

*American Institutes for Research*

*Academy for Educational Development*

*Aga Khan Foundation USA*

*CARE*

*Discovery Channel Global Education  
Fund*

*Education Development Center*

*Howard University*

*International Reading Association*

*The Joseph P. Kennedy, Jr. Foundation*

*Juárez & Associates, Inc.*

*Michigan State University*

*Save the Children Federation, Inc.*

*Sesame Workshop*

*University of Pittsburgh*

*World Education, Inc.*



## **Basic Education Project – Yemen**

**Final Report**

**July 24, 2004 to July 23, 2008**

**Submitted by:**

**American Institutes for Research**

**with**

**Academy for Educational Development**

***October 23, 2008***

*U.S. Agency for International Development  
Cooperative Agreement No. GDG-A-00-03-00006-00  
Associate Cooperative Agreement No. 279-A-00-04-00027-00*

## TABLE OF CONTENTS

Design Considerations .....	1
Demand stimulation vs. increasing supply .....	3
Site selection .....	4
Basic Education Development Strategy (BEDS).....	5
MOE guidance to serve GOE as primary client.....	7
Cluster vs. District wide strategies.....	7
Holistic (full package) approach to interventions .....	8
Community Participation .....	9
Addition of an EMIS component .....	10
Implementation Issues .....	10
Balancing the timing of the introduction of interventions .....	10
Mutually reinforcing nature of the interventions .....	16
Shift in government guidance shoring up greater MOE central control in the governorates ...	17
Shift in government guidance to use district wide strategy for teacher training.....	17
Security issues arising from pockets of communities outside of government control.....	18
Consequences of GRY decentralization .....	19
Introducing innovations .....	20
Achieving Project Targets.....	26
Final Performance Monitoring Plan Summary .....	27
Conclusions and Recommendations .....	29
Final Workshop.....	29
Summary of Conclusions and Recommendations .....	35

## DESIGN CONSIDERATIONS

On July 24, 2004, USAID and the American Institutes for Research (AIR) signed a cooperative agreement through the Educational Quality Improvement Program (EQUIP Leader with Associates #1, or EQUIP1) to implement a three-year educational project (July 24, 2004 – July 23, 2007) in Yemen. AIR assigned the technical lead to the Academy for Educational Development (AED) and an additional sub-award to the Educational Development Center (EDC). The purpose of the cooperative agreement was to provide assistance aimed at improving basic education especially for women and girls in targeted areas of the Republic of Yemen. Over its four-year implementation, the project has had a variety of names. For consistency, we refer to the project throughout this report as the Basic Education project.

A three-person design team traveled to Yemen in late August through mid-September 2004 composed of one representative of each organization. During this period, the team met with senior staff of the Office of USAID Representative in Yemen (USAID), which had only been established with minimal staff the year before, and the Vice Minister of the Yemeni Ministry of Education (MOE) and members of the MOE's Technical Office. USAID cited as its top priority the need to establish a rapid positive visible presence in the five poorest and most remote areas of Yemen (Amran, Mareb, Shabwah, Sa'adah, and Al Jawf governorates). The MOE established as its top priority that all donors collaborate effectively within the national Basic Educational Development Strategy (BEDS) framework, which would require (among other things) a cluster strategy for providing technical assistance to groups of nearby schools. The cooperative agreement further required that the project focus on delivering technical assistance at the school and community level, emphasizing basic education schools (grades 1 to 9).

During this design period, security restrictions following the death of a key anti-government rebel leader in Sa'adah governorate did not allow the team to leave the city of Sana'a. This travel restriction prevented the team from visiting any of the communities and schools the project was intended to serve and to engage in direct dialogue on site that would contribute to a better understanding of their needs and to identify possible opportunities to improve the design.

The design period resulted in the submission of a draft design, work plan, and budget to USAID Sana'a in late September 2004, which assigned responsibility to AIR for the overall management of the Basic Education project for Yemen, including submission of the original (and potential future modifications to) work plans, budgets, monitoring and evaluation, and quarterly reports. AIR assigned AED the role of technical lead for the implementation of the project including employing the Chief of Party (COP) along with the Yemeni employees to be hired to manage the school facilities' improvements, teacher training, and community participation interventions. AIR also assigned EDC the responsibility for establishing and implementing adult female literacy programs, the creation of supplementary teaching materials, and community participation under the supervision of the COP. At that stage no clear guidance had yet been developed that clarified how the responsibility for community participation would be defined or divided between AED and EDC. The design and plan, in accordance with an agreement between USAID and the MOE, called for only one non-Yemeni employee (the COP).

In mid-October 2004, USAID Sana'a provided AIR with written approval of the portions of the design and work plan that addressed school renovation, teacher training, and community participation, and instructed AIR that implementation of those activities should begin as soon as

possible. USAID requested that the portions of the design addressing adult literacy and the development of supplementary teaching materials be revised.

The COP arrived in country on October 9, 2004, nine days before Ramadan, and focused on hiring a skeletal staff of an accountant, office manager, and driver. Recruitment of additional professional Yemeni staff took place in early November, after the Eid Al Fitr holidays. During November and December, a small staff composed of construction professionals, teacher trainers, and community participation experts was put together consisting partly of new Yemeni full-time staff and one American and several Yemeni short-term consultants. After a short period of orientation, training, and team planning the team was divided into two sub-groups with at least one representative of each technical area in each group. In late December 2004, one group was sent to Mareb city (Mareb governorate) and one to Ataq (Shabwah governorate), where they each spent six weeks in residence establishing a collaborative planning process with the staff of the governorate offices of education (GOEs), under the guidance of the respective GOE directors general (DGs). During late December 2004 and all of January 2005, the COP and Dr. Mahmoud Saeed, a representative of the MOE Technical Team in Sana'a, shuttled back and forth between Mareb and Ataq to monitor and supervise the two working groups in reaching agreements with the two GOEs, especially in the selection of schools and communities to be served consistent with the MOE guidance to use a cluster strategy. This initial joint planning exercise resulted in written agreements with the GOEs to serve 37 schools grouped by the GOE in three clusters in Mareb and 19 schools grouped by the GOE in two clusters in Shabwah.

As USAID Sana'a was particularly keen on seeing activities on-the-ground commence as quickly as possible, the project entered an informal partnership with GTZ to conduct joint teacher training workshops for all the grades 1-3 teachers at the 37 schools targeted by the Basic Education project in Mareb governorate in February 2005. Simultaneously, joint planning began in collaboration with the GOE in Amran governorate along the lines of that conducted in Mareb and Shabwah resulting in an agreement to serve 21 schools grouped by the GOE in two clusters.

Simultaneously, work progressed on revisions to the design and work plan for Adult Literacy and the creation of supplementary teaching materials. The design process for these components was handicapped by several factors:

The MOE's Literacy and Adult Education Organization (LAEO) focused on providing "catch up" courses to adolescent drop outs aimed at getting them back into school (into either grade four or grade seven) and lacked materials specifically aimed at serving adult women who often never attended school, and if they did, were unlikely to return;

The MOE expressed serious concerns about the possibility of community and/or tribal and political backlashes if it were to be made known that the American government was involved in authoring or shaping any part of the curriculum that risked influencing impressionable Yemeni youth in ways that might be unacceptable to their parents, communities, and tribes; and,

EDC undertook the design under the assumption that USAID and the MOE were interested in using distance learning to implement adult literacy activities.

