

**Document of
The World Bank**

Report No.: 32594

PROJECT PERFORMANCE ASSESSMENT REPORT

YEMEN

BASIC EDUCATION PROJECT (CR.2412 -RY)

June 14, 2005

*Sector, Thematic, and Global Evaluation Group
Operations Evaluation Department*

Currency Equivalents (annual averages)

1996	US\$1.00 =	Yemeni Rial
2004	US\$1.00 = 178	Yemeni Rial

Abbreviations and Acronyms

BEP	Basic Education Project
EFA	Education for All
ERDC	Educational Research and Development Center
FTI	Fast-Track Initiative to achieve Education for All
GDP	gross domestic product
GTZ	Deutsche Gesellschaft fuer Technische Zusammenarbeit
ICR	Implementation Completion Report
IDA	International Development Association
LIL	Learning and Innovation Lending
KfW	Kreditanstalt fuer Wiederaufbau (German Credit Institute for Reconstruction)
MIS	management information system
MLA	Monitoring Learning Achievement
NGO	Nongovernmental Organization
OED	Operations Evaluation Department
PAD	Project Appraisal Document
PCU	Project Coordination Unit
PDRY	Peoples' Democratic Republic of Yemen
PPAR	Project Performance Assessment Report
PRSP	Poverty Reduction Strategy Paper
QAG	Quality Assurance Group
SAR	Staff Appraisal Report
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
YAR	Yemen Arab Republic

Fiscal Year

Government: January 1 — December 31

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OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department 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, OED annually assesses about 25 percent of the Bank's lending operations. 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. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; 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 OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED 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 (more information is available on the OED website: <http://worldbank.org/oed/eta-mainpage.html>).

Relevance of Objectives: 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). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: 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. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

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This report was prepared by Helen Abadzi who assessed the project in December 2004. The report was edited by William B. Hurlbut, and Pilar Barquero provided administrative support.

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Principal Ratings

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Institutional Development Impact	Modest	Modest	Modest
Sustainability	Highly Likely	Highly Likely	Likely
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

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

Key Staff Responsible

	<i>Task Manager/ Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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Preface

Attached is a Project Performance Assessment Report (PPAR) on the Basic Education Project in Yemen (Credit 2412-RY). The project was approved for a credit of US\$19.7 million equivalent in July 1992. The project closed on April 30, 2001, and US\$0.95 million was canceled. The Netherlands provided cofinancing of US\$8.5 million.

This project was selected for assessment in order to study the effectiveness of Bank strategy in a poor country that has been declared ready for the Fast-Track Initiative in order to achieve Education for All by 2015. The assessment contributes to background work for an ongoing Operations Evaluation Department (OED) study of the Bank's assistance to basic education.

The PPAR is based on the following sources: Project or Implementation Completion Reports (ICRs), Staff Appraisal Reports (SARs), loan agreements for the projects, and project files, particularly the supervision reports. An OED mission visited Yemen in December 2004 to interview officials and beneficiaries, observe instruction in schools, and collect other pertinent information. Field visits took place at a sample of 10 basic education schools that had benefited from the projects. The author thanks the government officials who received the mission for their extensive cooperation.

Following standard OED procedures, copies of the draft PPAR were sent to the relevant government officials and agencies for their review and comments but none were received.

Summary

Since 1972, Yemen has implemented 19 IDA-financed projects (including four in the former People's Democratic Republic of Yemen) designed to increase its ability to provide education at all levels. The goal of the Basic Education Project was to increase female enrollments dramatically by building a large number of schools and hiring female teachers who would receive training and incentives to serve in rural areas. Project objectives were to: (a) increase the school participation rate of girls in rural areas; and (b) lay the foundation for improving the quality of education.

Most of the planned achievements were realized, and construction was double the targeted amount (thanks to added financing from the Dutch government); 1,124 classrooms were built in remote rural areas rather than the initial target of 600. The new classrooms had space for about 31,617 additional students. Curricula for grades 1-6 were revised and textbooks were produced and issued every year to students free of charge. However, budget constraints reduced the hiring of female teachers by more than half of appraisal targets. Important in-service training activities were delayed and were not carried out effectively.

Enrollment has been climbing since the 1980s, but the project-related interventions amplified achievements. In the governorates where the project intervened, the female gross enrollment rate increased from 34 percent in 1991/92 to 43 percent in 1999/2000. In some areas, gross female enrollment rates moved from almost 0 in 1990/91 to 35 percent in 1999/2000.

Trend data on student achievement are not available; the project financed baseline testing in grades 4 and 6, however. The vast majority (86-93 percent) of students who were tested using a sample-based assessment scored lower than the mastery criterion of 70 percent in math and science. Thus, the government goal of improving human resources through female enrollment is possibly not being realized. The government has recognized this and has made quality improvements in the curriculum, widely distributed new textbooks, developed an assessment system, and initiated inservice training and improvements in supervision. The quantitative and qualitative improvements of multiple projects constitute building blocks of the government's efforts towards Education for All by 2015.

Overall, the outcome of the Basic Education Project is rated *satisfactory* because girls' participation increased beyond expectations. Institutional development impact is rated *modest* because the ability of schools and district offices to provide quality education tailored to the needs of the poor (particularly girls) remains limited. Sustainability is rated *likely* because the schools built are likely to be sustained; despite the high recurrent expenditures created, donor financing to help achieve Education for All may maintain enrollment trends. Bank performance and borrower performance are rated *satisfactory*.

This assessment confirms a number of OED lessons from the education sector:

- Countries that have limited literacy rates and few schools may benefit from a strategy that simultaneously pursues both supply-side (school construction, teacher training) and demand-side (public campaigns to enrol girls) interventions. These activities may be carried out through multiple well-coordinated operations.
- Even if enrollment increases, potential gains may be lost when students drop out. School authorities must be sensitized to the needs and problems of rural students and actively try to prevent drop out, particularly among those not yet functionally literate.
- By itself, student enrollment does not guarantee acquisition of basic skills. It is also necessary to use classroom time wisely, ensure that textbooks are available for students to take home, provide in-service teacher training, and allow for systematic supervision. Without attention to quality, basic skills may be acquired late, and students may drop out before learning to read fluently and to calculate.
- The strategy of employing female teachers may fall short of expectations due to budgetary constraints and the low numbers of qualified women willing to work in rural areas. Recruiting women who already live in rural areas, even if they have a relatively limited education, may be a sound way to increase the number of female teachers available.

Ajay Chhibber
Acting Director-General
Operations Evaluation

1. Background

1.1 This document presents evidence regarding the achievement of objectives of the Basic Education Project. It also presents evidence regarding the extent to which Yemen is progressing towards the achievement of the Education for All initiative.

1.2 With a per capita income of US\$510, Yemen is a low-income country that was divided before 1990 into the Yemen Arab Republic (YAR) and the socialist People's Democratic Republic (PDRY). The economy of Yemen remains largely agriculture-based with a population of 19.2 million (increasing at a rate of 2.9 percent annually) and with half its citizens under 16 years of age. Almost 72 percent of the population lives in rural areas. The literacy rate is about 50 percent, and there are large discrepancies in gross primary-school enrollments between boys and girls (97 and 64 percent).¹ Providing social services to a large population of young people represents a heavy burden on taxpayers.

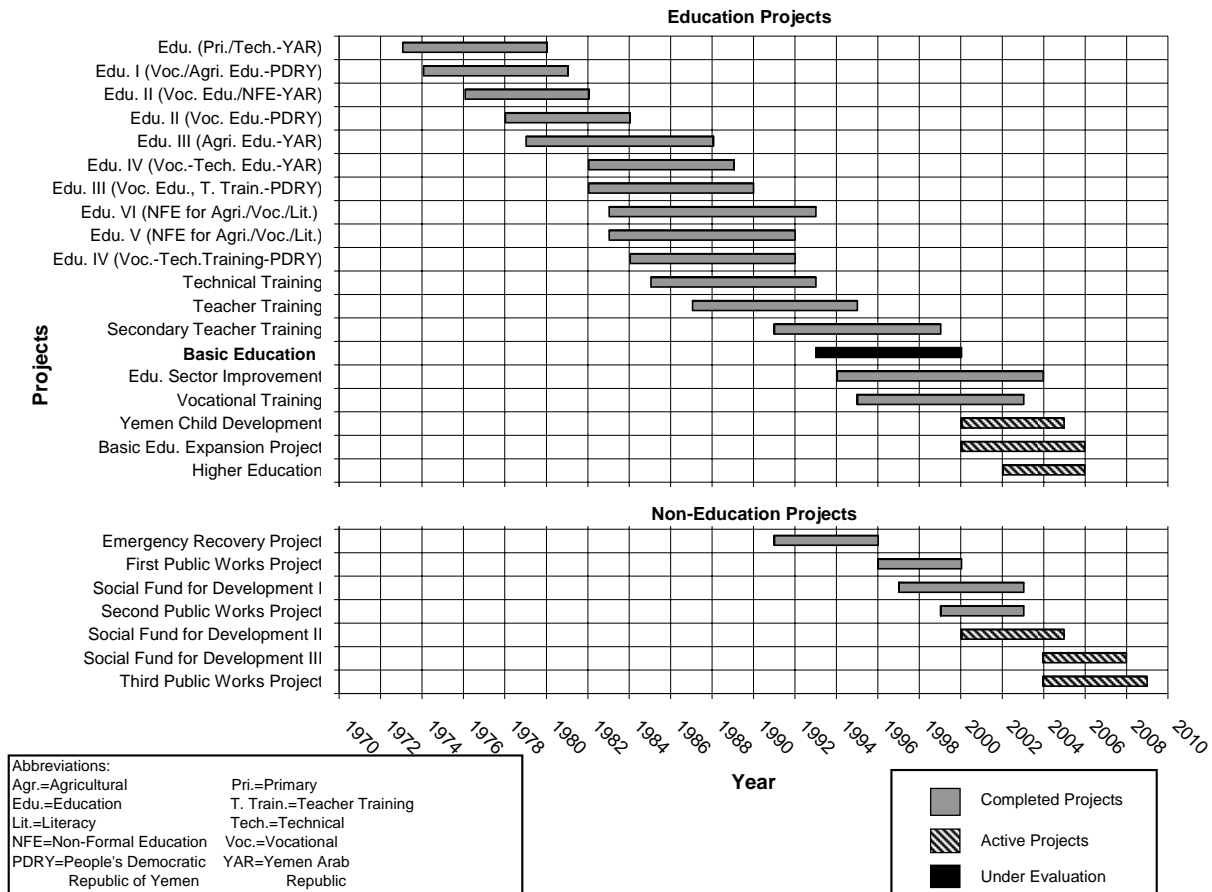
Bank Sector Strategy

1.3 Since 1972, IDA has supported 19 education projects in North Yemen (YAR) and South Yemen (PDRY),² totaling US\$286.3 million in IDA funds. Of these projects three were active in 2004 (Figure 1; Annex A, Table A-1). The first 10 (1974-1993) financed vocational and nonformal education as well as teacher training, and their objectives typically were to (a) alleviate acute shortages of skilled manpower; (b) train local instructors; (c) increase the numbers of student places available for the supported types of education; and (d) improve curricula and provide technical assistance. The supported institutions trained teachers with lower-secondary education as well as primary-school graduates (Grades 1-6) in trades such as automotive mechanics, electricity, and carpentry. Completed operations include teacher training projects as well as the Basic Education project, which is the subject of this review (Figure 1). The active projects include a sector credit, a higher education project, and a child development project. With the exception of two vocational-technical education projects, OED has rated outcomes of the Yemeni education projects satisfactory (Annex A, Table A-2). Despite frequent implementation difficulties, the government has been intent on improving its human resource base and education of girls. Government sector strategy has been aligned with the Millennium Development Goal of universal completion of primary education by 2015. Because of its strategic vision and demonstrated capacity to implement projects, Yemen is one of the first countries to receive support under the Bank-led Fast-Track Initiative that is expected to accelerate progress toward universal primary school completion by 2015 and attainment of Education for All (EFA). The 2002 poverty reduction strategy paper specifically includes human development as an objective toward achieving these goals.³

1. Data are from World Bank's Country at a Glance 2003. The Atlas method was used to compute the GDP (gross domestic product).

2. Of the completed projects four are in former PDRY, eight in former YAR, and four in the unified country.

3. Republic of Yemen. Poverty Reduction Strategy Paper (PRSP) 2003-2005 (English translation from Arabic). May 31, 2002.

Figure 1. Bank-financed investments in the education sector

1.4 The Basic Education Project (known as BEP) was a cornerstone of the 1990s' efforts toward EFA. It was appraised in 1991, shortly after the country's unification. At that time, there were 1.16 million boys enrolled in primary education, a number approximate to the cohort aged 6-11; but there were only 0.44 million girls enrolled, although the cohort aged 6-11 had 1.08 million girls. There were big differences among governorates in the levels of enrollment as well as between rural and urban areas. The former north had lower enrollment rates than the former south, and difficulties in financing the delivery of education. The system depended heavily on foreign teachers, mainly Egyptians and Sudanese; foreign teacher payments accounted for 44 percent of primary-level teacher payments and 62 percent of secondary-level teacher payments.⁴ Thus, the Bank supported a dual government policy: increasing enrollment rates, particularly among girls, while replacing foreign teachers with Yemenis.

1.5 The Basic Education Project was focused on increasing enrollments and training existing teachers while the "Yemenization" effort was undertaken by the primary and secondary teacher training projects (Cr. 1773 and 2222). These were subsequently supported by the sector

4. Project appraisal documents; also see Table C-1 for investment and recurrent expenditures.

investment project (Cr. 2570, FY94). In addition, projects in other sectors increased the availability of education in rural areas. These included public works projects and the three social funds projects (Table 1).

