limited progress has been made, the higher education system can do much more to improve quality and relevance, including becoming actively linked in real time with the labor market and economy. It has been noted that more up to date labor market information is needed as well as much more private sector representation in the governance of universities and CCs. However, education is limited in how much it can do in job creation and economic and education reforms need to work together.

- Despite the problems in the first two rounds of the competitive higher education fund, the modest success of the third round demonstrated that such competitive funding mechanism can work in Jordan, if time and care are taken to adapt it to local circumstances.

- The difficulties experienced in the formula funding arrangement for recurrent higher education budgets were both technical and political. The technical part has to do with establishing a good MIS, which was almost achieved in the first project (and was still on the agenda for the second project that was cancelled). The political reasons had more to do with the difficulty of achieving a sufficient (not full) consensus among the stakeholders, and many informed observers believed that increasing the public budget to be allocated by formula funding would have helped in achieving sufficient consensus. Although this reform measure did not come to pass, it generated useful debate and may still be feasible if more political effort is forthcoming.

- Higher education curricula need to continue adapting to the new secondary graduates who have gone through the secondary education reforms, which emphasize less rote learning and more critical thinking and problem solving skills. The admission procedures for higher education need to adapt to the criteria of the knowledge economy.
• Purchase of physical equipment for IT and science/engineering labs can go much faster and with less controversy compared to changes in institutional behavior required by the reform agenda. There was much more agreement that universities lacked modern equipment and the benefits were widely spread. Agreement is more difficult to come by on institutional reforms at higher education level or to make rapid changes in teacher and school behavior at the basic education level.
References


--------. 2008. *The Road not Travelled: Education Reform in MENA.*