The first two factors, which restricted any U.S.-funded program from creating new teaching or training materials, made it extremely difficult for the project to propose a work plan that could be

approved. No materials existed for non-formal adult female literacy, and the formal education curricula were fixed and the MOE would not allow it to be modified by an American project. The third factor led to EDC proposing a number of approaches using radio and television programs both to promote participation in adult female literacy programs and to serve as possible vehicles for introducing new supplementary materials to school teachers. Neither USAID Sana'a nor the MOE felt that the mass media programs proposed were ideal for reaching the illiterate women in the remote areas in the five governorates targeted by USAID, due both to their content and to questions about whether sufficient numbers of women in those areas had access to radios and televisions. Neither could mass media be used to introduce new formal education materials, as the MOE would not allow Americans to produce them.

Several revised designs and work plans for these components were submitted to USAID during 2005, and none was approved. In September 2005 at a meeting in Sana'a attended by the project's Contract Officer from the Regional USAID Mission in Cairo, the project's Cognizant Technical Officer (CTO) from USAID Sana'a, and representatives of AIR, AED, and EDC, it was agreed that EDC had already successfully contributed as much as could be expected under their scope of work and that their sub-award would conclude at the end of December 2005.

AIR, as the award leader, and AED, as the technical lead in-country, were asked to submit a revised design and work plan to incorporate Adult Female Literacy programs into the already approved design and work plan for the other on-going interventions, which was submitted in February 2006 and approved in April of that year.

During the initial project design and implementation in fiscal years 2005 and 2006, it became clear that the project, along with the MOE and projects funded by other donors, faced serious difficulties traceable to the lack of reliable information about the education sector in Yemen. Key baseline data, especially for enrollments by gender, drop out and retention rates were incomplete, inaccurate, and slow in being produced by the MOE. Valid and reliable information on teacher and student performance did not exist. Therefore early in fiscal year 2007, USAID Sana'a chose to lengthen the project by one year until July 23, 2008 and to add a component to provide technical assistance to the MOE to support Educational Management Systems (EMIS) development.

Additional detail on the following aspects of the project design and evolution is worth noting:

### **Demand stimulation vs. increasing supply**

Prior to approaching AIR and signing the EQUIP1 cooperative agreement, the three person staff that made up USAID Sana'a in early 2004 developed with the help of short term consultants several concept papers to help frame the development of technical assistance to the education sector in Yemen. The Basic Education project design team found that these initial papers assumed that many Yemenis, especially those in the remotest areas of the five targeted governorates, undervalued education and that any subsequent projects would need to develop awareness programs to persuade parents to send their children to school, especially girls.

The initial design team (during August and September 2004) and the project staff in subsequent community site visits as part of the work plan development (December 2004 – February 2005) determined that the demand for social services (primarily health and education programs) among

rural populations is very strong to the point that tribal groups have resorted to kidnappings and violence to persuade the government to provide promised clinics and schools.

Consequently, the project staff chose to focus on increasing the capacities and improving the quality of educational programs provided to targeted communities rather than on stimulating demand. The already existing community awareness of the value of education, and consequent demand, did not however obviate the need to increase parental involvement, especially in service of improving the quality of teaching and learning.

## **Site selection**

At the time that the Basic Education project field work began on the ground in December of 2004, USAID already had a centrally funded project operating in Sa'adah and Al Jawf governorates called the Basic Health and Education Services Project, funded by USAID Washington prior to the mission reopening in Sana'a in 2003 and implemented by the American NGO, Adventist Development and Relief Association (ADRA). The ADRA project was scheduled to end in June of 2006.

USAID Sana'a therefore asked the Basic Education project to concentrate its time and resources fully on providing assistance to Amran, Mareb, and Shabwah governorates only until the ADRA project was completed. Also, consistent with the instructions of the central MOE, the project worked closely with the DGs for the three GOEs to identify which communities and schools to serve. All parties (USAID, the MOE, and the Basic Education project partners) understood that the GOEs had already grouped all of their schools using national MOE-established criteria for clustering schools (each grouping with one main cluster school and a number of satellite schools). As part of its design strategy, the project decided to offer a holistic "full package" of interventions to each of the schools in every cluster targeted for assistance on the theory that the holistic approach would more likely lead to significant measurable improvements in enrollments and teacher and student performance. This meant that if the project was to train the teachers in one school, it would commit itself to training all of the teachers (grades 1 – 9) at all of the schools in each cluster (the main cluster school and all satellite schools). In addition, every school in the targeted clusters would have its headmasters trained, parents' councils formed, and facilities renovated.

This last intervention (school renovations) to a large extent drove the process for determining how many clusters and schools could be served. In the early months of the project when sites were being selected, the MOE and other donors lacked information about school renovation timing and costs, focusing instead on new construction; and, the project had not been operating long enough in Yemen to have conducted detailed structural assessments of the existing school facilities. It was not known how much work needed to be done, how much it would cost, or how long the work would take. Therefore, it was agreed that the project would select an initial set of clustered schools to assist for the 2005-2006 school year. Once it was determined how long it would take, and how much it would cost, to renovate buildings and to repair school furniture, the project in conjunction with USAID and the three GOE's would determine how many additional clusters and schools could be served with the time and resources available for the 2006-2007 school year.

Seventy-seven schools grouped by their GOEs into eight clusters were identified in January and February 2005 in Amran (two clusters consisting of 21 schools), Mareb (three clusters consisting of 37 schools), and Shabwah (three clusters composed of 19 schools) to be served.

A school renovation strategy was developed during the period March through August 2005. Prior to the project's architects visiting each school, the project attempted to establish a rough estimate of the average cost of renovating a school based on the number of classrooms. Initial visits to the MOE's school mapping department, the MOE's chief school building engineer, and other donors indicated that most of these were focusing on building new schools, and that little attention was paid to, and even less information was available about, the cost of renovating schools.

The project architects began with very rough planning figures estimating that it might cost from \$5,000 to \$15,000 to renovate the average classroom and take from two to six months (four months on average) to renovate a typical school. According to the latest MOE data available at the time (from MOE Statistics & Planning Department, School Census 2002-2003), the average school had six to seven classrooms, serving approximately 220 students per school. During the spring and summer of CY 2005, the project put out to bid six contracts to local Yemeni structural engineering firms to conduct detailed above- and below-ground assessments of the renovation requirements of the existing structures, as well as their tolerance for renovation given what could be determined about their foundations, the characteristics of the below ground stability the foundations sat on, and the integrity of existing essential structural elements (e.g., the soundness of roofs and walls, and whether existing problems were amenable to correction or were likely to be exacerbated by the stresses of renovation).

Simultaneously, during this same period (March through August 2005), USAID gradually informed the project about a series of requirements and recommendations that expanded the definition of what would be expected from any improvements to facilities. Environmental impact assessments were to be included in structural assessments; all schools were to be made accessible for students with disabilities; and, a physical risk and legal Construction Liability Reduction Strategy was to be developed. All of these factors, plus the basic renovations needs assessments themselves, led to significant increases to the estimates of what it would cost, and how long it would take to renovate schools.

As a result, by the beginning of FY 2006, it became apparent that the average cost of renovating a typical six to seven classroom school (including adding new classrooms and new latrines) would be approximately \$46,000, and the cost of building multi-purpose rooms increased as their designs changed from approximately \$65,000 each to \$115,000 to \$145,000 or more, depending on the remoteness of the location. The average time to renovation was more accurately determined to be six months or more per school.

It became clear by the end of fiscal year 2006 that the project would not likely have either the money or the time to renovate more than the first 77 schools in eight clusters identified in the first round of site selection.

## **Basic Education Development Strategy (BEDS)**

While USAID and the project were committed to providing assistance within the framework of the GRY MOE's BEDS, it quickly became apparent that any guidance or direction to be derived

from the strategy was largely limited to teacher and headmaster training. The MOE with assistance from GTZ had developed the first headmaster and teacher training curricula for grades one through three (2004-2005); and later for Arabic, math, and science teachers for grades four through nine (2006-2007). Part I for the lower grades curricula had been developed and approved in late 2004, and Part II had been approved by late 2005. A similar progression was followed for only three of the subjects taught in the upper grades of basic education.