Table 1. Support for Education from Bank-Financed Projects of Other Sectors

Project	Approval-Completion Period	Civil works	Support activities
Emergency Recovery Project Cr. 2258-YEM, P005844	11/5/1991-12/31/1996	420 classrooms	School equipment, materials, teacher training
First Public Works Project Cr. 2878 YEM, P043109	6/11/1996-6/30/2000	Facilities for about 11,856 girls	School construction, equipment
Second Public Works Project Cr. 3168-YEM, P060132	1/28/1999-6/30/2003	621 school "subprojects"	Activities took place in 2001-2003
Third Public Works Project Cr. 3859-YEM, P082976	2/26/2005-6/30/2009	about 400 schools for about 115,000 students	School furniture and equipment
Social Fund for Development I Cr. 2953-YEM, P041199	5/22/1997 – 11/30/2003	727 "subprojects" for about 600,000 students, 43% female.	Construction and rehabilitation of school buildings and other basic education facilities Parental maintenance committees
Social Fund for Development II Cr. 3353, P068830	5/23/2000-6/30/2006	Facilities for about 400,000 students	Construction and rehabilitation of school buildings, provision of materials, community involvement
Social Fund for Development III Cr. 3861-RY, P082498	2/26/2004-8/31/2007	Facilities for about 400,000 students	Construction and rehabilitation of school buildings, provision of materials, community involvement

1.6 The projects mainly supported the construction and rehabilitation of school buildings and other facilities in basic education. The social funds helped establish parent maintenance committees for all school subprojects, and a 2003 evaluation of the first and second social fund projects suggested that committees were operating in 63 percent of schools.⁵ The study also found increased enrollment, low teacher absenteeism, and a high level of parental involvement in supported schools. Nevertheless, there were some community complaints about the quality of construction materials and lack or low quality of doors or fences.

1.7 What new policies and plans have been developed with Bank support? Have they helped Yemen increase the proportion of children enrolling in and completing primary and lower secondary education? Have student learning gains accompanied increasing enrollments? How effective has the Bank policy been in helping Yemen implement Education for All? How likely is Yemen to achieve Education for All by 2015? In addition to assessing the Basic Education Project, this document presents evidence regarding these questions.

5. Republic of Yemen. Implementation Completion Report. (Cr.29530 Cofn-04270 TF-20452 TF-26373 PPPFI-P9980 TF-26803) Social Fund for Development Project. November 24, 2003. It is unknown how well these committees maintained school buildings.

Objectives of the Assessed Project

1.8 Project objectives were: (a) to increase the school participation rate of girls in rural areas; and (b) to lay the foundation for improving the quality of education. To increase enrollments, particularly for girls, the project sought, first, to build schools and, second, to hire female teachers who would be trained and given incentives to serve in rural areas.

1.9 Components were (see activities and targets in Annex A Table A-2):

(a) Expanding access for girls in rural areas: by (i) building, extending, rehabilitating, equipping, and furnishing classrooms in impoverished districts and (ii) recruiting and training female teachers for project schools.

(b) Enhancing teacher effectiveness through (i) distance education, development and printing instructional modules for an in-service training program, expansion of a building that was to be used for this purpose, provision of educational audiovisual media, technical assistance, and studies.

(c) Improvement of educational quality: (i) curriculum and textbook development capabilities at the educational research and development center, typesetting capacity at the MOE textbook press, and (ii) development of standardized achievement tests and enhancement of the supervisory capacity in the guidance and evaluation department.

2. Implementation of the Assessed Project

2.1 The project constructed classrooms in communities chosen from an initial list of 1,140 rural communities of 1,000-2,500 inhabitants that had female enrollment lower than 20 percent according to the 1986 census. Initially 385 communities were selected, and 600 project classrooms (3-room schools) with latrines⁶ were spread out over 6-8 governorates. Agreement was reached between the MOE and the communities that girls would have priority in attending the schools if space were inadequate.

2.2 *Constraints.* Activities were delayed due to a civil war that started soon after the project became effective in 1994. Disbursements were slow until a project implementation unit (PIU) was established in 1997. The PIU was staffed with engineers, and there was little input from educators. At times, governance was weak. Financial audit reports repeatedly suggested that the government counterpart financing was inflated, and project documents contain reports that smaller classrooms had been constructed than bids had specified.⁷ Contractors abandoned some

6. Although major environmental impacts were not anticipated, the project was classified as Category B. The environmental management plan was to ensure adequate site selection for school construction, avoiding loss of vegetation and trees. In earthquake-prone zones, appropriate designs were to be used, and flood zones were to be avoided. Asbestos products would be barred in new construction. Any exposed lead-based paint in buildings would be neutralized through an appropriate method, and new construction would not use lead-based paints. Clauses included in contract documents were to ensure the appropriate disposal of construction wastes, particularly hazardous substances. The extent to which these guidelines were followed could not be verified by the OED mission.

7. On the report dated June 11, 1997, Rajeh Al Awade, public accountant, for year 1995 stated that government counterpart financing was only US\$25,314 rather than US\$164,509, as it was reported (an overstatement of US\$139,195). Similarly, in 1996 the same accounting firm concluded that government counterpart financing was US\$653,930 rather than the required

primary-teacher training centers after materials prices increased and also left some schools unfinished. However, there is no evidence in the files regarding the resolution of these situations. During appraisal it was foreseen that communities would be involved in construction and planning,⁸ and building costs had been estimated at US\$150 per square meter, but communities had fewer resources than expected and limited involvement. Construction costs were higher, US\$180 per meter.

2.3 The following activities were carried out during implementation (Annex A, Table A-3):

Objective 1: Increasing school participation for girls in rural areas

Component (a): *Expanding access for girls in rural areas*: With additional aid provided by the Netherlands after project initiation, 1,124 classrooms were built – nearly double the target of 600 - and half of them were exclusively for girls. Promotional campaigns were carried out. Enrollments rose by 31,617, nearly a third higher than the target of 24,000. Teachers' houses and hostels were built but were eventually used as classrooms, because teachers preferred to live near families. Due to a legal change in teacher pay scale, allowances for rural service were given rather than housing incentives. Ultimately, budgetary limitations meant that only 452 (57 percent) of the expected 800 female teachers were hired by the end of the project. Overall, however, the implementation of this component was *satisfactory*.

Objective 2: Laying the foundation for improved quality of education

Component (b): *Enhancing teacher effectiveness*. A distance training center was built that was to promote teacher training through videoconferencing and audiovisual means. Some district-level training centers received audiovisual equipment, but the videoconferencing technology available at the time was unsuitable for large-scale implementation in Yemen. Overall, few in-service training activities were carried out.⁹ Implementation of this component was *unsatisfactory*.

Component (c): *Improvement of educational quality*. Curricula were updated for grades 1-6, and textbooks were developed that were printed after the end of the project. The project provided appropriate staff training for textbook development. It also provided technical assistance, in conjunction with UNICEF, for the development of the competency-based Monitoring Learning Achievement (MLA) tests and administration to a nationwide sample of about 200 schools.¹⁰ Overall implementation of this component was *satisfactory*.

US\$1,086,936. The frequency of building smaller rooms is unknown, and total numbers of student seats lost because of this practice is unavailable.

8. Colletta and Perkins, 1995.

9. The lack of an educator in the project implementation unit throughout much of the project may have been one reason for the limited implementation of educational components. UNICEF throughout the 1990s financed teacher training for rural girls who had some education by driving them into towns every day or setting up classes near several of them when possible. However, the Bank project did not collaborate with this activity.

10. ERDC. Reasons for the students' level in the primary school in reading and writing from the perceptions of teachers and supervisors. Sana'a 2000.

2.4 **Mission observations.** The OED mission visited 10 schools unannounced in rural areas that had benefited from the project constructions and/or curricula.¹¹ The schools were close to main roads and within a distance of about 100 kilometers from Sana'a. Therefore, these schools would be expected to provide a better-than-average quality of education. (These were one-time observations that provide no insight as to whether instruction in schools improved or deteriorated over time.) Observations are presented below:

2.5 For objective 1: *Increasing school participation for girls in rural areas*

- All schools were operational, with many students attending. (Average absenteeism in a sample of 10 classes was 18.6 percent). Some classes were overcrowded with 68, 85, or 97 students. Furniture was limited in four schools, and many students sat on the floor. In three of the schools space was not sufficient, and some classes were held in corridors and under entrances. The space allocated for science labs was used by other classes. Overcrowding was the problem most often discussed by school staff. However, none of the schools visited had an afternoon shift that would alleviate crowding. (Only about 25 percent of schools have afternoon shifts in Yemen, mostly in urban areas.)
- Girls' classes were crowded, and girls were present in the lower-grade coeducational classes as well. However, their number visibly diminished in higher grades, and sometimes there were as few as three girls per class in grades 5-9 out of 20-30 students.
- Overall, staff expressed satisfaction with the quality of schools. However, three of the 10 schools visited had unfinished items, such as large rocks in the schoolyard. A lack of railings in another posed safety risks for second-floor classes.
- The new schools had bathrooms, but three older buildings that were refurbished did not despite efforts to attract girls. These included one large girls' school whose bathroom was locked because no water was available.

2.6 For objective 2: *Laying the foundation for improved quality of education*

- About 12 teachers were asked if they had received training but reported that they had received no training since 2002. They also reported that inspectors and supervisors rarely came.
- Most students had all the required textbooks in their possession. In one school, the government textbooks had not arrived, and in three other schools, they had arrived 2-3 months after school started. The mission was informed that school principals do not always go to pick them up on time from the depot. Some students had the older

11. The schools were Al-Shahid Mohd. al Dailan in Waalan, Madrasa Sarakat Ali, and Madrasa As-salam in Bilad al Rus; Boys and girls' schools in 4 buildings in Halaqa (Sheban), Madrasa Bilqis in Sheban, 7 Julius Madrasa in al Tawila; Madrasa al Nuur in Beit Shaddam, Madrasa al Hikma in Wadi al Naim, Girls' Primary and Secondary School al Haula in Maabar, Madrasa Al Farouz in Beni Shajara, and Madrasa Busan in Dhamar. Through field visits, OED collects qualitative information, which is integrated with quantitative data where available. Missions have a limited time in the field, and travel to very remote areas is often not possible.

editions, which have different texts. Predictably, students of the classes that had received them late were studying the beginning pages and were behind other classes.

- At the moment of the mission entry in a class, teachers were lecturing in most classes. The students sat quietly and listened. Four classes were found to engage in questions and choral answers, whereas in five others, one student solved a problem on the board or read aloud while the rest of the class was silent (for example, reading a geography lesson aloud in grade 6). No classes were observed that had discussions, group work, or students initiating questions. (See Annex D for a discussion of these issues.)
- A sample of 2-4 students in 10 classes of grades 1-4 was asked to read. Grade 1 students generally had learned all the letters in the first three months of school. However, they did not progress to fluent reading; most students in grades 2-3 read haltingly and showed limited comprehension of the texts.¹² (See Annex D).
- The teachers interviewed about student performance attributed the low performance to rural homes, illiterate parents, and malnutrition. Three teachers stated in front of students unable to read that they were from poor environments and suggested that the OED mission listen to other children's performance.
- Seven of the schools visited had no female teachers. In the three schools that did, the teachers come from Sana'a by bus (travelling for an hour). The mission was advised that female teachers may be unwilling to live or be unaccepted in rural areas.
- Staff mentioned a shortage of teachers, particularly for math. Subjects are taught by specialized teachers starting in grade 4, so available teachers may be considered unqualified to teach 4th grade arithmetic. (See Annex D.)
- Instructional time was constricted. In three of the schools visited near closing time (12:30), the classes were dismissed early, at about 12 pm. In four of the approximately 65 classes visited, the teacher was absent and students were idle.
- The mission heard some governance concerns. One teacher stated that he had paid three months of salary to be transferred from another district to his home district. Staff reported to the mission that some of the textbooks are sold off on the side, leaving an insufficient number in some schools.

2.7 The mission also visited the in-service teacher training center that had been built in Sana'a with project funds and interviewed its director and staff. This large building has been equipped with a hostel and audiovisual media and houses an educational television channel; none of the facilities were operating. The staff reported that training activities take place a few times per year; a five-day workshop had taken place two months earlier, in October 2004.

2.8 The OED mission planned to visit pre-service primary teacher training centers in various towns that had been built by earlier projects (Annex A, Table A-1) as well as by the Basic Education Project. However, these centers that were created to train primary-school teachers at

12. Students in relatively effective schools should be fluent readers by the end of grade 1. (Harris and Hatano 1999, p. 25).

the upper secondary education level, are closed and will be subsequently used for in-service training only. The government has decided to offer pre-service training only at the university level and in the larger cities where universities operate. (See Annex D.)

2.9 The mission also interviewed government officials and donor staff involved with the projects assessed in this report and obtained opinions about actions and outcomes. These are referred to in various parts of the report. (See Annex B and sections on Bank and borrower performance).

3. Project Outcomes – Achievement of Objectives

3.1 *Data reliability issues.* Several of the donor and government staff interviewed mentioned that data are not always reliable (Annex B). Data show inconsistencies among different reports.¹³ Also, some data pertain to primary education (grades 1-6) and others to basic education (grades 1-8), making some comparisons difficult. One reason is that the management information and school mapping systems function partially because of limited school inspection and supervision, and there is no system to verify enrollments reported by schools and district offices. This tendency makes it difficult to evaluate program effects.

