Jordan has initiated comprehensive education reforms to capitalize on its strong record of education completion and adult literacy. Its reforms have strengthened education policy objectives and strategies, transformed education programs and practices, improved school buildings and learning environments, and enhanced equity in the poorer areas of the country.

Jordan Prepares for a Global Knowledge Economy

SYNOPSIS

Jordan has initiated comprehensive education reforms to capitalize on its strong record of education completion and adult literacy. Its reforms have strengthened education policy objectives and strategies, transformed education programs and practices, improved school buildings and learning environments, and enhanced equity in the poorer areas of the country.

Challenge

Jordan’s primary education completion rate reached 97 percent in 2000, and the adult literacy rate was 90 percent, the highest in the Middle East and North Africa (MENA) Region. Jordan is also a country well advanced with regard to elimination of gender disparity; female enrollment accounted for 50 percent at both basic and secondary levels in 1999. Ranking international education assessment levels, Trends in International Mathematics and Science Study (TIMSS) 1999 scored Jordan above average in both mathematics and science.

The Government of Jordan revaluated its overall development direction and, within that, its human resource development strategy, articulated in the Jordan Vision 2020 and the 2002 Vision Forum on the Future of Education. This shift focused attention on the need to both reorient the education system and improve its quality, efficiency, and equity. Consequently, with support from the International Bank for Reconstruction and Development (IBRD), the Government designed a comprehensive education strategy to address the following challenges in the education sector:

- Institutional arrangements accommodate a traditional, hierarchical top-down model of management as opposed to participatory, outcome-based, and learner-centered model.
- Curriculum is designed on traditional rote-learning methods. Teachers’ academic qualifications are insufficient to offer education for knowledge economy, and students lag behind international peers in international assessments.
- Public schools are unsafe, overcrowded, and lack adequate learning resources necessary for education for knowledge economy.
- Lower-income households, particularly in rural areas, have unequal access to early childhood education, mainly due to the provision of pre-primary education by the private sector.

Results

The Education Reform for Knowledge Economy (ERfKE) achieved most of the intended targets outlined under its 4 main components:

1. Re-orient education policy objectives and strategies through governance and administrative reform. A National Strategy was developed, after a broad-based consultation process, as a guide for action for the Ministry of Education. In addition, governance and management
mechanisms were revised to ensure greater community involvement in the decisionmaking and delivery processes of basic skills and core competencies for knowledge economy. To further improve education management information sharing, the Education Decision Support System (EDSS) was created to provide timely information on development activities in education, and by 2006 50 percent of decision-makers, information seekers, and researchers were using the System, growing to 90 percent by 2008. The roles of the National Council for Human Resources Development and the National Examination Center were also revised to guide and inform other agencies involved in educational research for knowledge economy. More importantly, the investments in educational reforms are now well-managed by two new units established within the Ministry of Education: the Development Coordination Unit (DCU) and Policy and Priorities Committee (PPC). The Development Coordination Unit will serve as a technical secretariat to the Policy and Priorities Committee. Under the Innovation Funds, 164 projects were implemented with 7 out of the 8 rounds completed.

2. Transform education programs and practices for the knowledge economy. New curricula and teaching methods emphasizing knowledge-economy-based education (higher-order thinking, critical thinking, student-centered learning, etc.) were developed. With 95 percent of the intended targets met under this component, students and teachers were helped to recognize the advantage of knowledge-based learning over the conventional rote-memorization style teaching. Learning outcomes were developed for all general education subjects and grades. Moderate outcomes were also produced in several vocational streams.

Teachers were offered training to improve basic skills in information and computer technology; 85,118 teachers were trained and 55,000 certified on use of the software, International Children’s Digital Library (ICDL); another 57,700 teachers and supervisors were trained and 7,700 certified on INTEL; and 2,583 were trained and 1,820 certified on World Links. Eighty percent of teachers started using new teaching methodology in line with education for knowledge economy.