Following agreements between USAID and the MOE, the project stuck to the MOE approved teacher and headmaster curricula throughout the project cycle. This has been one area where the BEDS has been able to contribute to consistency in the way teachers are trained across the country, whether by the MOE or a donor. It has also contributed to stability of teacher and headmaster relations, assuring that headmasters reinforce rather than provide supervision that contradicts what teachers were taught during in-service training (INSET). It also contributes to minimizing the disruptions that may occur as teachers rotate out to other schools, districts, or governorates.

Many of the objectives, indicators, and targets laid out in the BEDS, developed prior to USAID reopening a mission in Yemen in 2003, were unclear, contradictory, based on inadequate data, or cited by the MOE itself as being “unlikely to be achieved.” As a matter of preference many of the donors providing assistance to the education sector in Yemen were focusing on central Ministry capacity development (e.g. in planning, annual MOE work plan development, or EMIS development), or “pilot testing” approaches to community participation, school construction, or adult literacy programs, sometimes without coordinating with the central Ministry.

The project, therefore, consistent with the Basic Education project mandate to serve schools and communities, proposed and the MOE approved school renovation plans and designs for multi-purpose room construction in the absence of any MOE mandated plans, blue-prints, norms, or construction standards.

The project also hired and trained Community Participation (CP) Facilitators for its offices in Amran, Sana’a, Mareb, and Shabwah, in mid-2005 at a time when the MOE had committed itself to a strong policy in support of community involvement but lacked any CP staff at the central Ministry, GOE, district office (DOE), or community levels. As the Ministry named staff and established an official MOE *Community Participation (CP) Manual* of implementation guidelines in 2006, the project reduced the size of its own CP staff and focused on providing capacity development training and assistance to the MOE, GOE, DOE, and community CP staff and stakeholders using the MOE *CP Manual*. In the absence of nationally approved literacy materials aimed at adults, the project also, at the request of LAEO, guided the literacy organization in the development of a set of Adult Literacy Manuals (one for training of facilitators, and a second for participant use) that was officially adopted by the MOE as the national curriculum for adult literacy.

By December 2006, the MOE had developed its first framework for an annual MOE Annual Work Plan (AWP) with the assistance of the World Bank and DfID. Once that framework was in place, the project complied with the Technical Office’s request to provide its 2007 detailed work plan within the framework of the new MOE AWP in both English and Arabic. The MOE Technical Office noted that USAID, through the project, was the first donor organization to provide detailed information on its assistance within the framework of the new AWP.

## **MOE guidance to serve GOE as primary client**

As noted, the MOE informed the design team in September 2004 that it expected the USAID project to serve the selected GOEs as its primary clients. Neither the MOE nor USAID required or arranged any meetings with Deputy Ministers or Directors General at the central Ministry in Sana'a during the first two years of the project.

In November 2006, as the Ministry was putting in place the mechanisms for developing an annual work plan (AWP) for CY 2007, the Deputy Ministers for several sectors contacted the project to ask for joint discussions and planning sessions. Most notably, the USAID Sana'a education team and key project staff met with the acting Deputy Minister for Teacher Training in December 2006 to discuss plans for training teachers, headmasters, teacher supervisors, and other GOE staff. Subsequently, two documents were signed between the project and the sector office. The first documented the activities the project would conduct in support of teacher (and other staff) training for the MOE 2007 AWP; and the second documented the rates that would be paid for travel and per diems provided MOE, GOE, DOE, and school staff members participating in USAID funded training events.

At the request of the MOE Technical Office, the project conducted similar meetings to coordinate and confirm work plans for 2007 with the Deputy Minister for Community Participation and Girls' Education and the Director of the Adult Literacy and Education Organization (LAEO).

This process, shifting the focus of planning from the GOE to the central MOE level, was repeated in November and December 2007 in support of the MOE's AWP development for CY 2008.

## **Cluster vs. District wide strategies**

From December 2004 through February 2005, during the initial planning process conducted in collaboration with the GOEs in Mareb, Shabwah, and Amran, the DGs informed the project that while the central MOE had instructed them to organize all schools in their governorates into clusters using MOE criteria, the Ministry also imposed on the GOEs teacher training performance targets by district. For example, the GOEs were required to report on how many districts had all of their teachers trained, not how many clusters.

The identification of these district targets by the central MOE led to the GOE's asking the project to commit to training a greater number of teachers and administrators than those assigned to the 77 schools the project agreed to serve. Given the MOE's directions to the project to follow a cluster strategy, the project team reached compromises that led to many teachers and headmasters being trained in CY 2005 that did not work at the schools served by the Basic Education project. For example, the project agreed with the GOE in Shabwah to serve 19 schools in three clusters but trained more than 90 headmasters. Great pains were taken to limit the number of these compromises, which were approved on a case by case basis, never reaching the stage of formally committing to train all the teachers in a district, until the MOE changed its guidance in late CY 2006.

## **Holistic (full package) approach to interventions**

During the design (August and September 2004) and early work plan development phase (December 2004 through February 2005), it was determined that most donors to the education sector in Yemen focused their time and resources on specific, often segregated interventions. Several such as the World Bank (WB), the Royal Netherlands Embassy (RNE), the Department for International Development (DFID-UK), and the German Technical Development Agency – GTZ chose to invest primarily in central Ministry capacity development. In addition, GTZ, the German development bank (KfW), the Social Fund for Development (SFD), the Japanese International Cooperation Agency (JICA), and others also chose to fund development activities in the field, similar to USAID. The field activities funded by these other donors were and are still focused on somewhat isolated interventions. For example, the WB builds schools but does not furnish them, form parents' councils, or develop local capacities to repair and maintain the facilities. The WB indirectly arranges for teachers and school administrators to be trained by funding those activities through budgetary support to the central ministry. Likewise, the two German agencies provided focused, issue specific field assistance. KfW was, and is, building schools; and, GTZ was training teachers and administrators, and forming parents' councils. Both agencies were targeting different schools and communities.

The two most important improvements cited by all parties as having the greatest potential for increasing girls' enrollments were building girls' latrines and hiring more female teachers. The project incorporated the first into the renovation designs at all targeted schools. Unfortunately, it was not within the scope or authority of USAID or the project to hire more teachers. This is because MOE staff must to be hired by the Ministry of Civil Service, USAID rules do not allow the project to pay GRY staff salaries, and the development of a cadre of female teachers recruited in urban areas and posted to rural areas had recently been attempted under the BEDS and failed. The MOE decided that a long term strategy would be needed to try a different approach, which would require more than the three years scheduled for the Basic Education project.

### *The full package approach assures key issues of sustainability are addressed*

To maximize the likelihood of reaching or exceeding the USAID project objectives of increasing basic education enrollment and retention rates, especially for women and girls, and improving the quality of the performance of teachers and students, the Basic Education project design focused on offering a full range of key interventions at each of the targeted schools and clusters. The holistic "full package" of interventions that chose to offer was chosen on the basis of initial interviews of MOE, GOE, DOE, and school staff, and also with parents and community leaders. Each group was asked what would make it more likely for parents to send their children to school, especially girls, and keep them there longer.

The responses resulted in the selection of a range of interventions that included a) renovation of schools facilities and student furniture, b) building multipurpose rooms at main cluster schools, c) training all teachers and administrators (grades 1 -9) at all targeted facilities, d) forming parents' councils at each school, and e) developing and strengthening adult female literacy programs in each of the eight targeted clusters.