Objective 1: Increasing school participation for girls in rural areas

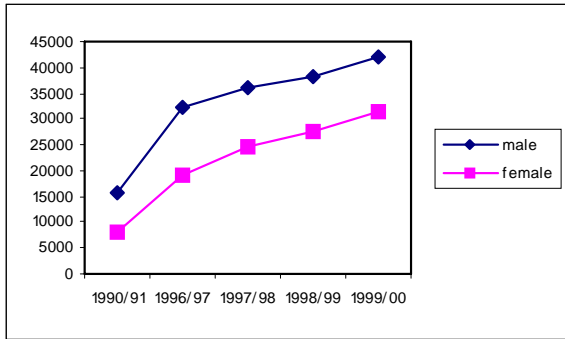
3.2 *Access to primary education improved in project areas.* The Basic Education Project was the first project in Yemen to build large numbers of schools, particularly targeting enrollment increases among rural girls. Female participation had increased steadily in the years before the project. Between 1970 and 1991, the percentage of the age cohort enrolled in primary schools nationwide (grades 1-6) improved from 22 to 76 percent, with female enrollments increasing from 7 to about 37 percent. (Boys' enrollments remained steady.) Enrollments roughly tripled in project schools, and enrollment of girl became nearly equal to that of boys (Figures 2 and 3; comparable figures in non-project rural schools for that period are not available.) An evaluation showed that the female enrollment rate increased from 34 percent in 1991/92 to 43 percent in 1999/2000 in the governorates where the project intervened.¹⁴ In some areas of Hadramaut, Sa'ada, Althale, and Almahra governorates, the female enrollment rose from almost 0 in 1990/91 to 35 percent in 1999/2000.¹⁵

13. For example, the number of students in 1990 has been reported as 2,076,138 in UNESCO statistics (1.16 million boys in grades 1-6), but calculations from Basic Education Project documents point to 1.592 million in 90/91 in YAR and PDRY [Staff Appraisal Report, p. 31]. The government's Fast-Track Initiative application has higher female enrollment rates than other statistical sources.

14. Alhamadi, Abdullah Othman. An Assessment Study of Girls' Achievement in Schools of the Basic Education Project, 2001.

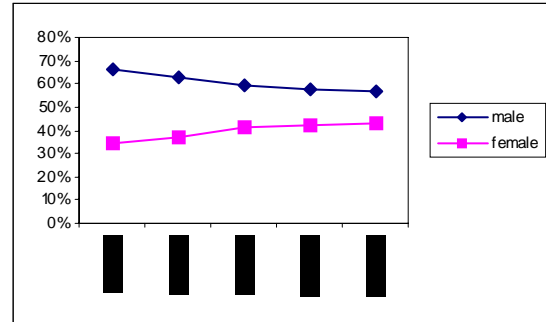
15. Abbas, Abdullah. An Assessment Study for the Schools of the Basic Education Project. Report presented to the Basic Education Project (in English and Arabic). 2000.

Figure 2. Student Enrollments in Project Schools



Source: Project Coordination Unit, Ministry of Education

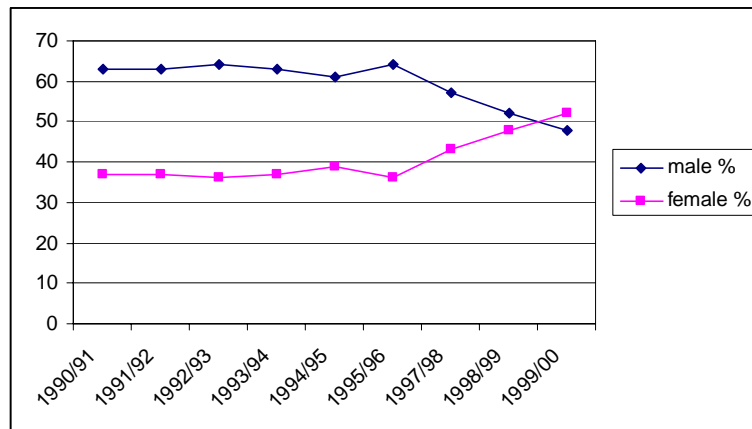
Figure 3. Distribution of Students by Gender in Project Schools



Source: Project Coordination Unit, Ministry of Education

3.3 *Gender gap narrowed in project areas.* The project has contributed to increasing female participation in classes to the extent that entering first graders have nearly achieved gender parity in project schools; girls constituted 37 percent of students in grade 1 in 1990/91 but had in fact surpassed boys and constituted 52 percent in 1999/2000 (Figure 4). Despite impressive progress for girls, the gender gap in project areas is still large (about 20 percent over all grades).

Figure 4. Distribution of Grade 1 Students by Gender in Project Schools



Source: Abbas 2000.

Objective 2: Laying the foundation for improved quality of education

3.4 Important prerequisites for improved education quality were fulfilled, notably curricular design, and textbook development (Annex A, Table A-3). Very important was the development and administration of the competency-based Monitoring Learning Achievement (MLA) tests developed by UNESCO to a nationwide sample of about 200 schools.¹⁶ (See results in section

16. ERDC. "Reasons for the students' level in the primary school in reading and writing from the perceptions of teachers and supervisors". Sana'a 2000.

5). Test results ought to serve as feedback to the schools sampled and to the MOE in its efforts to improve quality of education. A report in Arabic was printed and distributed with a summary in English, but interviews with officials revealed that no action has been taken on the basis of this feedback. The Educational Research and Development Center (ERDC) that produced them has only a research role without a responsibility for dissemination or policy dialogue on the basis of research. It was unclear whether the Ministry of Education planned training interventions based on these data.

4. Ratings

Project Outcome

4.1 The project was highly *relevant* to the needs of the country, and the strategy of increasing female enrollments by opening more schools proved effective, so *efficacy was substantial*. *Efficiency was modest*; the unit cost of classrooms proved higher than expected, some textbooks were diverted to the market, and teacher training was not implemented as intended to facilitate the efficient instruction of basic skills. It is unclear how much more enrollments would have increased or how girls' dropout would have changed if the expected number of female teachers had been hired or if teachers had been trained as expected. Despite these difficulties, the project fulfilled most objectives and targets (Table A-2), and outcome is rated *satisfactory*.

Institutional Development Impact

4.2 Institutional development impact is rated *modest*. Though the government carried out most physical activities and was able to operate schools in remote rural areas, it did not develop an effective teacher training system and did not hire the needed numbers of female teachers who might have fostered girls' education further. Plans for decentralization have only been partly carried out; district education offices are still not able to send supervisors to schools regularly and thus support their work effectively. In-service education continues to be weak. The implementation of teacher laws providing incentives for service in rural areas have been partly implemented. However, the government was able to develop a standardized achievement test and obtain baseline data.

Sustainability

4.3 The presence of schools in remote rural areas and the efforts to sensitize the population to the benefits of girls' education are likely to be sustained in the long run. However, the additional schools and teacher salaries have created long-term recurrent cost implications, and it is uncertain who will fund them and for how long. Currently, the government spends an unusually high percentage of its budget on education (tables C-1 to C-3), and primary education accounts for about 60 percent of the education budget (down from 77 percent in 1998; Figure C- 4). However, the percentage seems to be dropping, suggesting a flagging ability to sustain an expanding primary education budget. Continued donor involvement will be necessary to help maintain the momentum of further enrollment increases. In light of the Fast-Track Initiative

commitments, donors are likely to continue trying to close the primary education financing gap. Thus, despite countervailing forces, project sustainability is rated *likely*.

Bank Performance

4.4 Bank performance is rated *satisfactory*. Interviews with government and donor staff brought to the fore the positive influence of the Bank not only in the implementation of the Basic Education Project but also in its leadership in EFA. The Bank is seen as a well-organized institution that monitors progress systematically, follows up on commitments, and revises its strategies as needed. If Bank financing had not been provided, Yemen's capability of providing primary education would be more limited.

4.5 However, the Bank has been criticized for making loans to the sector that were too large and that stretched implementation capacity. The need to disburse large amounts is complicated by the difficulty in keeping track of disbursements.¹⁷ The large number of projects that the Bank finances is seen by some donor and government staff as increasing the potential for mismanagement. The donor community has not yet found a means to deal with this issue.

Borrower Performance

4.6 Overall, borrower performance in the Basic Education Project is rated *satisfactory*. Despite delays and problems, the government carried out an extensive construction program in difficult areas, developed curricula, and formulated a textbook policy that enables in principle all students to take books home and study. Nevertheless, it did not give the same level of attention to instructional aspects of the project, so that students could acquire basic skills efficiently.

4.7 Nevertheless the misrepresented counterpart payments raise concerns about the government's ability to manage some public institutions. (See para. 2.2). Some staff interviewed by the mission were of the opinion that government audits lack credibility, and it is hard for international agencies to determine how their financing has been spent and what effects it has had. Donor-financed projects have been known to fail in Yemen as a result of large-scale mismanagement.¹⁸

4.8 A worrying example is the large number of non-teaching staff employed by MOE (about 50,000 in 1998/99 compared to a teacher corps of about 150,000).¹⁹ It is unclear how many are truly needed or are actually working, but their salaries impede the hiring of suitable staff (including needed women teachers) and frustrate efforts to provide quality education to students. The government has been unable to enforce standards and limit hiring to clearly identified locations (about 5,000 in 1999). Related problems include unclear responsibilities, complicated

17. The Country Portfolio Performance Review of June 2004 emphasizes the large number of projects and large amounts of money that have flowed into Yemen.

18. "Rotting to the Core?" Yemen Times, December 13, 2004, p. 1. In the corruption perceptions index, Yemen has fallen from 88th position in 2003 to 112th in 2004. (2.4, down from 2.6; 5.0 is a borderline distinguishing countries that do and do not have serious corruption issues. www.ti.org)

19. According to the General Report of the 2000/2001 Education Survey, there were 4,157 male and female teachers who did not teach any period. The numbers of other non-teaching staff are uncertain. Given the large numbers of primary schools in Yemen, non-teaching school staff might constitute only 10-15 percent of educational employees rather than about 30 percent.)

organizational structures, limited staff skills, and data of questionable reliability that contribute to the inefficiency of the system.²⁰ Furthermore, teachers who manage to be transferred to schools of their choice take the teacher post with them, thus depriving rural schools of future teachers.

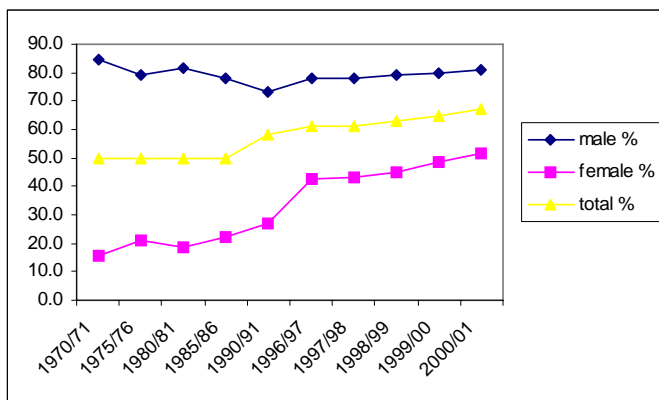
5. Moving towards Education for All (EFA)

5.1 Despite the difficult social conditions and geographic terrain, the country has made considerable progress towards schooling all children in primary school (grades 1-6) and where possible through basic education (grades 1-9). The outcomes can be summarized as follows:

Increasing access to primary education for girls

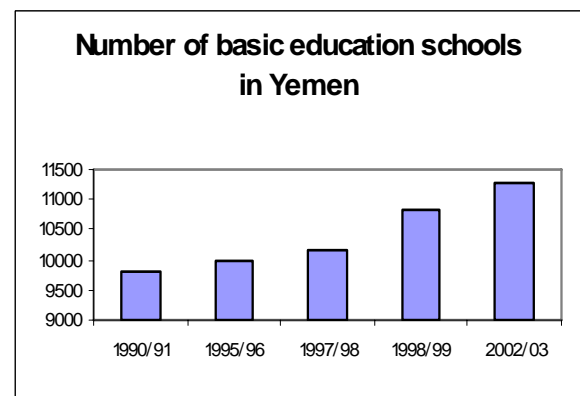
5.2 Government efforts supported by donor assistance in Yemen seem to have made an impact on enrollment rates. In 2002/03 the total number of students was 3,765,169, of which girls were 1,427,208, and boys 2,337,961 in grades 1-9. Gross enrollments rose from about 50 percent in 1970 to about 67 percent in 2000/01, while female enrollments rose from about 15 percent to about 51 percent in the same period (Figure 5). To accommodate students about 97,462 classrooms are now available, 11,917 urban and 85,545 rural.²¹ Accordingly, basic education buildings have increased from 9,824 in 1990/91, to 11,263 in 2002/03 (Figure 6).

Figure 5. National Gross Enrollment Rates 1970-2001



Source: Basic Education Project documents and Fast-Track Initiative application; data include former YAR and PDRY

Figure 6. Number of Schools Offering Basic Education in Yemen



Source: Yemen: Report Part II Analytic section. EFA 2000 Assessment Country Reports.

5.3 *More Yemeni and female teachers nationwide.* The number of teachers in basic education rose from 51,776 in 1990/91²² to 171,396 in 2002/03. The share of foreign teachers has declined from 32.7 percent in 1990/91 to 3.3 percent in 1998/99. Female teachers have increased

20. Yemen. Public Expenditure Review (Annex, p. 4). World Bank 1999.

21. Ministry of Education. Statistical Yearbook 2002-2003.

22. EFA country reports Part II, p. 15 for 1990/91 and Statistical Yearbook for 2002/03.

but still only constitute about 21 percent of the basic education staff.²³ (As discussed in Chapters 2 and 5, budgetary and educational issues have impeded the recruitment of many women.)

5.4 *Reducing the gender gap.* Nationally, the gender gap has improved slightly but is still among the largest in the world: about 33 percent of students in basic education were girls in 2000 compared to 28 percent in 1994/95.²⁴ National gross enrollment rates in grades 1-6 are about 51 percent for girls (Figure 6). Net enrollment rates are about 41 percent nationally but only about 30 percent for rural girls.

Documenting and Reducing Dropout and Repetition

5.5 Detailed dropout data are not available, and the direction of the trends is uncertain. UNESCO reports (which refer to figures but do not report them) mention that repetition rates start low in grades 1-2 and progressively increase to about 13.3 percent in grade 5.²⁵ According to UNESCO references, girls' repetition rates are somewhat higher than boys' (7 versus 6.3 percent). However, government projections indicate higher dropout rates for girls (Figure 7); in 2001, the overall first-grade access rate was estimated at 73 percent but the access rate would decline to 51 percent by the end of the primary cycle. A cohort reconstruction analysis suggests that of 100 pupils who gain access to grade 1, only 70 will continue until grade 6. Of the girls enrolled in grade 1 in 200/01 (gross enrollment rate of 63 percent) there would be only 37 percent left in grade 6 (Figure 7).²⁶ Only about 36.4 percent of girls continue until grade 9 and of these only about 36.6 percent take the ninth grade examination.²⁷ If government projections are realistic, some rural girls may be in greater danger of dropping out illiterate,²⁸ since many children finally become literate in grade 3 or 4. Clearly, dropout and repetition require better documentation.