KEY STATS AND RESULTS

- 97 percent primary education completion rate in 2000
- 90 percent adult literacy rate (2000), highest in MENA
- 164 number of projects implemented in education reform program
- 85,000 number of teachers trained on International Children’s Digital Library software
- 942,000 number of students benefiting from improved school buildings
- 2,822 number of schools connected to online learning portals.
- 84 percent basic and secondary students use on-line learning portals.
- 87 percent students have access to safe and adequate basic and secondary education facilities.
- 52 percent enrollment in second level of kindergarten compared to 41 percent in 2003.
- 80 percent Jordan schools are connected to the internet.
- 93 percent kindergarten teachers trained on the Wisconsin “Working with Young Children” program.
- 37 percent increase in qualified kindergarten teachers with bachelor degree and certification.
- 46 percent increase in fully equipped kindergartens.
- 29 percent teachers now use internet from 15 percent in 2004.
The average standardized score of Jordanian students in international assessments of mathematics and science showed improvement. In 2007 TIMSS results showed positive and marginally significant improvement in performance. In science, Jordan improved its regional and international ranking. Although the increase in TIMSS scores during 2003-2007 was not statistically significant, Jordan’s regional and international ranking improved consistently during this time period, an achievement unmatched by most other participants worldwide. Jordan moved up in international TIMSS ranking from 25 to 20 in science and from 32 to 31 in mathematics from 2003 to 2007, respectively.

3. Ensure adequate provision of structurally safe school buildings and improved learning environment. At least 80 percent of primary and secondary students gained access to safe and adequate school facilities. By project completion, 942,422 students (87.4 percent of total enrolled students) were provided an environment conducive to learning through environmentally efficient school buildings. The use of information and computer technology in the classroom enhanced students’ learning experience, with at least 70 percent of basic and secondary students now using online learning portals; 84 percent (2,822 out of 3,350 schools) are connected by Jordan Telecom (2,562 schools) and by the national broadband network (260).

4. Enhance equity in low-income areas by providing kindergarten for children of age 5. The target of 51 percent gross enrollment rate in the second level of kindergarten (for ages 5–6) was fully achieved. Due to the increased demand of knowledge economy learning at the early stage of education, 100 percent of kindergarten teachers received training on the national curricula and 93 percent received training on “Working with Young Children Program” that promotes critical thinking and improving basic cognitive and communication skills.

Approach

In September 2002 HM King Abdullah II of Jordan advanced the vision of making Jordan the information technology hub of the Region. To achieve this goal, the highest priority was placed on developing human capital for the knowledge economy. The Government of Jordan prepared a major reform of the education system entitled “Education Reform for a Knowledge Economy” (ERfKE) and sought IBRD assistance in developing and financing the reform. The ERfKE was designed as a comprehensive, 10-year multi-donor sector program. Its objective was to transform the education system at the early childhood, basic, and secondary levels to produce graduates with the skills necessary for the knowledge economy. The first phase (ERfKE I) began in 2003 and, after significant outputs, closed in June 2009. To further align the basic education system in Jordan to the needs of knowledge economy, ERfKE II was implemented for the period 2006–2010.

The prevailing education system and new government strategies devised through participatory consensus during the 2002 Vision Forum for the Future of Education formed the basis for development of ERfKE. More importantly, the Vision Forum offered a framework for education reform that allowed donor integration and government contribution for this particular program. The Cost Efficiency of Education Spending Study preceded program preparation and guided the subsequent program work. Extensive and detailed technical work was also carried out for each of the 4 components of the program and a series of technical papers were prepared and seminars organized with international experts.

Along with strong donor coordination and improved financial management through the Development Coordination Unit and effective monitoring and evaluation with the support of National Center for Human Resources Department, the reform program had the added effect of stimulating the private sector to work with the Ministry of Education in developing high-quality, cutting-edge, e-learning materials in key subjects, especially math and science, which would then be used in Jordan’s schools.

IBRD Contribution

At the Government’s request, the World Bank played the lead role in assisting the Ministry of Education in jointly designing the comprehensive reform and leading the su-
pervision of its implementation. The World Bank also provided financing of US$120 million for the US$390 million reform. The project was intended to contribute to two priority areas of the Jordan 2002 Country Assistance Strategy (CAS): (a) human development pursued strategically to support the key development goals of reducing poverty and enabling more Jordanians to participate in the knowledge economy; and (b) public sector reform and governance for more equitable, efficient, and higher-quality public services. The goal of the project was consistent with both the CAS and the Government’s development priorities. The World Bank played a major role in developing the information and computer technology applications for learning; it also introduced increased rigor into program management and financial management through its close work with the Government of Jordan and other donors.