### *Early interventions establish trust and credibility for those who follow*

The initial design gave serious consideration to the fact that some of the interventions would take longer to organize and launch than others. USAID and the project team were both concerned that an uneven distribution of early technical assistance might aggravate the already built up frustrations of the remote communities, many of which had already resorted to kidnapping, car-jacking, and violence to express their grievances with the Government of the Republic of Yemen's (GRY) not having provided promised social services in the past. The Directors General of the three targeted GOEs also emphasized the importance of being seen to provide equitable services to the various tribes in the areas covered by the eight targeted clusters. The project was advised that if any of the tribes perceived the assistance delivered as favoring another group over their own, the potential for retaliatory violence was real.

The design and work plan attempted to assure that every community received some sort of assistance almost immediately. Teacher and headmaster training was the first assistance planned, beginning in Mareb governorate to serve three of the four major tribal groups simultaneously in Majzer, Wadi, and Al Joobah districts. No training was planned for the fourth tribal group in the southwestern quadrant of Mareb governorate, because armed conflict between the tribe and the central government had prevented the MOE Training Sector with GTZ assistance from conducting teacher training there earlier in 2004.

It was planned that early ongoing school staff training would lay the foundation for other components to visit the 77 selected communities to discuss and assess the needs for school renovations, student desk repair, and greater parental involvement in making decisions leading to improved access to and quality of basic education services.

### **Community Participation**

In 2002, two years before the project began, the MOE adopted a national Community Participation (CP) Policy. The policy statement represented a clear and strong endorsement on the part of the Ministry to welcome and encourage greater community and parental involvement in efforts to improve access to schools and the quality of educational services. The policy lacked the funding, staff, administrative, and program management mechanisms at all levels that would be necessary for implementation.

During the period 2002 through 2004, GTZ pioneered community participation activities in Ibb and Abyan governorates, forming parents' councils, and producing (among other things) a draft Community Participation Guide. By late CY 2004 and early 2005, as EQUIP1 was beginning implementation, the MOE had signaled the intention to have a Director General for Community participation at the central Ministry (a position that had not been filled), and acknowledged that most GOEs did not yet have any Community Participation staff, and where they reportedly existed, the central MOE had no information on who they were, whether they had been trained, and what they may be doing. Simultaneously, the central MOE adapted and adopted the CP Guide developed by GTZ in Ibb and Abyan and asked GTZ to field test the new MOE CP Manual in Mareb governorate and the USAID funded Basic Health and Education project (implemented by ADRA) to field test it in Sa'adah governorate.

In initial site visits early in CY 2005 to Amran, Mareb, and Shabwah, the project team learned that there had been a donor CP coordinator for two years (2002-2004) in Amran governorate. The former CP coordinator lamented the loss of funding and a donor provided vehicle but admitted that she was not entirely sure who the funder had been. Neither could she point to any specific accomplishments resulting from a two year program that had ended little more than eight months before. In Mareb, the GOE said that there were approximately 14 parents' councils for the more than 600 schools and that they were not sure how many were functioning.

The EQUIP1 Project design attempted to fill the vacuum by hiring two staff CP facilitators each (one female and one male) for the project field offices to be established in Amran and Mareb. The design team also hired three facilitators (two female and one male) in Shabwah, where schools are more difficult to visit due to poor or no roads, and the enrollment and retention rates for girls were significantly worse. These seven CP project field staff members were to be trained and supervised by a staff CP Coordinator based at the main project office in Sana'a.

### **Addition of an EMIS component**

In August 2005, the small and evolving Office of USAID Representative in Yemen hired their first expatriate Senior Education Advisor to serve as the project CTO; and a Yemeni Education Team Leader was hired in the spring of 2006. As the project implementation progressed, both the USAID education team and the project senior management team were increasingly confronted by the inadequacy of the MOE data available, which was needed to determine needs and priorities, and to compare project progress with overall GOE and MOE indicators for similar issues (e.g. enrollment and retention rates, and teacher and student performance improvements).

As a result, USAID decided in September 2006 to add additional funds in the third year of the project to provide the central MOE and the three targeted GOEs assistance in developing Educational Management Information Systems (EMIS). At the same time, the project was extended with the end date changed from July 2007 to July 2008.

USAID and MOE agreed that USAID assistance in the area of EMIS development would be designed in such a way as to supplement and complement existing MOE systems such as they were, within the framework then used for channeling technical assistance for EMIS from other donors (primarily GTZ and The World Bank; and, to a lesser extent UNICEF, DFID, and JICA). It was agreed that USAID would, through EQUIP1, focus on developing EMIS units at the governorate level at the GOEs in the project's three targeted governorates (Amran, Mareb, and Shabwah).

## **IMPLEMENTATION ISSUES**

### **Balancing the timing of the introduction of interventions**

As noted, the design and work plan attempted to balance the introduction of interventions so that each of the communities and schools experience some benefits as immediately and as simultaneously as possible. The objective of immediacy was most successfully accomplished with teacher training which began for the teachers at the 37 schools served in Mareb governorate

in February 2005, only a little more than one month after the project team was formed; and, simultaneity was most successfully accomplished in forming 100 parents' councils (75 fathers' and 25 mothers' councils) at 77 schools in approximately three days in late May 2006.

### *School Renovations*

Meeting those two objectives in improving school facilities proved more complicated in the implementation than anticipated in the design. After architectural needs assessments were conducted at all 77 schools by the project staff architects, followed by structural needs assessments by outside independent Yemeni engineering firms, a strategy was developed to conduct major (structural and finishing) and minor (finishing only) renovations in five phases. The strategy called for major renovations (phases I through IV) to be put out to bid with the work to be done by private Yemeni construction firms. Phase V consisted of minor renovations which would be supervised by the project's staff mobile repair teams (MRTs), using locally hired skilled, semi-skilled, and unskilled laborers as needed.

The project staff architects completed their needs assessments in June 2005. Six independent engineering firms were hired (two per governorate), and they completed their structural assessments in July and August 2005. Based on the results of the structural engineering assessments, each of the 77 schools was scheduled to receive either major or minor renovations and assigned to one of the five phases. Consideration was given to the severity of the need (those schools were scheduled first), striking a balance in when governorates, districts, clusters, tribal groups, and schools would be served. It was initially estimated that major school renovations (Phases I through IV) would begin in September 2005 and continue through December 2006 with the average school requiring four months to be renovated, with a range of the fastest taking about two months and the longest approximately six months. Phase V (minor renovations) originally were scheduled to take place in early CY 2007 after the first four phases were to be completed.

### *School Furniture Repair*

Once the sequence was established for major and minor renovations of school buildings, the strategy of immediacy and simultaneity led to the decision to repair school furniture at schools in the reverse sequence (i.e. the last schools scheduled to be renovated became the first schools to have their student desks repaired). The logic of this approach tended to be appreciated and accepted by those furthest from the schools (the MOE, USAID, and the GOEs), though it tended not to be well understood or appreciated by the school and community leaders, who wanted all interventions initiated quickly at their schools.

The strategy did not result in the desired effect of winning the support of communities who were not scheduled to have their school renovated during Phase I but who were only too aware of others that were to receive this support. The fact that their furniture was repaired quickly and put back in a school severely in need of renovation was a sore point that needed routine and consistent dialogue with local leaders to explain that the project could not do everything at once.

Likewise, communities that did have their schools renovated first showed similar impatience with the fact that their schools were reopened post renovation with broken and inadequate furniture.

## *Community Participation*

### Creating the CP Component Team

Recruiting appropriate Community Participation project staff in Sana'a proved to be more difficult than expected. Reservations about a) how the role should be defined, b) the skills and experience profile needed, and c) the appropriateness of the candidates responding to advertisements led to the project hiring a consultant in December 2004 on a probationary basis, supplemented by several project staff that rotated in and out of the role of community participation specialist (assistant to the coordinator) for the first six months of field operations (December 2004 – May 2005).