23. Ministry of Education Statistical Yearbook p. 123 (2003).

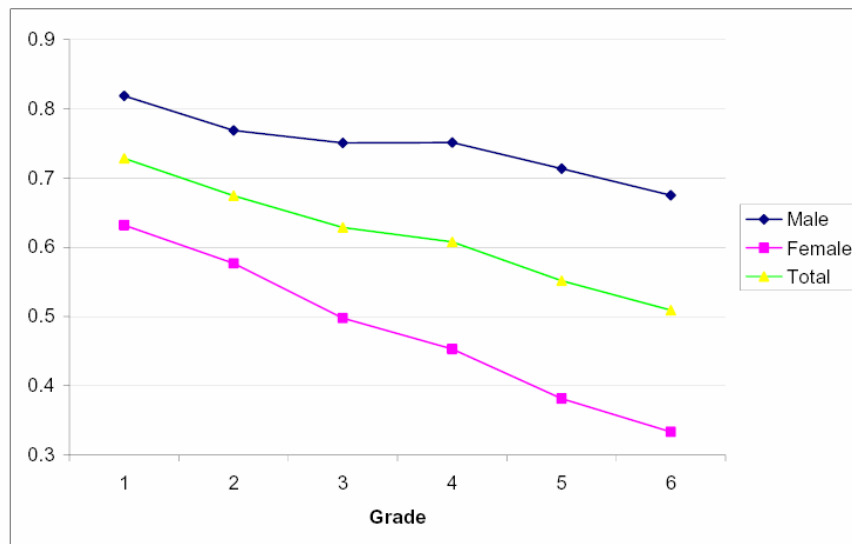
24. Yuki, Takako and Safaa El-Kogali. Yemen – Budget and Institutional Reform in Support of the Five-Year Plan. Education Sector Chapter, unpublished sector work, 2000. Data derived from the 1998 and 1999 Education Sector Public Expenditure Review, Ministry of Education, especially the General Department of Statistics and Planning, Ministry of Finance, Ministry of Planning and Development, Central Statistics Organization, and donors.

25. Detailed grade-wise repetition and dropout rates are not available, partly because the management information system does not follow up children from one year to the next. For boys the repetition rate is 3.5 percent in grade 1 while for girls it is 3.9 percent. In all primary grades repetition rates are slightly higher for girls. The overall repetition rate for grades 1 to 5 is 6.3 percent for boys and about 7 percent for girls. In 1998/99 overall dropout was 7.7 percent annually for both genders, but in grade 5 dropout rate reached 9.6 percent (Yemen: Report Part II Analytic section. EFA 2000 Assessment Country Reports, p. 17) www2.unesco.org/wef/countryreport/yemen/rapport_1.html (enrollment data 1993-1998).

26. Data are from the 2002 Fast-Track Initiative application, p. 7.

27. Abbas 2000. About 80,000-85,000 girls drop out every year before finishing basic education, especially in rural areas. The mission was told that school authorities typically fail to inquire why students are absent or drop out. It was reported that some teachers may find such an outcome desirable because class sizes are thus reduced.

28. According to government staff, an unpublished study found that fathers' lack of time to help students with homework contributes to dropout. This is particularly a problem because in Yemen rural mothers are typically illiterate and cannot help.

Figure 7. Nationwide Enrollment Ratios by Grade in 2001

Source: School Census, MOE, Fast-Track Initiative Application 2002 (p. 7).

Learning Outcomes

5.6 *Trends in student achievement unknown.* Before 2000, there were no data on student achievement, so it is not possible to know how student performance has changed over time. The standardized test scores for grades 4 and 6 will serve as baseline to monitor performance in 2005 and subsequent years²⁹ (Table 2). The results are summarized below.

Table 2. Percent of Students Meeting a 50 Percent Mastery Criterion in 2000

Grade		Percent items correct	Percent of students scoring 70% (mastery)	Percent of students scoring 50-70% (partial mastery)	Percent of students scoring <30% (no basic skills mastery)
4	Arabic	50+	14.0	56.8	29.2
	Math	42.84	6.9	63.6	29.5
	Science	43.35	12.6	76.9	10.4
	Life skills	50+	30.5	58.9	10.7
6	Arabic	50+	18.7	58.9	22.4
	Math	41.2	9.1	58.7	32.2
	Science	44.4	11.5	57.0	30.6
	Life skills	50+	21.4	57.1	21.5

Source: EDRC 2000 (sample of about 200 schools); exact scores above the 50% criterion unavailable.

5.7 The students who were tested scored lower than the mastery criterion (70 percent) in math and science though they scored slightly above it in Arabic and life skills. However, the results offer few insights in the all-important early grades, before some girls drop out. Their meaning and reliability are unclear. The tests have no significant correlations with variables that

29. Retesting is expected in 2005.

are usually related to test scores, such as parental education and socioeconomic status.³⁰ However, the parents of the students who took the test seem to be better educated than the average Yemenis (only 17 percent illiterate, 56 percent with primary school completion, and 25 percent secondary school completion). Furthermore, girls constituted 40-46 percent of the sample, a percentage higher than the country's average.³¹ Thus, the sample of students who took the test seems biased in some systematic ways. This is likely to make the interpretation of subsequent test results difficult (see Annex E).

Ongoing Bank Support for Government Strategy

5.8 Enrollment increases could be attributed in part to the sector strategy agreed in the 1990s between the Bank and the government, which gave highest priority to basic education, girls' education, and an increase of Yemeni teachers. The Bank has supported these with pieces of sector work.³² In 2005, the progress towards EFA and government strategy was underpinned by the Basic Education Expansion Project (Cr. 3422, FY01) that is being implemented in five governorates since 2000 and aims to: (a) further expand access to education by increasing the number of new and rehabilitated schools through an efficient and demand-based selection of school sites, (b) improve the quality of education in rural basic schools through in-service training of teachers, inspectors and headmasters, and (c) strengthen the capacity of the Ministry of Education (MOE) to implement basic education reforms and to prepare educational statistics and monitoring.³³

5.9 The ongoing project is putting in practice lessons learned through the Basic Education Project and carrying out activities pertinent to the strategic concerns of Education for All. Teacher deployment is to be reformed to enhance interventions, and a new curriculum will be introduced. Educational materials and school furniture will be supplied upon completion of civil works. Quality improvement programs will be implemented, and project management will be strengthened in terms of regulatory framework, business guidelines, and information management. Technical assistance will be provided to develop action plans for community participation activities. It is also helping enforce regular school inspections as well as extensive teacher and administrator training. It is too soon to tell whether these quality interventions have had an effect. However, the project has already resulted in further enrollment increases; in the areas where it operates, girls' gross enrollment rate increased from 51 percent in 1999/2000 to 56 percent in 2002/03.³⁴ The third Public Works Project (Cr. 3859) and third Social Fund Project are constructing classrooms for about 515,000 additional students altogether (Annex Table 1) and organizing communities to support the new schools.

30. Eg. Research in Uruguay that shows wide test score differences related to socioeconomic status (ANEP. Evaluación Nacional de Aprendizajes en Lenguaje y Matemática. Resultados en Escuelas de Tiempo Completo y Escuelas de Areas Integradas. Montevideo October 2003.)

31. UNESCO. Students' level in basic competencies in primary education: grades 4 and 6. Sana'a 2002.

32. Examples are the 1998/99 Public Expenditure Review; Budget and Institutional Reform of the Five-Year Plan (2000); others appear in the Reference section.

33. The project was designed in cooperation with Netherlands, Germany, UNICEF, and Japan.

34. According to project files, the number of total enrollments in these governorates increased by 37.4 percent between 1998/99 and 2002/03, and girls accounted for 75.4 percent of the increase. As of October 2004 (after completion of the 2001/02-2003/04 work programs), the project has added 2,454 new classrooms (instead of 2,100 planned), representing at least 82,110 student places (instead of 70,000 planned).

EFA Plans and Prospects

5.10 The government has developed a Basic Education Strategy for the years 2003-2015, and proposes to implement it through the Education for All Fast-Track Initiative and attain universal primary education by 2015 (see details in Annex C, Tables C-10-C12).³⁵ The strategy includes strengthening at all levels the capacity to plan, manage, and monitor improvements in the performance of the education system, training of educational personnel, increased enrollment and completion rates through increased construction, and strong community participation. To carry out the strategy, the government has announced a further increase in public expenditures on basic education. (A target is to increase the share of education in the GDP to 9.6 percent in 2005, up from 7.7 percent in 2000). Yemen requested a total of US\$96 million from the FTI funds for the three-year period between 2003 and 2005. At the time of the OED mission, discussions were still going on regarding implementation and financing details.

5.11 The government and donors have done much already to overcome the infrastructure limitations of the country and reach the sparsely populated mountainous terrain. But with an estimated primary school completion rate of 58 percent in 2000 (38 percent for girls and 77 percent for boys), Yemen is considered off-track for achieving EFA by 2015.³⁶ Thus despite progress, the country faces the following obstacles:

- *Implementation capacity limitations.* The limited ability to train teachers is an indication that ability to build and staff large numbers of schools may be close to its limits. For example, the five-year plan (1996-2000) aimed at building and equipping 20,618 additional classrooms, but the government fell short of these expectations by more than half.³⁷ The endemic governance problems in the country complicate issues by raising questions regarding higher building charges and large numbers of non-teaching personnel.
- *Rate of population increase.* During the 1990s, enrollment growth in basic education barely kept up with the 3.5 percent population growth rate, and the number of children is projected to increase in the short term (Figure 8). Recent declines in the birth rate will reduce pressure to expand primary education, but unless school usage becomes more efficient, 3.7 million children ages 6-14 will lack a place in school until the population levels off by 2020.³⁸ At a rate of 40 students per class, about 128,000 new classrooms and teachers may be needed by that date, and those may be in the areas hardest to reach.
- *High required levels of investment.* It is conceivable that Yemen could satisfy its basic education needs by 2020 if it consistently invested YR5.5 billion per year (in constant 1998 prices) over the next 15 years.³⁹ (See Annex C, Tables C-1 to C-5 for expenditure

35. Republic of Yemen. Education for All by 2015 Fast Track Initiative. Country Credible Plan, 2002.

36. Bruns, Mingat, and Rakotomalala. 2003.

37. For example, 191 schools were constructed between 1996 and 1997 (about 1,337 classes) and 662 schools between 1997 and 1998 or about 4000 classrooms (Yemen: Report Part II Analytic section. EFA 2000 Assessment Country Reports. www2.unesco.org/wef/countryreport/yemen/rapport_1.html (enrollment data 1993-1998 and p.4)

38. Yemen. Education Sector Public Expenditure Review. 1999. World Bank.

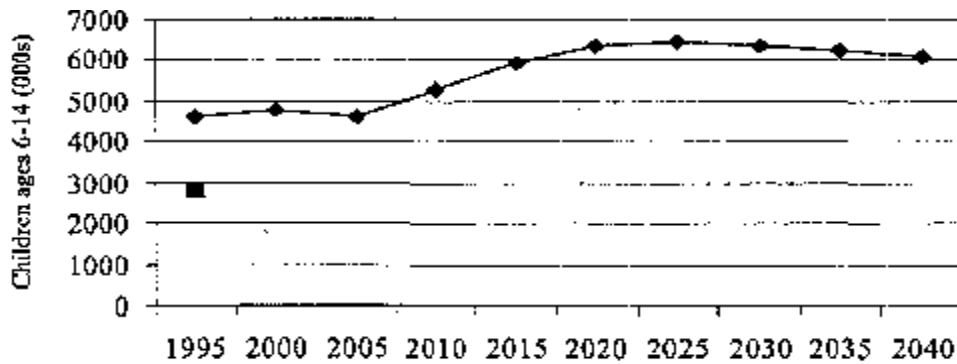
39. Yemen. Sector assistance strategy 1999, p. 11.

information). This amount is lower than the 1998 expenditures and may be feasible. But to provide every child with a school place of reasonable quality would also require recurrent expenditure of YR52 billion in 2020 for teacher salaries and school maintenance, an amount equivalent to a 2.2 percent growth per year in real terms. In the 1990s donors have financed about 45 percent of the investment budget, and this share would have to continue for at least the next decade and may also have to extend to recurrent costs. Yemen would have to convince donors to make substantial long-term commitments.

- *Uncertain sources for future teachers.* In principle, the Ministry of Education employs enough teachers to provide one for every 40 children in the basic education age group. However, only 6 percent of adults complete secondary education (grades 10-12)⁴⁰ and most girls who enter the school system do not continue to secondary school. It is unclear from which population teachers will be obtained (particularly women), given the new emphasis in hiring teachers who have completed secondary school and attended university.
- *Large financing gap.* The government estimated that if a proposed ‘reform scenario’ to be fully implemented (Table C-10), the financial requirement for EFA will be about US\$7.1 billion over the 13 years from 2003 to 2015, or US\$549 million per year. The Government’s financial envelope for primary education is estimated at US\$5.8 billion over the next 13 years or an average of US\$442 million per year. Thus, the financing gap would be estimated at US\$1.4 billion over the next 13 years or US\$107 million per year—an annual US\$76 million for recurrent and US\$31 million for capital expenditures. In 2004, Yemen received US\$10 million the Fast-Track Initiative Catalytic Fund in 2003. The first tranche (US\$3 million) was transferred to Yemen in November 2004, and it is not possible to monitor progress as yet.
- *Competing education expenditures.* Despite efforts to increase educational spending, expenditures for vocational and higher education may inhibit primary and secondary education. Currently, the government spends an unusually high percentage of its total budget on education (tables C-1 to C-3), and primary education accounts for about 60 percent of the education budget (down from 77 percent in 1998; Figure C- 4). However, the percentage is dropping in real terms, partly due to the large-scale expansion of vocational and higher education.⁴¹ The government plans to expand vocational training further (accounting for about 6 percent of the education budget in 1999) and to channel 15 percent of secondary education students to vocational programs that may cost about six times more per student than those of general education. The future hiring of university-trained teachers also implies higher training costs.