**Partners**

Additional USAID-funded technical assistance helped to translate the component proposals into an integrated Five-Year Implementation Plan with activities and output indicators. The program also incorporated lessons from the DFID-funded Capacity Building in the Management of the Educational Services project (1998–2002) and JICA-funded e-learning physics curriculum. Private sector consulting firms provided valuable support in developing e-learning curriculum and materials. All these initial efforts led to 18 donors and partners, including nongovernmental organizations, international donors, and private sector, together with the government to support the ERKKE. The World Bank provided a forum for discussion and consultation among stakeholders, and technical seminars to deepen the understanding of several key issues (e.g., the significance of investment in early childhood education, jointly led by UNICEF). The World Bank team effectively utilized computer technology to link international experts residing in different parts of the world, including EIB in Luxembourg, in the program preparation process. Through biweekly video- and audio-conferencing

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**Project Cost By Component**

<table>
<thead>
<tr>
<th>IBRD-financed components objectives</th>
<th>US$ millions</th>
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</thead>
<tbody>
<tr>
<td>(a) Reorient education policy strategies</td>
<td>2.503</td>
</tr>
<tr>
<td>(b) Transform education programs and practices</td>
<td>36.974</td>
</tr>
<tr>
<td>(c) Provide quality learning environments</td>
<td>78.626</td>
</tr>
<tr>
<td>(d) Promote learning readiness through early childhood education</td>
<td>.406</td>
</tr>
<tr>
<td><strong>Total IBRD financing including the front-end-fee</strong></td>
<td><strong>119.709</strong></td>
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**Source of funds**

<table>
<thead>
<tr>
<th>Source of funds</th>
<th>US$ millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Agency for International Development (USAID)</td>
<td>25.97</td>
</tr>
<tr>
<td>Arab Fund for Economic and Social Development</td>
<td>33.00</td>
</tr>
<tr>
<td>Borrower</td>
<td>143.90</td>
</tr>
<tr>
<td>Canadian International Development Agency (CIDA)</td>
<td>17.20</td>
</tr>
<tr>
<td>United Kingdom Department for International Development (DFID)</td>
<td>1.79</td>
</tr>
<tr>
<td>European Investment Bank, European Commission</td>
<td>45.00</td>
</tr>
<tr>
<td>IBRD</td>
<td>120.00</td>
</tr>
<tr>
<td>Islamic Development Bank</td>
<td>23.00</td>
</tr>
<tr>
<td>Japan International Cooperation Agency (JICA)</td>
<td>1.50</td>
</tr>
<tr>
<td>Kreditanstalt fur Wiederaufbau (KFW), Germany</td>
<td>11.00</td>
</tr>
</tbody>
</table>
with Government teams as well as frequent communications by email with other donor partners, the World Bank team was able to quickly provide the necessary resources for project preparation and ensure a smooth launch of ERfKE.

Next Steps

To sustain the momentum created by Phase I and further strengthen the capacity at the school and field directorate levels, and to support the strategic leadership at senior management levels of the Ministry of Education, ERfKE II, prepared and appraised in 2009, focuses on teachers (e.g., teacher policy, in-service training, and teachers as an agent for change) and promotion of field directorate-level, capacity-building, and school-level innovation as part of the promotion of decentralization. A smooth transition from ERfKE I to ERfKE II is expected because the Ministry of Education and Development Coordination Unit are already familiar with IBRD requirements and procedures for procurement and financial management. World Bank suggestions for social and environmental safeguard compliance have been incorporated and the Ministry of Education has well-established systems and regulations that are largely compatible with IBRD requirements with respect to safeguards. The only potential challenge is the need to sustain ownership of the project at all levels of the Ministry of Education given new leadership and turnover of several senior management staff.

Visit MNSHD website:

Innovation Fair October 2009 website:
– http://innovation.worldbank.org/innovation/
  jordan-education-reform-knowledge-economy-i

Multimedia:
– http://www.youtube.com/watch?v=3u8g-MaSSq8