Likewise, hiring appropriate CP field staff for the project field offices at the three targeted GOEs also faced difficulties. Three times ads were placed in English and Arabic language newspapers and faxed to donors and NGOs operating in the education sector, and announcements were posted on bulletin boards at the GOEs. When announcements were first placed in November of 2004, there were no responses. Not a single person sent in a CV or expression of interest. When ads and announcements were placed through the same channels again in February 2005, more than 100 responses were received, more than two dozen candidates were short listed, and a dozen were interviewed. Seven candidates were chosen to be CP facilitators as planned (two each in Amran and Mareb, and three in Shabwah). Each said that he or she would need to give a month's notice to their current employers. Before that month ended, many candidates had decided that they (or their families) did not want to live and work outside of Sana'a, even those who were chosen partially because they and their families were originally from Amran, Mareb, or Shabwah. Finally the list of candidates resulting from a third round of announcements in June 2005 was supplemented with the names of candidates identified through personal visits by the project COP and Yemeni staff to other donors and NGOs in both the health and education sectors, which resulted in seven CP facilitators being recruited, hired, trained, and fielded by the end of July 2005.

### Involving Parents in Improving Schools

In their first year of service (July 2005 – June 2006), the project CP coordinator and facilitators were active in involving school staff, parents, and local leaders in the communities where the 77 targeted schools are located. This included discussions about renovating facilities, training school staff, and establishing routine channels for communications between headmasters and communities. Project staff members asked parents repeatedly in every community "what improvements or changes would make it more likely for you to send your children to school and keep them there longer, especially girls."

During this period the project made a conscious decision not to form parents' councils, as the MOE had established highly bureaucratic and cumbersome regulations and procedures for forming councils, and for how they should be managed. The way the regulations were written, both the project team and the three partner GOEs had concerns that efforts would result in councils that were rigid; not representative of their communities; and likely to expect budgets, offices, vehicles, and other resources that no one was able or willing to provide on either a short- or long-term basis.

In January and February 2006 the MOE had begun to amend and clarify the regulations for parents' councils, and by May 2006 a new position of Deputy Minister for Community Participation and Girls' Education was created and filled. At the same time, the previously vacant position of Director General for Community Participation was finally filled and placed under the supervision of the new Deputy Minister. These steps by the MOE made it possible for the project to reorganize its community participation component to better support the MOE and GOEs in developing institutionalized and more sustainable mechanisms for encouraging and channeling parental involvement.

The GOEs hired governorate CP facilitators and redefined the roles of school social workers. In turn, EQUIP1 reduced its CP staff from seven to three (one female CP facilitator per governorate). The project CP Coordinator in Sana'a and the three CP staff in the regions shifted their focus from direct services to the targeted communities to training and mentoring the new GOE and DOE CP staff and school social workers.

#### Electing and Empowering Community Level Parents' Councils

In May 2006, in collaboration with the GOE and DOE CP staff, the project provided training and assistance to the communities in electing approximately 100 parents' (fathers' and mothers') councils for the 77 schools served. Two weeks after councils were elected, the project trained them; and two weeks after they were trained, the council members were afforded the opportunity to play high profile roles in the planning and implementation of summer camps. More than 300 children and 30 women from all 77 targeted communities participated in camps at 25 locations in the three governorates.

From the time the project began in 2004, there were reports that many parents' councils had been formed across Yemen but that nearly all failed to meet once formed. Most disbanded by default from lack of clarity of purpose. Some councils were reported to have survived. Most frequently mentioned were those formed by GTZ in Ibb and Abyan, and by ADRA in Sa'adah and Al Jawf. The councils in Sa'adah ultimately disbanded due to the armed Al Houthi rebellion made it impossible to function. Similarly, tribal conflict led to the dissolution of councils in Al Jawf. In July 2006, the project senior management team took the newly restructured CP staff to visit the councils formed with GTZ assistance in Ibb and Abyan. Through those visits, it was determined that the councils in Ibb also dissolved from lack of sustained community interest, but many councils formed in Abyan were found to be functioning more than one year after GTZ terminated all assistance and closed there governorate office in 2005.

#### Governorate level Supreme Councils for Girls' Education

During the 2006-2007 school year, the project's CP staff, in collaboration with the new Deputy Minister and DG for CP, worked with GOE and DOE CP facilitators and school social workers as mentors, using materials from the MOE *CP Guide*. At the request of the Deputy Minister and several Governors, the USAID / EQUIP1 project provided assistance in forming governorate level "Supreme Council's for Girls' Education" in Amran and Shabwah, and GTZ provided similar assistance in Mareb. The Supreme Councils, as designed by the MOE's Girls' Education sector, provide a mechanism for the governors to coordinate their staffs in the education, health, social welfare, and other sectors, along with local and international NGOs, to develop

coordinated policies and programs aimed at promoting and supporting expanded access for quality education for girls.

### Community Involvement in District Level Quality Teams

Also during the 2006-2007 school year, while providing assistance in the development of staff and programs in the Community Education and Girls' Education sector at the central Ministry, governorate, and community levels, the project's CP staff identified the need to develop capacities and programs at the district level. The District Officers of Education expressed concerns to the project that they were not included in the Supreme Councils designed for governorate level staff and NGOs. At the same time, the CP staff noted that parents' councils tended to fall roughly into three categories: i) dynamic self starters able to identify and respond effectively to opportunities to improve the school in their communities, ii) moderately effective groups able and willing to work together to improve their school, but in need of assistance in identifying opportunities, and how to use them well; and, iii) poor performers, who have difficulty identifying what might be done to improve their school, and slow to take action once ideas are identified.

The project CP staff saw the expressed desire of the district officers to become more involved in CP and girls' education as way for them to create peer training by matching low performing parents' councils with higher performing councils. They did this by bringing together matched sets of strong and weaker councils on field visits to parents' councils formed three to five years before by GTZ in Abyan. These visits served as a means of i) putting district officers in leadership roles, ii) providing relatively new councils in the eight project-supported districts with Yemeni parents in a non-project served governorate with more experience to provide points of comparison, iii) exploring successes achieved by parents groups in Abyan facing similar challenges, and, iv) providing sometimes surprising opportunities to learn that by comparison some of the project served councils were already more successful than the Abyan councils but were not aware of their own success because they had little to basis for comparison.

Following the visits to Abyan, the parents groups, under the guidance and direction of their District Officers of Education in two districts in Amran (Amran and Thula), three districts in Mareb (Majzer, Wadi, and Al Joobah), and three districts in Shabwah (Bayhan, Ataq, and Khorah), formed district level quality improvement teams, which unlike the community level parents' councils also involved GOE community participation facilitators and school social workers. Working together, these teams used informal peer training to allow stronger groups to help those needing assistance, resulting in each of the more than 100 parents' councils developing an annual school year (2006-2007, followed by 2007-2008) Action Plan for each school, and then consolidated them into district level action plans for the same time periods. The MOE central CP sector staff with support from the project provided initial training to each of the district level education quality improvement teams on how to develop Action Plans, while leaving the decisions about their content entirely to the district groups.

The resulting annual Action Plans at the community and district levels identified where each group wanted to see improvements and what together they planned to do to achieve them. The project provided no additional material input to the process other than to be available for mentoring if requested and to pay the cost of GOE level CP staff to travel to attend three follow-up self assessment meetings per year in the targeted communities. These modest payments were

based on the actual taxi fare with receipts required, which varied by location. No per diems or “motivational fees” were provided.

It is thought that the work of these informal community and district level “quality improvement teams” (no attempt to was made to define statutory roles or authority for them), simply representing groups of “interested parties” willing to work together to improve their schools, was one of two principal reasons that teachers and students in the projects schools were found to have measurably improved their performances to a remarkable degree. (See Monitoring and Evaluation: Assessment of Teacher and Student Performance). The other success factor was the holistic approach to providing a comprehensive set of mutually reinforcing technical assistance interventions.