40. Throughout the 1990s, expansion of basic education (6 years of primary and 3 years of preparatory school) has barely kept up with growth in the age cohort. (Lockheed, Bendokat, and Yuki, 1999).

41. Yemen sector assistance strategy 1999.

Figure 8. Projected number of school-age children ages 6-14 in Yemen

Source: World Bank staff estimates using data from 1994 Population Census and 1997 DHS.

Source: Yemen sector assistance strategy 1999

5.12 Though enrollment figures are shown to match the indicative framework parameters by 2015 (Table C-13), it is unclear how feasible they are, given implementation capacity and past experience. If progress is linear, girls' enrollment cannot increase ninefold by 2015 (Table C-9); the completion rate cannot rise from about 38 percent in 2005 to 100 percent in 2015, given that in 2001 it was about 24 percent (Table C-7). There is no reason to expect an exponential increase, given that increasingly remote populations must be reached. Similarly, it seems unlikely to replace about 60,445 teachers who only have primary education with secondary education graduates (Table C-6) given the scarcity of women able to serve as teachers in rural areas. The parameters of a "realistic reform scenario" (Annex C) include drastic reductions in repetition rates to 3 percent, an average class size of 35 despite the smaller classes of many rural schools, constant construction costs despite recent increases, and almost no increases in teacher salaries. But if these parameters are implemented, then educational quality might be too low to benefit the average poor students. In other countries (Niger, for example⁴²) that proceeded along similar parameters, mainly the smartest and better-off have been known to benefit. But such an outcome would defeat the purpose of the Fast-Track Initiative in Yemen.

5.13 The EFA initiative also includes issues related to (a) improved monitoring of dropout, repetition, and achievement, (b) efficient provision of information to students, and (c) implementing a sustainable teacher training policy. These issues are discussed more extensively in Annex D.

5.14 For all the reasons stated above, it may finally prove impossible to bring about universal primary education completion by 2015-2020. However, it may be possible to teach basic skills to the vast majority of those who attend even two years of primary school by using instructional time well, teaching material in ways appropriate to children's information processing strengths and weaknesses, and focusing on early acquisition of fluent reading and math. Thus, the dropouts will not join the ranks of the illiterates.

42. Operations Evaluation Department. Niger: First Education Project (Credit 1151-Nir), Primary Education Development Project (Credit 1740-NIR), Basic Education Sector Project (Hybrid) – (Credit 2618). Project Performance Assessment Report. World Bank, 2005.

5.15 *Donor involvement in the education sector.* Since the 1970s, Germany (including former German Democratic Republic for South Yemen) has been extensively involved in vocational-technical training in Yemen. Other donors, including the OPEC fund and the European Union, also indicated interest in this sector. UNICEF, UK, Japan, Germany, Islamic Development Bank, and the Netherlands have been involved in primary education and the social funds. For the Basic Education project, the Netherlands contributed cofinancing of US\$8.5 million (NLG 17.5 million). Coordination has been close and systematic. Donors have considered the government's EFA proposal overly ambitious and internally inconsistent,⁴³ but have worked with the government to arrive at affordable financing levels and realistic targets.

6. Lessons

6.1 This assessment confirms a number of OED lessons from the education sector:

- Countries that have limited literacy rates and few schools may benefit from a strategy that simultaneously pursues both supply-side (school construction, teacher training) and demand-side (public campaigns to enrol girls) interventions. These activities may be carried out through multiple well-coordinated operations.
- Even if girls' enrollment increases, potential gains may be lost when students drop out. School authorities must be sensitized to the needs and problems of rural students and actively try to prevent drop out, particularly among those not yet literate.
- By itself, student enrollment does not guarantee acquisition of basic skills. It is also necessary to use classroom time wisely, ensure that textbooks are available for students to take home, provide in-service teacher training, and allow for systematic supervision. Without attention to quality, basic skills may be acquired late, and students may drop out before learning to read fluently and to calculate.
- The strategy of employing female teachers may fall short of expectations due to budgetary constraints and the low numbers of qualified women willing to work in rural areas. Recruiting women who already live in rural areas, even if they have a relatively limited education, may be a sound way to increase the number of female teachers available.

43. Joint Assessment of the Yemen Proposal by the Local Donor Community/The Secretariat. Unpublished report, 2002.

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Annex A: Project Activities

Table A-1. Bank Investments in the Education Sector of Yemen

<i>Completed projects</i>	<i>Project no.</i>	<i>Fiscal year approved</i>	<i>Original closing date</i>	<i>Revised closing date</i>	<i>Credit no.</i>	<i>Project cost (US\$ million)</i>	
						<i>Final</i>	<i>IDA credit</i>
Education(Primary/Tech.-YAR)	P005757	1974	12/31/1978	12/31/1980	421	17	11
Education I (PDRY)	P005851	1975	6/30/1981	12/31/1981	494	8.77	5.4
Education II (YAR)	P005764	1976	6/30/1982	6/30/1982	611	12.8	8
Education II (PDRY)	P005859	1979	6/30/1984	12/31/1984	865	6.98	4
Education III (YAR)	P005772	1979	7/31/1988	7/31/1988	915	16.82	10
Education III (PDRY)	P005866	1982	12/31/1990	12/31/1990	1222	8.3	6
Education IV (YAR)	P005781	1982	12/31/1989	12/31/1989	1203	24.9	12
Education IV PDRY)	P005871	1984	12/31/1992	12/31/1992	SF019	12	10.4
Education V	P005786	1983	6/30/1992	6/30/1992	1340	24.9	10
Education VI	P005790	1984	5/30/1993	5/30/1993	1470	16.26	10.9
Teacher Training	P005832	1987	3/31/1995	3/31/1995	1773	15.1	10.4
Technical Training	P005802	1986	12/31/1993	12/31/1993	1645	10.9	5.6
Secondary Teacher Training	P005835	1991	12/30/1999	12/31/1999	2222	35.1	19.4
Basic Education	P005904	1993	12/31/2000	12/31/2000	2412	25	19.7
Vocational Training	P005912	1996	6/30/2002	12/31/2003	2973	24.3	20.6
Education Sector	P005911	1994	9/30/2004	9/30/2004	2570	49.7	33
					Completed total	311.83	196.6
Active projects							
Basic Education Expansion Project	P043255	2001		6/30/2006	34220	62.6	56
Higher Education	P076183	2002		12/31/2006	36740	5.5	5
Yemen Child Development	P050483	2000		12/31/2005	33260	45.34	28.9
					Active total	113.44	89.9
Total - all projects						425.2	286.3

Table A-2: Completed Projects in Yemen

Project	FY	Activities	Outcomes PPAR or ICR
Education(Primary/Tech.-YAR); Cr. 421 Vocational technical education Basic training scheme for grassroots development associations	1974	Vocational centers in Sana'a and Hodeidah, Agricultural center in Ibb, non-formal basic education center in Amran, district training centers in El Kaida and Bajil, curriculum development	Execution satisfactory (PPAR)
Education I (PDRY); Cr. 494 Vocational and agricultural education	1975	New farm machinery and rural skills training center, two rural development centers, new trade training center, prevocational curricula into basic education	Execution satisfactory (PPAR)
Education II (YAR); Cr. 611 Continued basic training scheme for grassroots associations Vocational technical education	1976	Training centers in Taiz and Dhamar, for vocational training grades 7-8, nonformal evening courses upgraded; 480 annual output, capacity ; Low enrollments, primary school graduates attending secondary education	Execution satisfactory (PPAR)
Education II (PDRY); Cr. 865 Vocational education, first phase for a network of 14 institutions	1979	Built 3 vocational training centers, two by converting secondary schools. Outputs only 31% of appraisal estimates and only 2% of the enrollments were women.	Execution satisfactory (PPAR)
Education III (YAR); Cr. 915 Agricultural education	1979	Built, equipped agricultural secondary school at Surdud, a livestock secondary school at Sana'a.	Satisfactory (PPAR) High enrollments, good quality
Education III (PDRY); Cr. 1222 Vocational education and teacher training for grades 9-12; Commercial and agricultural institutes Establish maintenance units	1982	Built a commercial and an agricultural technical institute, an in-service teacher training institute, a primary teachers' training institute; provision of two mobile building maintenance units; a manpower planning study and a school inventory survey	Satisfactory
Education IV (YAR); Cr. 1203 Vocational technical education	1982	Vocational training centers in Taiz and Hodeidah, dormitories	Satisfactory
Education IV PDRY); Cr. SF019 Vocational and technical training	1984	Built a vocational instructor training institute and a center for rural extension training	Satisfactory
Education V; Cr. 1340 Nonformal education for agricultural, vocational, basic literacy	1983	Built 3 district training centers in Al Turba and other areas for 3,700 places. Output was 2,200 annually.	Satisfactory
Education VI; Cr. 1470 Nonformal education for agricultural, vocational, basic literacy	1984	Built 2 district training centers and several satellite basic literacy and training centers.	Satisfactory
Technical Training; Cr. 1645 Technical-vocational education	1986	Was to build a polytechnic Institute to train technicians and instructors; a new Technical Secondary School, and the rehabilitation of an existing one, and relocating a VTC which had shared facilities with a technical secondary school.	Unsatisfactory (ICR) Polytechnic institute not built
Teacher Training; Cr. 1773	1987	Upgraded facilities for six primary teacher training centers, built two	Satisfactory (ICR)
Secondary Teacher Training; Cr. 2222	1991	Supported undergraduate and graduate education programs at the Faculty of Education, Sana'a University	Satisfactory (ICR)
Basic Education Project; Cr. 2412		Supported girls education, primary school construction, and teacher training	Satisfactory (ICR)
Vocational Training; Cr. 2973	1996	Supported refurbishments, management and quality improvement in vocational education centers.	Moderately unsatisfactory (PPAR)
Education Sector improvement; Cr. 2570 Secondary and post-secondary education	1994	Supported community colleges and secondary schools	Satisfactory (ICR)

Table A-3: Basic Education Project

<i>Components/ subcomponents</i>	<i>Activities</i>	<i>Targets to be achieved</i>	<i>Outputs</i>	<i>Outcomes, information obtained during the OED mission</i>
Access expansion for women (initial \$15.9m) Girls' classrooms in rural areas (US\$13.2 m) Recruitment of female teachers for project schools				
	Enrollment increases	24,000 additional female students	31,617 additional female students	Gross enrollment rate increased from 34% in 1991/92 to 43% in 1999/2000
	Construction in governorates with enrollment <20%	600 new classrooms in 200 villages of 6-8 governorates	1124 built with donor funds 50% exclusively for girls	Classrooms functional, but toilets unavailable in most rural schools of the country despite plans
		Latrines and fences	Some built in new schools, others not	Greater emphasis needed
	Promotional campaign in rural areas	TV spots, radio ads, posters	Carried out in 1997 rather than 1993	Impact of campaigns not assessed
	Began in 1998, phased with constructions	800 additional female teachers	452 additional female teachers (57% of target)	Female teachers constitute only about 27% of basic education teachers. Men continue to teach girls' classes
	Housing allowance	300 teachers	Law changed, deleted	All teachers get premiums for rural service
	Transportation allowance	300 teachers	150 teachers	Cancelled because of teacher law that offers rural allowances
	Boarding hostels for teacher trainees	5 each for 60 trainees	5 constructed, 4 converted to girls' schools due to demand	Continued hostel space scarcity in training centers (that will only provide inservice training)
	Materials for TTIs	Science labs, books	Materials received	Materials used
	Teacher quarters	10 buildings	Built 10, 4 converted to girls' schools	Classrooms and teacher offices available as a result
	Survey to find eligible female teachers		2137 potential trainees found in 12 governorates	Since few were hired, it is unclear how many were actually going to agree to work in rural areas.
Enhancing teacher effectiveness (US\$3.8 m) Distance education	Training	Reach 6000 teachers, offer additional benefits upon completion	Unknown how many are reached	Impact of training not assessed
	Build and equip center	Center built	Center not operational Videoconferencing inadequate, expensive	Teachers less well trained as a result
	Distance education programs	4000 teachers in rural areas to receive distance education	At least 11,500 teachers received distance education Target achieved	Effects unknown. Distance education has been limited since project end.
	Purchase of audiovisual equipment	20 teacher training institutes 200 local training centers	Audiovisual equipment delayed and not delivered during the project life.	No effects
Educational quality improvement (US\$0.9m) Curricula and textbooks				
	Curriculum, testing, supervision reforms		Completed	Curricula are used, but interviewed teachers mentioned that supervision is rare
	Inservice training programs	Approximately 350 instructors to train 3000 trainers to train 10,000 teachers	About 10,000 teachers were trained near the closing date Target achieved	Quality, content, and training impact were not evaluated Inservice training has not continued after project end
	Primary-school textbooks	For grades 1-6	Completed, but piloting skipped, contained some errors	Most students have textbooks to take home for study
	Enhancement of supervisory capacity	Component unclear	Little activity due to a lack of budget	Without supervision, schools and teachers function as they see fit
	Studies		Evaluation was carried out	Results distributed, use unclear
	Training for supervision and testing	TA Student achievement testing	Test for gr. 4 and 6	Copies distributed but findings were not used in policy decisions
	Computer equipment	Provided as expected	Used in various tasks	

Annex B: Statements and Issues Raised in Mission Interviews

Interviews took place individually or in small groups as the circumstances dictated. The 32 persons interviewed included:

- educators (4 district-level managers and staff, 8 teachers, 10 principals in the schools of areas visited)
- government officials in the Ministry of Education or its dependencies (6 people);
- staff of donor agencies residing in Sana'a (4 people).