### *Adult Female Literacy*

#### LAEO Capacity Development

While charged with supporting and expanding community-based non-formal education opportunities for women and out-of-school girls to develop literacy, numeracy, and life skills, the implementation of the Adult Female Literacy component in targeted communities was delayed by the need to address the lack of literacy and life skills materials approved by the MOE’s semi-autonomous Literacy and Adult Education Organization (LAEO). Work on developing a set of national Adult Female Literacy Manuals (one for trainers of trainers, and a second for literacy participants) benefited from prior work implemented in Amran governorate by the USAID funded YALLE Project implemented by CARE International; but it also suffered from LAEO’s management approach, which tended to focus its staff and resources on developing the capacities of its headquarters in Sana’a, to the disadvantage of field activities at the governorate, district, and community levels.

#### Community-based Literacy Program Development

The project began literacy and life skills programs at the 25 summer camps held in July and August 2006, in collaboration with the YALLE project using internationally known REFLECT methodologies and supplementary materials developed by YALLE in Yemen (Amran governorate). A dozen of those programs continued after the end of the camps, sustained by the efforts of dynamic individuals in selected communities and support from the EQUIP1 community participation facilitators.

The project completed a set of two draft national Adult Female Literacy Manuals and delivered them to LAEO in May of 2007. Using their own resources and grants from other donors, LAEO began to distribute them immediately in a dozen of Yemen’s 22 governorates, including in one of the three served by EQUIP1 (Shabwah).

In August 2007, the project hired the Literacy Program Coordinator from the YALLE (CARE) Project (Amran), which closed formally in July 2007. After Ramadan, during October and November 2007, the coordinator conducted community surveys and needs assessments in Mareb and Shabwah, and in the two districts in Amran served by EQUIP1, but outside of the areas she was familiar with when implementing YALLE.

In November and December 2007, the project conducted community meetings for governorate, district, and community leaders to promote awareness of the benefits and create support for adult female literacy programs in the targets areas of Amran, Mareb, and Shabwah. These community awareness meetings resulted in written expressions of support from governors, sheikhs, and community groups; expressions of interest in having new literacy programs begin; and in some cases, offers to support such programs in material and non-material ways according to the local means and abilities.

A second six month cycle of more than three dozen literacy programs began in more than 30 communities in January and ended in June 2008, which greatly expanded the dozen programs initially started during the August 2006 summer camps, and sustained thereafter.

### **Mutually reinforcing nature of the interventions**

The initial interviews with key stakeholders suggested that most educators and parents in the areas of Yemen served by USAID felt that when new schools are built and the teachers not trained, or when teachers are trained and sent back to dilapidated schools and students sitting on the floor, the potential for increasing enrollments and retention rates or improvements in teacher and student performance was minimized. Thus, the design chose to provide mutually reinforcing interventions.

As implementation began, the wisdom of this design approach was evidenced as the various interventions were introduced during implementation. When the project architects visited schools to conduct initial renovation needs assessments from March through June 2005, headmasters and parents both expressed their frustration with their experience of receiving prior visits from potential donors that did not lead to their school being renovated. They indicated that they were skeptical but more hopeful of receiving renovation assistance from EQUIP1 because they had already seen that teacher and headmaster training had been launched quickly and was going well, which they said showed that the project was serious.

Similarly, when the project visited the targeted communities in April and May 2006 to discuss the organization of elections to form parents' councils, an extraordinary proportion of the mothers and fathers turned out to be trained in the election process and to vote (67 percent of mothers and fathers participated in 104 elections held over a four day period in May 2006 at 77 locations in three governorates). When asked to explain why such unprecedented numbers of parents participated, school and community leaders cited two reasons: a) assurances that the elections would be open, fair, and free with no pressure to vote for ruling party candidates, and b) parents' were impressed by the teacher training, school renovations, and student desk repairs already accomplished or underway by that time, which they again cited as evidence that the project offered serious opportunities to improve the schools.

The MOE and other donors focused on single interventions were not able to demonstrate or benefit from the mutually reinforcing effects of multiple coordinated interventions at the same site.

## **Shift in government guidance shoring up greater MOE central control in the governorates**

At the time of the design team visit in September 2004, Dr. Al Joufi, the Minister of Education, and Prof. Dr. Al Habbour, the Vice Minister of Education, asked the project to view the governorate offices of education as their primary points of contact for guidance on project design and implementation issues. No requirements or even suggestions were made that the project coordinate with or support the MOE sector offices in Sana'a under the direction of various Deputy Ministers of Education.

In November 2006, the MOE informed USAID and other donors in the sector that they had developed a draft of the first MOE Annual Work Plan (AWP) to cover the period January through December 2007 and that all donor assistance, including project assistance, should demonstrate how that assistance fit into the Ministry's AWP, which was organized according to MOE sectors.

Thus, while the project work plans for CY 2005 and 2006 were developed in collaboration primarily with the GOEs in Amran, Mareb, and Shabwah, the project work plans for CY 2007 and 2008 was developed primarily in collaboration with the central MOE Technical Office and the sectors for i) Training, ii) Girls' Education and Community Participation, and iii) projects and school mapping. While most of the project's attention and resources continued to be focused on interventions at the school and community levels, as mandated by the USAID EQUIP1 Cooperative Agreement mechanism, each of the project components also began to take on subtle elements of central Ministry capacity development as a result of the shift. This led to an added coherence, whereby the project benefited from greater donor coordination and harmonization of inputs. The MOE-initiated shift made it easier for USAID to build bridges to other sectors and other governorates within a more national framework for planning and implementing subsequent USAID assistance.

## **Shift in government guidance to use district wide strategy for teacher training**

One consequence of new interaction with the central MOE was guidance to move toward a district-wide strategy for project support. The first, and theoretically most wide reaching set of project interventions to be affected by the shift was teacher training. One result of coordinating project inputs with the teacher training sector for the MOE's 2007 AWP was that USAID and EQUIP1 Yemen agreed to training all of the teachers in the eight districts where it had a presence rather than simply all the teachers working at the 77 schools which compose the eight clusters targeted in agreement with the GOEs in early CY 2005.

By the time of the shift in December 2006, the project, the MOE, and other donors had already trained all of the teachers in 2004-2006 for grades one to three in both parts I and II of the MOE teacher training curriculum. Thus, the new commitment that the project train all teachers in those eight districts was required only for teachers in grades four to nine. This was because as a practical matter the number of teachers to be trained was limited by the fact that roughly half the total teachers taught grades one to three. This meant that the teachers for the last six grades of basic education (grades four to nine) constituted only about half the total teachers. And still fewer than half of those remaining were eligible to be trained because the MOE had only developed and approved teacher training curricula for teachers of Arabic, Math, and Science.

Had the mandated shift from training all teachers at the cluster level to training all the teachers at the district level required the project to teach many more teachers than it actually did, there may not have been enough time and resources available to do more in the last 18 months of the project. As it was, the new commitments accruing from the mutually agreed policy shift were manageable and completed successfully by the end of June 2008.

## **Security issues arising from pockets of communities outside of government control**

The project attempted to implement targeted interventions to improve the access to and quality of education services at selected schools in Amran, Mareb, and Shabwah governorates. The project did not work in two additional governorates among what were known as the original “five USAID governorates” (Sa’adah and Al Jawf) due to security restrictions. The Al Houthist Rebellion in Sa’adah and persistent intertribal conflict in Al Jawf led to the US Embassy’s Regional Security Office (RSO) to persuade the Ambassador and USAID Mission Director to restrict projects from working in those areas.

Security issues also impacted the project team’s ability to work effectively in the three governorates served. Initially during CY 2004 – 2006, the project team was able to travel more or less freely in Amran governorate and most of Shabwah. Areas of Mareb governorate represented no-go-zones for at least the expatriate Chief of Party (COP), USAID mission staff, and expatriate staff or consultants visiting from Washington since the project began in 2004. The GRY Ministry of Interior required that all American employees and contractors traveling in the targeted governorates must include armed MOI police escorts. It quickly became apparent that even those MOI escorts were restricted in their mobility when the COP found that one armed escort had fled as his vehicle entered Al Joobah district in Mareb governorate to visit project schools.

During 2004 - 2006, a series of incidents demonstrated that the security situation was deteriorating in both Mareb and Shabwah governorates in ways that limited the mobility of even the Yemeni staff working for the US Embassy, USAID, and several USAID projects. Vehicles were stolen and sometimes staff were held hostage for several USAID-funded projects other than EQUIP1. Beginning in May and June 2007, the Yemeni staff of EQUIP1 began to report situations in which they had been confronted and nearly kidnapped in Mareb. The project staff reported that they were able to talk their way out of these situations or successfully call on the assistance of local authorities (governmental and tribal) to avoid having their vehicle hijacked or being kidnapped.

Then, in July 2007, a project vehicle was hijacked for the first time in Medthrill District (Mareb governorate) motivated by the desire of certain tribes wanting leverage in negotiating grievances with the government. The project staff was released immediately, and the vehicle recovered within three days. Two similar hijackings occurred in Hareeb Bayhan district (Mareb governorate) and in Bayhan district (Shabwah governorate) in late 2007 and early 2008, with similar results. The project was able to call on assistance from governmental and tribal authorities at all levels to find and recover the staff members affected and help negotiate a relatively swift return of the vehicle.

A fourth incident in Majzer district in March 2008 was instigated by bandits motivated by financial gain and not to negotiate grievances. The results were that the project driver was beaten and dropped off-road in the desert having to walk more than 10 kilometers in the mid-day sun to find help at a police station, and the vehicle was never recovered.

The governmental and tribal officials who provided such effective assistance in recovering the project vehicles in the first three incidents proved to have no influence or power in dealing with bandits. The project's efforts to explore every avenue of investigation and communication to recover the fourth vehicle only resulted in an unfortunately sharper understanding of the increased level of banditry in all three targeted governorates, making it clear that neither the project nor the government had the ability to assure security in the areas affected.

### **Consequences of GRY decentralization**

As is the case in many countries pursuing decentralization of government, the unfolding attempts to implement the Local Authority Act adopted by the GRY in 2002 proved to include language that was contradictory or left lacunae where it was not clear what level of government was responsible for certain functions. As regards the education sector, the decentralization process resulted in the central MOE retaining the responsibility for policy and curriculum development, providing the governorates the funds to pay teachers, building new schools, and printing textbooks. The MOE devolved to the newly elected local governing councils (governorate level) the responsibility for funding school operating budgets, school renovations, and actually disbursing paychecks to teachers and other education staff. Instead of providing operating budgets to schools, many governing councils confiscated the paltry funds collected by schools through school fees and other minor levees.

Donors found that technical assistance activities, post decentralization had to be negotiated twice, at the central Ministry and at the GOE levels.

Partially in an attempt 1) to rectify unintended nefarious side effects of decentralization, 2) to promote the harmonization of donor inputs, and 3) to improve their reputation with the GRY Ministry of Finance (MOF) which the MOE hoped would lead to the MOF releasing budget allocations previously blocked, the MOE developed its first AWP for CY 2007, introduced for discussion in December 2006.

The execution of the 2007 MOE AWP only served to highlight areas where the attributions of authority and reasonability between the central Ministry and governorates remain ill-defined. The MOE's promise to provide operating budgets to all schools beginning with the September opening of the 2007-2008 school year never materialized. The GOE's resisted attempts by central MOE entities to coordinate and supervise the collection of basic data, many ultimately cooperating half heartedly, and many GOEs felt the pressure to conform to the priorities of their governors where and when they may conflict with those of the central MOE. Textbook production capacities deteriorated, and distribution continued to break down somewhere between the GOEs, the DOEs, and many schools. Also some donors continued to negotiate programs, and make allocations and disbursements to fund them directly to GOEs and schools, bypassing the central MOE.

These negative effects of decentralization affected the implementation of the USAID EQUIP1 project most in the area of EMIS development. No agreement has yet been reached on a national standard for school registries, though the project managed to assist the collection of school data by cooperating with the MOE's Information and Communication Technology (ICT) Unit, which put in place "a" school registry, which is not yet adopted officially as the national standard. The project managed to provide important assistance to both the MOE and the three GOEs served by negotiating a framework for integrated EMIS units at the GOE level, through signed agreements between the center and the governorate to merge the field staff functions of the central MOE's Statistics and Planning Department, the School Mapping Department, and the ICT.

## **Introducing innovations**

### *In the school renovation tendering process*

#### Physical and legal risk management

At the outset in January 2005, USAID Sana'a expressed concern that the project achieve the highest standards of quality in its renovation work. It would be devastating for schools if accidents were to occur and negative publicity to follow during renovation or after the work was completed at any of the schools served. The wisdom of this guidance was illustrated when the roof collapsed on one the targeted schools during final exams in June 2007. It was sheer luck that both teachers and students escaped without deaths, and the injuries were limited to some minor cuts and bruises. No fault accrued to the project or to USAID because the school, the GOE, and the MOE had been provided the results of the engineering assessment alerting them to the school's structural problems, and the renovations schedule for Phase IV had not yet begun.

Initial visits to targeted schools suggested that many schools had the potential for serious structural problems and that the renovation needs assessments conducted by the project architects would need to be supplemented by more detailed and extensive structural engineering assessments. The project architects provided sound advice on whether the buildings complied with codes and standards and made recommendations on how best to adapt existing or proposed spaces to the needs of their users. Structural engineers were needed to go beyond that and focus on issues and problems that might affect the basic structural integrity of the building. While there is overlap between the two professional evaluations, the structural engineers were better prepared to assess the load bearing capacity of walls, the soundness of ceilings and foundations, and conduct deep underground readings with sonography to establish whether there were sink holes or subterranean water flows causing erosion that might destabilize the building, in the present or in the future.

The project decided at an early stage (March 2005) to engage on retainer a Yemeni construction liability lawyer to advise on how best to identify qualified structural engineers, and to clarify the roles of any and all project staff or contracted professionals in the renovation of schools and the construction of multipurpose rooms. She proposed a system of checks and balances involving three firms: a) structural engineering firms, b) renovation / construction contractors, and c) monitoring & certification engineering firms.

The role of the structural engineering firms would be to review and revise the renovation and construction plans and bills of quantity developed by the project architects to make sure that the

buildings to be rehabilitated could withstand the stress of renovation, and that the improvements proposed would assure the short- and long-term integrity of the structures (i.e. make sure they wouldn't fall down). The role of the monitoring & certification engineering (M&C) firms would be to have qualified staff on duty the entire time any renovation or construction work is taking place to make sure that the construction contractors employ methods and materials that comply with contractually required plans, and US and International building codes and standards.

The M&C firms were required to keep the project Chief Architect informed of any deviation from the plans and irregularities of quality. They were empowered in their contracts to issue stop work orders to the renovation / construction firms while awaiting a judgment from the Chief Architect of issues brought to his attention. They also provided the project bi-monthly reports on progress, and professional guidance on when work at a given site had progressed sufficiently to merit payments, according to the work and payment schedules established in the construction firms' contracts.

Unlike the renovation and construction work conducted by most other organizations in the education sector, M&C firms were in place as planned at project supported schools issuing stop work orders on numerous occasions identifying when, where, and how contractors may have varied from plans, specifications, and standards, allowing the project Chief of Party and Chief Architect to order that the work be brought back up to standard at the expense of the contractor.