The questions posed to respondents were:

- What were the benefits of the project in your school, geographic or sectoral area?
- What problems did you face in implementing the project? What were its disadvantages?
- Which components worked best in bringing about results, which did not? (some persons interviewed were asked about specific components, as appropriate).
- How effective were the Bank staff or consultants who worked on the project?
- What training did you receive through the project? Did it teach you what it was supposed to?
- What financial irregularities (if any) were there in your area of jurisdiction?
- What would be different in the education sector if the project had not existed?
- Other issues and observations.

The table below reflects the number of respondents who indicated a view on each question. Persons could raise one or more issues, but an opinion brought up repeatedly by the same person counted as one comment. Not all staff had opinions about all questions and sometimes only one person in a group expressed an opinion, so reply statistics are approximate. Teachers were only asked questions regarding the availability and effectiveness of inputs, since most did not know who had paid for the inputs and did not have an opinion about the project.

Table B-1: Opinions of persons interviewed

<i>Issue</i>	<i>Response Frequency</i>
Project benefits for the country	
Greatly increased girls' enrollments	5
Laid the foundation for future strategy	1
Helped the Ministry improve implementation capacity	1
Most and least effective components	
Despite imperfections, developed curricula effectively	4
Constructions often inadequate, classes crowded, insufficient furniture	8
More buildings needed	8
Curricular funding became available as the country was unified and a unified curriculum was needed	1
Teacher housing and incentives for girls to attend were ineffective. For fear of corruption, no incentives were given to families.	2
MOE staff are not aware of teacher training importance; components ineffective	3
The project did not focus sufficiently on sectoral strategy	2
Effectiveness of Bank staff, Bank policies	
The Bank offered excellent follow-up and support	3
The Bank did not emphasize quality of education, mainly disbursements	3
The Bank gives too much money, government may spend it in trivia	4
Bank is the leader of donor coordination	1
Efforts to reduce corruption thus far ineffective	1
Counterfactual — if project had not existed	
If the project had not existed, much fewer schools would be available for girls	6
Other donors would have constructed buildings, though maybe not as many	1
Governance	
Government audits lack credibility	2
Incentives for schooling canceled because of corruption concerns	1
Girls' schooling may be used as another pretext for corruption. The situation is dire, with much money wasted in favoritism rather than educating the poor	4
Reliable people matter a lot and there are not many among local staff. The project really needs expatriate administrators.	1
Textbooks stolen often, distribution is a problem. Regional staff may send fewer to schools, forcing some students to go to the market and buy those stolen	1
Issues and observations	
Literacy classes taking place in some schools are ineffective due to low teacher pay and lack of follow-up. There are many administrators but few teachers.	1
Adult literacy continues to be very important, partly because girls who drop out illiterate may later go to literacy classes	2
Lack of textbooks is more severe in rural areas, no problem in cities	1
Vocational education is not crowding out primary education because donors finance both	1
The donors finance religious education as part of the curricula at all levels, but it is unclear what is taught and what attitudes students learn about other religions through donor funding; concern that unchecked religious education in primary schools may fuel fundamentalism. Donors are afraid to bring up this issue to the government.	2
Teacher salaries are inadequate for supporting those willing to move to rural areas; many also have to pay bribes to get posted where they want	2

<i>Issue</i>	<i>Response Frequency</i>
District education offices ineffective, supervisors do not visit remote schools	2
Despite multigrade teaching, teachers are not trained to conduct it	1
It is not enough to set up a permanent monitoring system; someone must make sense of the results, not just produce them.	1
School authorities do not inquire why students are absent or drop out. Some teachers may want students to be gone, because class sizes are reduced. This may be particularly the case with urban teachers, who may look down on rural students	2
The Ministry authorities do not pay attention to details. They find some details unimportant, but the totality is very important	1
Despite much talk about decentralization, little has been accomplished	1
Total number of comments received from 32 people	79

Annex C: Sectoral Information and Education for All

The government and the donor community have carried out extensive sector work regarding the financing issues involved in achieving Education for All. Some issues are presented below in greater detail.⁴⁴

Sub-sectoral allocations of public investment expenditures do not yet reflect the government's priority of basic education. Yemen's public education expenditure has been high. GDP and total public expenditure on education have increased simultaneously; government expenditures on education grew from 5.1% of GDP in 1996 to 7.7% in 2002, which is high compared with most Arab countries and lower-income countries. This trend reflects the rise in teachers' salaries and increased investment expenditure. The education sector also increased its share of total government expenditures from 16.0% to 21.6% during the period. Between 1994 and 1998, allocation for basic and secondary education showed a real 52 percent increase.⁴⁵

However, the proportion of primary education has been declining. It declined from 46 percent in 1996 to 44 percent in 2000. A similar trend is observed in the upper grades of basic education and in secondary education (grades 7-12) whose share has also decreased from 42 percent to 40 percent during the same period. Conversely, the share of tertiary education has increased 4 percentage points, demonstrating an increased demand for tertiary education. The large-scale expansion of vocational education also seems to be a reason.⁴⁶

Inefficient recruitment and personnel management does not deploy adequate teachers to schools despite MOE's high wage bills. Wage bills have increased significantly— from 3.3% of GDP in 1996 to 4.7% of GDP in 2000. However, the falling student-teacher ratio in basic education (21:1 in 1998/99 as compared with 31.1 in 1994/95) hints at inefficiencies in teacher deployment and hides extreme urban-rural differences.⁴⁷ The Government has introduced measures such as hiring new teachers according to clear criteria, but local authorities resist them. The wage increases allowed by the Teacher Law (1998) do not yet link rigorously to deployment in remote rural areas and to performance measures such as attendance.

Nutritional status may affect performance. Considerable international evidence suggests that students' nutritional status is related to academic performance. Malnourished

44. [Yuki, Takako and Safaa El-Kogali. Yemen – Budget and Institutional Reform in Support of the Five-Year Plan. Education Sector Chapter, unpublished sector work, 2000. Data derived from the 1998 and 1999 Education Sector Public Expenditure Review, Ministry of Education, especially the General Department of Statistics and Planning, Ministry of Finance, Ministry of Planning and Development, Central Statistics Organization, and donors.]

45. Yemen sector assistance strategy 1999.

46. Yemen sector assistance strategy 1999.

47. The government expects student-teacher ratio to fluctuate in various schools between 30 and 40 students (EFA 2000 Assessment: Country Reports, Yemen; www2.unesco.org/wef/countryreports/yemen/rapport_1.html).

children are sick more often and are more likely to drop out.⁴⁸ Early-childhood severe malnutrition and diarrhea result in lower achievement levels. In one study, Jamaican malnourished children or of stunted growth scored 10 points less in an IQ test than children of normal weight and height.⁴⁹ In another study, malnourished children from Mauritius scored 15.3 IQ points compared to controls by age 11, and the lower intelligence was linked to a considerably higher incidence of aggressive behaviors and hyperactivity.⁵⁰ Severe malnutrition exacerbates issues. For the year 1997 the Yemen Demographic and Health Survey reported a malnutrition prevalence rate of 27.5 per cent for children under five. Overall, malnutrition has increased between 1990 and 1997 (Table C-13).⁵¹ Some of the poor performance may be attributable to this issue.

Fast Track Initiative Scenarios

In its application for the Fast-Track initiative, the government created scenarios to show how it is possible to achieve Education for All by 2015 (Tables C-6 to C-9). The Fast-Track Initiative proposal applies to grades 1-6 only. Tables C-10 to C-13 show estimates on how the EFA targets could be achieved, comparing a status quo scenario (where proportion of repeaters remains at 7 percent) and a ‘reform’ scenario of automatic promotion and reduction of repeaters to 3 percent by 2015. The baseline indicators use 2001 data and have the following assumptions: (a) 100 percent primary completion rate by 2015; (b) the percentage of age-group entering grade 1 would reach 100 percent by 2010 which is the latest targeted year for students to complete the 6 years of primary education; and (c) 3.7 percent annual growth of primary school population. In the first scenario, primary school enrollment will increase to 7.1 million by 2015 and the gross enrollment rate is projected at 107 percent in 2015 due to repeating students. In the second scenario, if automatic promotion were implemented by 2005, primary school enrollment would be approximately 292,000 fewer than in the status quo scenario and gross and net enrollment will reach 103 percent by 2015 (see Table C-13). However, this option may result in graduation but in limited acquisition of basic skills.

If the Government were to fully implement its proposed efficiency measures, such as increasing student-teacher ratios from 25 in 2000 to 35 in 2015 and decrease the proportion of repeaters from 7 to 3 percent by 2015, 32 percent fewer teachers and classrooms would be required compared to the status quo of grades 1 to 6 of the basic education system. The ‘realistic reform’ scenario (Table C-10) projects requirements of an additional 79,000 primary teachers and 88,000 primary classrooms while it assumes 20 percent of classes operating double shifts in the next 13 years. The policy changes presented in this reform are due to large efficiency gains brought on by improvements in student/teacher ratios and by introducing automatic promotion to reduce the number and the cost of repeaters. At the same time, non-teacher items—quality improvement—are factored in, combined with improved resource mobilization based on the following

48. Michaelowa 2001.

49. Simeon and McGregor 1989.

50. Liu et al. 2003, 2004.

51. Republic of Yemen. End of Decade Review. Process Report and Statistical Annex. World bank 2000. Data from Demographic Maternal and Child Health Survey 1991 and 1997.

assumptions: i) an increased share of education spending on primary education; ii) an increased amount for promoting female education and operation/maintenance; and iii) an increased share of public recurrent spending on education as a percent of public spending. If the reform were to be fully implemented, the financial requirement for EFA are estimated at US\$7.1 billion over the 13 years from 2003 to 2015, or US\$549 million per year. The Government's financial envelope for primary education is estimated at US\$5.8 billion over the next 13 years or an average of US\$442 million per year. Thus, the financing gap would be estimated at US\$1.4 billion over the next 13 years or US\$107 million per year—an annual US\$76 million for recurrent and US\$31 million for capital expenditures.

The 'realistic reform' scenario (Table C-12) also projects very small salary increases (from 3.2 to 3.5 times the per capita GDP), stable construction costs, and an increase to an average class size of 35. However, current teacher salaries seem inadequate to attract teachers to rural areas, construction costs keep rising, and an average of 35 students per class in a predominantly rural country and necessarily small schools seems unfeasible. Classes in urban areas would be very large under this scenario. Such large sizes are also likely to affect people's willingness to come or to stay in the teaching profession.

Table C-1: Public Expenditures in Education, 1996-2000 ^{1/}

	1996	1997	1998	1999	2000
	Actual	Actual	Actual	Actual	Budget
Overall Public Education Expenditures					
Total expenditures (current YR billion)	37.3	46.2	56.9	67.4	91.3
Total expenditures (YR billion, 1999 price)	47.8	52.7	68.1	67.4	90.1
As share of total public expenditures (%)	16.0	15.0	18.9	21.0	23.2
As share of GDP (%)	5.1	5.2	6.8	6.0	7.7
Current expenditures (current YR billion)	33.5	37.0	44.7	59.0	79.1
As share of total public current expenditures (%)	20.1	16.0	20.6	23.5	24.6
As share of GDP	4.6	4.2	5.3	5.3	6.7
Capital expenditures (current YR billion ^{2/})	3.8	9.2	12.2	8.4	12.2
As share of total public capital expenditures (%)	8.7	15.7	19.9	12.3	16.8
As share of GD (%)	0.5	1.0	1.5	0.8	1.0
Subsectoral Allocations					
Share in total expenditures (%)					
MOE	87.7	85.1	81.9	84.2	83.9
Universities	11.3	13.3	15.9	13.5	13.2
MOL/GAVTT	0.7	1.3	2.1	2.0	2.6
Research institutions	0.2	0.2	0.2	0.4	0.3
Share in recurrent expenditures (%)					
MOE	90.2	88.6	87.6	87.9	88.5
Universities	9.0	10.0	11.0	10.5	9.8
MOL/GAVTT	0.6	1.1	1.2	1.1	1.3
Research institutions	0.2	0.2	0.2	0.4	0.4
Share in capital/investment expenditures (%)					
MOE	66.0	71.2	60.9	58.1	53.7
Universities	32.2	26.6	33.8	33.9	34.6
MOL/GAVTT	1.8	2.1	5.2	7.9	11.6
Research institutions	0.1	0.1	0.0	0.1	0.2

Sources: 1996 data from MOF budget but 1997; 1997-1999 data from the MOF final account book 1999; 2000 data from MOF budget book 2000.

Notes: ^{1/} Public expenditure data are for central government budgets/expenditures.

^{2/} This includes capital and investment expenditures.

Since 2000, two community colleges are added into budget book (YR 78 million of recurrent budgets).

But this tables does not include the data.

Source: Yemen: Public Sector Expenditure Review, 1998.

Table C-2: Distribution of Public Spending on Education (nominal, billion YR)

	1996 (actual)	1997 (actual)	1998 (actual)	1999 (actual)	2000 (actual)	2001 (prog.)	2002 (budget)
GDP (market prices)	743	897	858	1,163	1,484	1,565	1,762
Total Government Expenditure (TGE)	168	303	295	337	475	527	581
Recurrent	118	244	232	267	382	406	462
Salaries & Wages	74	82	94	119	141	162	186
Goods & Services	44	162	138	148	142	244	276
Investment	50	59	63	70	93	121	119
Total Education Expenditure (TEE)	37	46	57	67	91	105	117
Recurrent	33	37	45	59	79	87	97
Salaries & Wages	n.a.	28	34	47	61	68	77
Goods & Services (G&S)	n.a.	9	11	12	18	19	20
Investment	4	9	12	8	12	18	20
Primary Education Expenditure	17	20	25	30	40	48	56
Recurrent	15	18	23	27	36	42	48
Salaries & Wages	12	15	18	22	29	33	36
Goods & Services (G&S)	3	3	5	5	7	9	12
Investment	2	2	2	3	4	6	8
TEE as % of GDP	5.0%	5.1%	6.6%	5.8%	6.1%	6.7%	6.6%
TEE as % of TGE	22.0%	15.2%	19.3%	19.9%	19.2%	19.9%	20.1%
Recurrent TEE as % of recurrent TGE	28.0%	15.2%	19.4%	22.1%	20.7%	21.4%	21.0%
G & S as % of Recurrent TEE	n.a.	24.3%	24.4%	20.3%	22.8%	21.8%	20.6%
PEE as % of GDP	2.3%	2.2%	2.9%	2.6%	2.7%	3.1%	3.2%
PEE as % of TEE	45.9%	43.5%	43.9%	44.8%	44.0%	45.7%	47.9%
Recurrent PEE as % of recurrent TEE	45.5%	48.6%	51.1%	45.8%	45.6%	48.3%	49.5%
G & S as % of Recurrent PEE	20.0%	16.7%	21.7%	18.5%	19.4%	21.4%	25.0%

Source: MOF, MOE,

Note: Goods and Services includes the operation and maintenance (O&M) and foreign training

Table C-3: Education Expenditures in Yemen

	<i>Current expenditure, billions YR</i>	<i>Capital Expenditure, billions YR</i>	<i>Total, billions YR</i>	<i>Growth in Total Expenditures (%)</i>	<i>Share of Capital Expenditures (%)</i>	<i>Share of Recurrent Expenditures (%)</i>
1996	30217	2476	32693		7.6	92.4
1997	32754	6549	39303	20.2	16.7	83.3
1998	39132	7448	46580	18.5	16.0	84.0
1999	51894	4892	56786	21.9	8.6	91.4
2000	71861	3983	75844	33.6	5.3	94.7
2001	80577	4594	85171	12.3	5.4	94.6
2002	79254	8198	87452	2.7	9.4	90.6
2003	92647	12631	105278	20.4	12.0	88.0
1996 to 2003				18.5	10.1	89.9
1999 to 2003				18.2	8.1	91.9

Source: NEPRU. Basic Education Expansion in Yemen: Economic Analysis. Ministry of Education. April 2004

Table C-4: Public Expenditures in Education in Millions of Yemeni Riyals

	1990			1991		
	<i>Primary</i>	<i>Secondary</i>	<i>Post-Secondary</i>	<i>Primary</i>	<i>Secondary</i>	<i>Post-Secondary</i>
Recurrent expenditures	2854	1888	563	4007	2096	1058
- Salaries, wages, etc.	2439	1773	213	3551	1969	469
- Services, materials Transfers	415	115	350	456	127	589
Capital expenditures	311	346	122	405	476	211
Total	3156	2234	685	4412	2572	1269

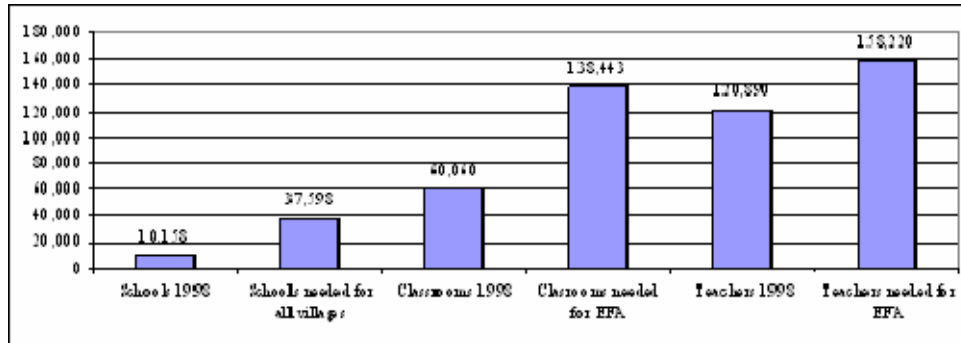
Source: Basic Education project documents (consultant Stavros Apergis)

Table C-5: Allocation of Recurrent Expenditures within the Ministry of Education (%)

	Salaries	G & S	Maintenance	Transfers	Personnel
1999	82.45	14.91	2.64	0.00	82.45
2000	71.61	10.44	0.25	12.50	84.11
2001	76.95	10.82	0.29	11.94	88.89
2002	80.67	9.14	0.23	9.96	90.63

Source: MOE budgets

Figure C-1: Quantitative Requirements for Basic Education for All (EFA)



Source: Yemen sector assistance strategy 1999

Table C-6: Gaps: What Is and Would Be Missing to Achieve Basic Education For All (EFA) in Yemen

	<i>Needs For EFA</i>	<i>Existing 1998</i>	<i>Gap</i>	<i>Financing GAP (constant 1998 price)</i>				
				<i>Unit cost 1/ (YR)</i>	<i>Per</i>	<i>Total (ml YR)</i>	<i>Invest</i>	<i>Recurrent</i>
Access								
Schools (a two-classroom school per village)	37,598	10,158	27,440	1,080,000	School	29,635	x	
Additional classrooms a/	83,563	60,060	23,503	1,800,000	Room	42,305	x	
Basic furniture for all classrooms b/	138,443	60,060	78,385	224,100	Room	17,566	x	
Teachers (one teacher per 40 children)	158,220	120,890	37,330	142,000	Teacher	5,301		x
Equity								
Incentives for underserved children (rural girls)	1,834,800	-	1,834,800	500	Girl	917		x
Sanitary facilities at all existing schools	10,138	3,158	7,000	1,800,000	School	12,600	x	
Water supply at all existing schools	10,158	658	9,500	900,000	School	8,550	x	
Quality								
Replacement of primary educated teachers with general secondary educated teachers	60,445	-	60,445	14,200	Teacher	858		x
Routine school maintenance	37,598	-	37,598	36,000	School	1,354		x
Textbooks for all students	6,328,800	2,848,110	3,480,690	1,000	Student	3,481		x
Instructional materials for all students	6,328,800	-	6,328,800	400	Student	2,532		x
Distance in-service-training for all teachers c/	158,220	-	158,220	27,000	Teacher	4,272		x
Total investment for EFA 2000-2020						110,656		
Average annual investment for EFA						5,533		
Additional annual recurrent for EFA by 2020						18,714		
Recurrent budget for basic education in 1998 d/						33,654		
Total annual recurrent for EFA in 2020						52,368		

Sources: World Bank staff estimation using data from Education Census 1997/98, DHS 1997. Population Census 1994, MOF Budget Book 1998.

Notes: -Non available.

Needs for EFA are simple projections based on the following assumptions:

a/ Student-classroom ratio would be 40 for 75% of children (urban children) and 80 for 25% (rural children).

b/ Basic furniture per school include desks and chairs for 40 students and a blackboard.

c/ In-service teacher training, about two week-training in summer or winter break and periodic training during school days.

d/ Basic education is assumed to account for 86% of the total MOE budget. The remaining budget is for secondary education and non-formal education.

e/ For unit costs:

t. Cost per classroom for a two classroom village school is based on actual costs of UNICEF Area Based Program.

2. Cost per additional classroom including school facilities such as sanitary facilities and administrative room is based on actual costs of IDA projects which are higher than those for community based small schools supported by UNICEF but lower than some government financed projects.

3. Costs of basic furniture are based on a IDA project, assuming a set of 40 desks and chairs would be S 160 and a blackboard S60.

4. Average salary per teacher would be the same as that in 1998 in real terms.

5. Costs of incentive programs would be 500 YR. which is about three times as much as school fees.

6. Construction costs of sanitary facilities would be the same as those for one classroom.

7. Rehabilitation costs of water supply would be half of those for one classroom.

8. Average salary per general secondary educated teacher with tertiary teacher training would be 1 DI/o higher than that for existing teachers without tertiary teacher training.

9. Every classrooms would receive routine maintenance (e.g., physical maintenance, water and electricity bill) about 2% of construction costs.

10. The average number of textbooks per student in basic education is 10. Cost per textbook is assumed to be IOYR.

11. Costs of instructional materials are assumed to be 40% of a full set of textbooks.

12. Recurrent costs of in-service teacher training are based on actual costs of teacher training supported by UNICEF.

Table C-7: Principal Indicators for EFA Achievement in Yemen

	2001	2005	2015
Grade 1 intake	40%	57%	100%
Completion rate	23,7%	38%	100%
Gross enrollment rate	37,3%	57%	105%
Number of students (thousands)	657	1,151	3,052
Teachers	15,500	27,500	74, 800
Classrooms	14500	26200	71200

Source: Ministry of Basic Education, Fast-Track Initiative Application, 2002

Table C-8: Key Indicators of EFA Inputs and Outputs

	1997 (Historical)	2001 (Baseline)	2015 (Target)
Primary Gross Enrollment Ratio (Grade 1-6)			
Total	61.1%	66.9%	103%
Male	78.3%	81.2%	103%
Female	42.9%	51.6%	103%
Primary Net Enrollment Ratio (Grade 1-6)			
Total	49.5%	51.4%	100%
Male	62.7%	61.3%	100%
Female	35.5%	41.1%	100%
Intake Rate in Grade 1			
Total	n.a.	73%	100%
Male	n.a.	82%	100%
Female	n.a.	63%	100%
Completion rate in Grade 6			
Total	n.a.	51%	100%
Male	n.a.	68%	100%
Female	n.a.	33%	100%
Number of Primary School Students	1,378,000	2,644,000	6,777,000
Number of Teachers (in government schools)	n.a.	104,000	183,000
Student/Teacher Ratio (in government schools)	n.a.	25	35
Number of classrooms (in government schools)	n.a.	65,500	153,000
Education spending as % of GDP	5.1%	6.7%	9.0%
Primary Spending as % of Education Spending	43%	48%	50%
Teacher Salaries as Multiple of GDP per capita	n.a.	3.2	3.4

Source: Fast-Track Initiative Application 2002.

Table C-9: Expected Results for Outputs and Outcomes – With and Without EFA*

	2001 (Baseline)	2005	2015 (Target)
Increase Primary School Age Children & Net Enrollment Rate			
Male			
With EFA (includes Basic Ed. Dev. Strategy)	1,244,000 (61%)	1,657,000 (71%)	3,374,000 (100%)
Without EFA (status quo)	1,244,000 (61%)	1,557,000 (66%)	2,729,000 (81%)
Difference	--	100,000 (5%)	645,000 (19%)
Female			
With EFA (includes BEDS)	791,000 (41%)	1,185,000 (53%)	3,200,000 (100%)
Without EFA (status quo)	791,000 (41%)	1,070,000 (48%)	2,278,000 (71%)
Difference	--	115,000 (5%)	923,000 (29%)
Increase Primary Completion Rate			
Male			
With EFA (includes BEDS)	208,000 (68%)	274,000 (76%)	512,000 (100%)
Without EFA (status quo)	208,000 (68%)	268,000 (75%)	487,000 (95%)
Difference	--	6,000 (1%)	25,000 (5%)
Female			
With EFA (includes BEDS)	97,000 (33%)	145,000 (45%)	484,000 (100%)
Without EFA (status quo)	97,000 (33%)	125,000 (39%)	281,000 (58%)
Difference	--	20,000 (6%)	203,000 (42%)

Notes: * Without EFA means status quo, while with EFA FTI means reform strategy with BEDS and additional external supports.

Source: Fast-Track Initiative Application 2002.

Table C-10: Simulation Model in Yemen and the 2015 Target Parameters: Three Scenarios

Yemen	Base year data 2001	Target for 2015 under alternative simulation scenarios		
		Scenario 1 Status Quo 2015	Scenario 2 Realistic Reform Scenario 2015	Scenario 3 Cautionary Scenario 2015
GDP (millions of YR), 2000 & annual growth rate, 2001-2015	1,564,690	3.3%	4.7%	4.7%
GDP per capita (YR)	86,976			
Exchange rate (YR/US\$)	168.7			
Total population (thousands), 2000 and annual growth rate, 2001-2015	17,990	3.0%	3.0%	3.0%
School age population (in thousands), 2001 and annual growth rate, 2001-2015	3,953	3.7%	3.7%	3.7%
Total public domestic revenue, excl. grants (millions of YR)	550,771			
Public domestic revenue (excl. grants) as % of GDP	35.2%	30%	30%	30%
Recurrent spending on education as share of government revenue	15.8	15.8%	20.0%	20.0%
Public spending on primary education as % of total public spending on education	48.0%	48.0%	50.0%	50.0%
Total public recurrent spending on education (millions of YR)	87,000			
Total recurrent spending on education as % of GDP	5.6%			
Total domestic public resources for primary education (millions of YR)	41,720			
Number of pupils enrolled in primary education (6 years)	2,643,512			
Repeaters as a % of total primary school enrollments	7%	7%	3%	7%
Target year for intake rate				
Completion rate (%)	51%	100%	100%	100%
Intake rate (%)	73%	100%	100%	100%
Target year for intake rate to reach 100%	2010			
Gross enrollment ratio (%) (memo item)	67%	107%	103%	107%
Share of pupils in private schools (%)	1.4%	1.4%	5.3%	5.3%
Number of pupils in public primary education	2,606,503			
Number of pupils in private primary schools	37,009			
Number of teachers in public primary schools (grade 1 to 6)	104,335			
Attrition rate of teachers (%) per annum)	1.6%	1.6%	1.6%	1.6%
Number of certified teachers	41,734			
Number of uncertified teachers	62,601			

Table C-11: Simulations for EFA Achievement

Yemen	Base year data 2000	Target for 2015 under alternative simulation scenarios		
		Scenario 1 Status Quo 2015	Scenario 2 Realistic Reform Scenario 2015	Scenario 3 Cautionary Scenario 2015
Pupil-teacher ratio in public primary education (average grade 1 to 6)	25	25	35	30
Section-teacher ratio in public primary education (average grade 1 to 6)	0.9	0.9	1.0	1.0
Average annual teacher remuneration as a multiple of per capita GDP	3.2	3.2	3.5	3.5
Total teacher remuneration (million YR)	29,204			
HIV/AIDS (% increase to the teacher remuneration bill)	0.0%	0.0%	0.0%	0.0%
Spending on inputs other than teacher salaries (% of teacher salary bill)	30%	30%	36%	36%
Public subsidy for private schools (million of YR)	0			
Public subsidy per pupil in private schools (YR)	0			
Maternal and double orphans as % of population				
Subsidies per maternal and double orphan (US\$)	0			
Cost per furnished classroom, incl. Latrines (thousands of YR)	2,186	2,186	2,186	2,186
Number of teachers per classroom	1.45	1.2	1.2	1.2

Note: * Public domestic revenue (excl. grants) as % of GDP in 2000 is very high compared to other years Thus, the target indicator of 30 percent is set.

Target indicator of 1.2 is used because we assume 20 percent of classes would consist of double shifts in the next 15 years.

Table C-12: Financing Gap Estimates for Grade 1–6 of Basic Education (US\$ Millions)

	EFA Requirement			Resource Envelope*			Financing Gap		
	Recurrent	Capital	Total	Recurrent	Capital	Total	Recurrent	Capital	Total
SCENARIO 1: Status quo									
Cumulative 2003-15	7,328	2,309	9,637	3,827	675	4,502	3,501	1,634	5,135
Annual	564	178	742	294	50	344	270	128	398
SCENARIO 2:* Realistic Reform Scenario									
Cumulative 2003-15	6,081	1,052	7,133	5,095	675	5,770	986	377	1,363
Annual	468	81	549	392	50	442	76	31	107
SCENARIO 3:* Cautionary Scenario									
Cumulative 2003-15	6,945	1,430	8,375	5,095	675	5,770	1,850	755	2,605
Annual	534	110	644	392	50	442	142	60	202

Note:* Projected donor financing of US\$27.5 million per year is factored in the resource envelop.

Source: Fast-Track Initiative Application 2002.

Table C-13: Enrollment Projections in Primary Education – Reform Scenario

	Target	2001 (base)	2003	2005	2007	2009	2011	2013	2015
School-age population ages 6-11 ('000)		3,953	4,251	4,571	4,916	5,286	5,685	6,113	6,574
Population age 6 ('000)		757	814	875	941	1,012	1,089	1,171	1,259
Population age 11 ('000)		599	644	69	745	801	861	926	996
New entrants in grade 1 ('000)		552	642	743	856	982	1,089	1,171	1,259
Non-repeaters in grade 6 ('000)		305	373	450	536	633	741	861	996
Total primary enrollment ('000)		2,644	3,108	3,639	4,228	4,881	5,515	6,117	6,777
% of age-group entering grade 1		73%	79%	85%	91%	97%	100%	100%	100%
% of age-group reaching grade 6 *	100%	51%	58%	65%	72%	79%	86%	93%	100%
Target year	2015								
Repeaters as % of total enrollments	3%	7%	6%	6%	5%	5%	4%	4%	3%
Target year	2015								
Gross enrollment rate		67%	73%	80%	86%	92%	97%	100%	103%

Note: Annual growth rate of primary school age population is 3.7 percent;

* The percentage of age-group reaching grade 6 is used for completion rate.

Table C-14: Nutritional Status of Children Under Age Five, Yemen 1991 and 1997

<i>Indicator</i>	<i>Yemen DHS 1991</i>	<i>Yemen DHS 1997</i>	<i>% Difference</i>
Underweight, moderate and severe	30.0	46.1	+53.7
Boys	31.6	47.0	+48.7
Girls	28.4	45.1	+58.8
Underweight, severe	5.1	14.5	+184.3
Boys	6.1	14.1	+131.1
Girls	4.1	14.9	+263.4
Stunting, moderate and severe	47.9	51.7	+7.9
Boys	41.2	52.3	+26.9
Girls	53.1	51.0	-4.0
Stunting, severe	22.1	26.7	+20.8
Boys	12.5	27.0	+116.0
Girls	29.5	26.3	-10.8
Wasting, moderate and severe	12.1	12.9	+6.6
Boys	14.1	13.7	-2.8
Girls	10.5	12.0	+14.3
Wasting, severe	3.8	2.6	-31.6
Boys	4.4	3.1	-29.5
Girls	3.4	2.1	-38.2

Source: Republic of Yemen. End of Decade Review. Process Report and Statistical Annex. World bank 2000. Data from Demographic Maternal and Child Health Survey 1991 and 1997.

Annex D. Issues in Improving Quality of Education

Need for Improved Monitoring Mechanisms

To track the achievement of Education for All, more detailed information must be obtained regarding dropout and repetition by gender and location of schools. There is also a need to monitor students' ability to read and write, particularly in the early grades. More attention may be on understanding what key inputs will improve learning outcomes for the children already enrolled.

Care may be needed to ameliorate the sampling issues related to achievement testing. Because the 200 schools used for baseline measurement had a population that was not representative of Yemeni students, future results may not show changes reliably. Furthermore, inclusion of increasingly poorer children is likely to lower scores. Sophisticated statistical treatments, such as propensity score matching, could be used to ferret out achievement changes.

Efficiently Providing Useful Information to Students

It is quite feasible for most students in Yemen to read their textbooks fluently by the end of grade 1, because vowelized Arabic is phonetic, and the Yemeni dialect is close to the standard Arabic used in class. However, the classrooms observed by OED were found to use instructional time inefficiently. Student and teacher absenteeism, premature end of school days, and teacher tardiness, may contribute to the low level of reading skills shown by students in grades 2-4. Because little in-service training takes place and supervisors rarely visit schools, teachers teach as they see fit and as their own teachers taught them.

One part of the problem is that students spend much of the time passively hearing lectures. Young students' attention span is limited. If lectures and repetitive activities go past 1-2 minutes, students in lower grades probably stop paying attention.⁵² Time is also poorly used when a single student solves problems on the board (usually a time-consuming task) while other students are uninvolved. The boring classes coupled with teachers' reportedly strict disciplinary measures may be an important reason why over 88 percent of students assessed through the MLA test stated that they did not like school.⁵³ Dropout may be related to this attitude. Optimal time use is particularly important to girls and groups of students prone to dropping out early. Research suggests that if students drop out after they become literate, they are likely to maintain their skills and improve them. But if they drop out before they have developed fluent reading, they are likely to lose their skills and join the ranks of illiterates.⁵⁴ Under such circumstances, the

52. Bukatko and Daehler. 2001 (p. 305)

53. Lack of mastery may be one reason why 40 percent of the students stated that they feared tests, and 75 percent expressed their dissatisfaction with the grades they receive. (EDRC 2000).

54. Hartley and Swanson 1986.

government's efforts at enrollment increases would be compromised. Students may benefit only from a fraction of the educational organization and budget spent for them.

Improving instruction in large classes through cooperative learning. Poor use of students' time and attention span creates egregious problems in large classes, because students thus get little time to practice reading or other skills by themselves. Some social research suggests that information is elaborated better in groups.⁵⁵ This is particularly important in the case of large classes, where teachers are sometimes observed to work with a few competent students and ignore the rest. Groups can be formed in large and crowded classes by asking students seated in a front row to turn toward those behind them. Training and experimentation are needed for this purpose.

Rural school buildings can also be put to more efficient use if full morning and afternoon shifts are established (with different teachers or with the same teachers paid extra). Some government officials may consider that the afternoon shift offer less instruction; however, if students go to school three days in the morning and two in the afternoon, equity among groups will be established.

Implementing a Sustainable Textbook Strategy

Yemen has a policy of giving students textbooks to take home and printing each year 70 percent of the number needed, since many can be reused. The policy is laudable because it enables students to study after-hours. Even though it is financially burdensome, students are probably benefiting academically from it. However, used textbooks are often wasted as large numbers get reprinted. (An initiative has been developed to send old textbooks to India for recycling into pulp.)

To alleviate theft and sale in the market, the MOE could sell textbooks to private vendors (suitably labeled), so that students can buy them if for some reason they need to. If textbooks are available in the market at reasonable rates, there will be little incentive to cause delays and shortages in school by stealing them and selling them.

Implementing an Effective Teacher Support System

The government has decided to close the primary teacher training centers that have produced rural teachers since the 1970s. The policy was developed because their quality was low, and it was considered that secondary-level teachers did not know sufficient material to teach students. At the same time, economic studies suggested that Yemen has a relatively low average student-teacher ratio (about 21)⁵⁶ and may not really need more teachers. Instead, it needs better allocation of teachers to rural areas and more

55. For example, Johnson et al, 1981. Rysavy and Sales, 1991.

56. [Yuki, Takako and Safaa El-Kogali. Yemen – Budget and Institutional Reform in Support of the Five-Year Plan. Education Sector Chapter, unpublished sector work, 2000. Data derived from the 1998 and 1999 public expenditure review, Ministry of Education, especially the General Department of Statistics and Planning, Ministry of Finance, Ministry of Planning and Development, Central Statistics Organization, and donors.]

female teachers.⁵⁷ The Yemeni government is taking special measures to reduce minimum teaching qualifications for women to completion of secondary education.

However, the Yemeni system must expand in rural areas where about 72 percent of the population lives, and female rural teachers constitute only about 7 percent of the teacher corps.⁵⁸ Experiences worldwide suggest that it is extremely difficult to post urban dwellers (particularly women) in remote rural areas.⁵⁹ They try to return to the cities, and the villages are not served well. (A strong incentive system might help, but efforts to implement it during the Basic Education Project as well as during the ongoing project have been limited.) More of concern should be the fact that if students complete secondary school in Yemen, they are likely to be middle class or above and have other options besides the low-paid teaching profession and work in rural areas. Students may enter university faculties of education with the expectation of getting a general education rather than actually teaching. Thus, this population may be quite unsuitable for staffing rural schools.

Secondary-level teachers have effectively functioned in many countries and continue to do so in some countries, such as Romania. It may be more efficient to continue operating primary teacher training centers for secondary-level study in areas of high need.

Another unusual characteristic of Yemeni teacher use is that subject specialists are required for grades 4-6. This differentiation creates inefficiencies in the system (particularly in small rural schools) and may deprive students of subject matter knowledge when the specialized teachers are unavailable. The government might consider eliminating specialization and making sure that teachers are trained well enough to teach math and science of grades 4-6, as practically all other countries are able to do. The move toward university-trained teachers should bring to the sector better-educated personnel.

57. Yemen: Education Sector Assistance Strategy. MNSHD Discussion Paper Series No. 3, 1999, No. 21568; [Republic Of Yemen - Public Expenditure Review, Education Sector, 1999]

58. In 1998/99 rural female teachers were 7,067 (41 percent untrained), whereas male rural teachers were 86,588 (25 percent untrained; EFA country reports Part II). Rural teachers constitute about 67 percent of the teacher corps. (Also see p. 4.)

59. In the 1990s, UNICEF implemented a much-acclaimed program of locating rural women with 8th grade education and transporting them with jeeps to primary-teacher training centers. Though this program was still ongoing in 2004, its scope was reduced because the primary teacher training centers have closed.

Annex E: Basic Data Sheet

YEMEN BASIC EDUCATION PROJECT (CREDIT 2412-YR)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Original commitment	19.70	18.73	95.3
Total project cost	25.0	21.1	84.4
Cancellation	0	0.95	5

Project Dates

	<i>Original</i>	<i>Actual</i>
Departure of Appraisal Mission		01/20/1992
Board approval		07/09/1992
Effectiveness		05/26/1993
Closing date	06/30/1998	04/30/2001

Staff Inputs (staff weeks)

	<i>Actual/Latest Estimate</i>	
	<i>N° Staff weeks</i>	<i>US\$US\$('000)</i>
Pre-effectiveness		316,906.83
Supervision	29.74	313,670.91
ICR	13.29	37,559.33
Total	43.03	668,137.07

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Performance rating</i>	
				<i>Implementation Progress</i>	<i>Development Objective</i>
Identification	4-5/91	3		N/A	N/A
Preparation	6/91	3	EDS (2), E	N/A	N/A
Preparation	9/91	8	EDS (2), E	N/A	N/A
Pre-appraisal	11/91	3	EDS (2), IS, HER, CS, TS, DC	N/A	N/A
Appraisal	1/92	4	EDS (2) DES	N/A	N/A
Supervision	07/93	1	EDS	HS	HS
Supervision	03/96	4	EDS (4)	U	S
Supervision	06/96	3	IS, EDS, OO	S	S
Supervision	10-11/96	1	EDS	S	S
Supervision	5/97	3	OO, PM/E, PO	S	S
Supervision	11/97	4	EDS, PM, PO, OO	S	S
Supervision	Mtr 2/98	3	PM, PO, OO	S	S
Supervision	7/98	4	IS, OO, FA, PRO	S	S
Supervision	10/99	4	EDS, PRO, PE, PA	S	S
Supervision	11/99	12	PE, EDS, EDMS, A, EDE, NGO/GO, OA, OO, PA, RR, PS, FMS	N/A	N/A
Supervision	3/00	5	LEE, OO, EDS, CPS, EDE	N/A	N/A
Supervision	7/00	7	LEE, EDS, EDE, PA, CPS, A, IS/PS	N/A	N/A
Supervision	11/00	3	LE, OO (2)	S	S
Completion	5/01	1	OO	S	S

Specialization: EDS: Education Specialist; E: Economist; IS: Implementation Specialist; Her: Human Resource Economist; CS: Curriculum Specialist; TS: Textbook Specialist; DC: Division Chief; DES: Distance Education Specialist; OO: Operations Officer; PO: Projects Officer; PM: Portfolio Manager; PO: Project Officer; FA: Financial Analyst; PRO: Program Officer; PE: Principal Economist; PA: Program Assistant; EDMS: Education Management Specialist; A: Architect; EDE: Education Economist; NGO/GO: NGO Gender Officer, OA: Operations Analyst; RR: Resident Representative; PS: Procurement Specialist; FMS: Financial Management Specialist; LEE: Lead Education Economist; CPS: Community Participation Specialist

Performance rating: HS: Highly Satisfactory; S: Satisfactory; U: Unsatisfactory

Note: N/A = Not applicable