#### Transparency in Bidding

The project took the following steps to assure transparency in how contracts were awarded:

1. Requests for Proposals were issued in the Arabic language local press;
2. The advertisements informed interested parties that "bidders packages" were made available at the project's main office in Sana'a providing detailed blueprints, plans, specifications, and draft contracts;
3. Potential bidders were invited to come to the project offices, identify themselves and provide their contact information, and pick up bidders' packages, from the day the ads appeared;
4. Interested parties were invited in the ads and in the bidders' packages to attend a bidders' conference at a local hotel to discuss the contents of the packages, ask questions, and receive clarifications as needed from the project construction lawyer and the project chief architect;
5. All questions at the bidders' conferences were written down along with the answers provided, typed and distributed to all parties that had registered and received bidders packages, whether they attended the bidders' conference or not.

At the first several bidders' conferences many firms stood to say publicly that it was the first time that they had ever been invited to attend such an event; and that, they took the event itself to be a clear demonstration of the project's and USAID's intent to hold a fair and transparent bidding process.

## *In school facilities repair and maintenance*

### Mobile Repair Teams

In October 2004, the project Chief of Party visited the MOE and most of the other donors in the education sector involved in building or renovating schools (KfW, GTZ, World Bank, JICA, and the MOE Project's Office), and determined that all of them bought new school furniture rather than repair existing furniture for the schools they supported. Immediately after Ramadan in November 2004 before most of the staff was hired, the project Chief of Party conducted an informal assessment of the market for buying new school furniture and repairing existing furniture (especially student desks) in Sana'a and Aden. He learned that the firms that built new student desks were mainly in Aden, and that in theory they offered the service of repairing broken furniture as well. However, the cost of transporting broken furniture from schools to their shops in Aden and back again, once repaired, to the schools exceed the cost of buying new desks. For this reason the MOE and most donors chose to buy new furniture.

The strategy accomplished several intended results, and also had an important unexpected effect. The intended results successfully accomplished were

1. Lower the cost of renovating desks by involving volunteers from the community;
2. Repair school desks at a lower cost per desk than buying new;
3. Motivate students to treat the renovated desks with more respect by involving their family members in the process; and,
4. Lay a foundation for encouraging parents' involvement in post renovation maintenance by building a sense of their ownership of the process of improving the educational facilities for their own children.

A key unexpected result was that the mobile repair teams, and the work they were able to accomplish with the communities even before major renovations began on the buildings in many places, was interpreted so positively by the communities as proof of the project's and USAID's seriousness in helping them that parents turned out in unprecedented numbers to participate in Parents' Council Elections (67 percent of mothers and fathers at the 77 targeted schools voted in the more than 100 elections held at the end of May 2006).

Rather than buy new desks or transporting broken furniture to the factory for repair, the project's approach represented a third, previously unconsidered, option of taking the equipment to the schools to make repairs on site, at a lower cost than buying new. (For more details see: "Mobile Repair Teams Link School Renovation and Community Participation Strategies," *EQUIP Just in Time Publication*, <http://www.equip123.net/JIT/e1-JIT-MRT.pdf>).

### Training Parents' Councils in Repair and Maintenance

During the 2006 – 2007 school year, after mothers' and fathers' councils had been formed and trained, and their profile had been raised and credibility established by asking them to manage summer camps, the project conducted a series of district level Repair and Maintenance Orientation workshops for all the councils at targeted schools in Amran governorate (one in Thula and one in Amran) and Shabwah governorate (in Bayhan, Ataq, and Al Khorah districts).

Delayed by security problems, similar workshops were conducted in Wadi and Al Joobah districts in Mareb governorate in 2008.

At these one day events organized by the project's community participation facilitators, the importance of routine repair and maintenance to the keeping the school usable once rehabilitated was discussed by the project mobile repair teams. Following the orientation, the project and GOE CP facilitators and the school social workers helped each council elect a Repair and Maintenance subcommittee. After the project's school renovation team completed the Phase V renovations, the staff architects and mobile repair teams) were scheduled to provide training and assistance to each of the elected R&M subcommittees during the 2007 – 2008 school year. Due to delays resulting from tribal conflicts and banditry, the R&M training for the councils' subcommittees was transferred to the USAID funded BEST project, beginning in June and July 2008.

The independent "School Cost Construction Study" funded by KfW, mentioned earlier, concluded that the planned life of 30 new school buildings was documented to have been reduced to as few as five years, if the buildings were not maintained properly. In early 2005, the World Bank told the EQUIP1 COP that they had provided new schools they built with tool kits but that they did not provide R&M orientation or training. They reported that within one month the tool kits had all disappeared. During 2005 – 2008, KfW provided technical assistance to the MOE in developing long-term R&M strategies and policies, which as of the time of this report had not yet been extended to the GOE, DOE, or school levels.

*In establishing community and school partnerships at the community, district, and governorate levels*

#### Improving teacher performance

One of the most important and potentially most wide reaching innovations developed by the joint efforts of the EQUIP1 Yemen Community Participation and Teacher Training teams was the development of "Quality Improvement Teams," initially at the school level at 77 schools, and then extended to the district level in eight districts.

In 2004, just prior to the launch of the EQUIP1 project, GTZ had provided technical assistance and modest targeted funding, and the World Bank provided a great deal more funding leveraging the German technical aid, to conduct the first comprehensive in-service (INSET) teacher training for teachers of grades 1 – 3. In February 2005, one month after hiring a skeletal staff, the project joined GTZ in conducting INSET training in Mareb governorate for 37 of its targeted schools. Also during 2005, the project was the only donor conducting INSET in the other least served governorates, which it provided to its targeted schools (21 in Amran; and, 19 in Shabwah). The MOE followed up by providing INSET training to teachers not trained by EQUIP1 in all three project served governorates, and elsewhere throughout the country.

In October 2005, the MOE Technical Team informed the project that it would conduct a series of "structured in-classroom observational teacher performance assessments" to determine the impact of teacher training. Team members noted that the objectives of the assessments would be to identify ways in which teacher training and post training supervision might be improved. The assessments methodologies and instruments were provided by the MOE's semi-autonomous

Education Development and Research Center (ERDC) based on earlier drafts of materials developed and field tested by GTZ.

The assessments consisted of four parts: a) head master questionnaires, b) teacher questionnaires, c) structured observational teacher performance checklists, and d) standardized pupil tests for Arabic and Math at the third grade level.

The MOE Technical Team asked the project if it would conduct similar assessments using the same methods and instruments at a representative sample of project supported schools. The MOE conducted assessments of teachers that they trained with World Bank funding, at a sample of schools during March and April 2006. The project conducted similar assessments using the same methods and instruments at 30 percent of the schools it served (23 schools in eight districts in Amran, Mareb, and Shabwah) during May and June 2006.

When the results of the MOE assessments were compared with those of the project, it appeared that there was no discernable improvement in teacher performance among the teachers trained by the MOE, but significant improvements in the performance of the teachers trained by the project and in the performance of the pupils they taught.

The initial analyses showed that both the MOE and the project used the same teacher training curriculum to train the teachers, and both used the same methods and instruments to assess both teacher and pupil performance. In addition, the project even used the same teacher trainers and the same assessors as the MOE.

Further analysis suggested that the significantly better teacher and student performance noted in project supported schools was not due to the teacher training, but most likely could be attributed to the follow up assistance provided to teachers at project-supported schools but not by the MOE to teachers that it had trained directly.

### Improving student performance

The project saw a significant improvement in student performance over the course of the project. In addition to training teachers in effective teaching strategies, and developing student learning and thinking skills, students were introduced to alternative ways of avoiding corporal punishment. Efforts were made to change the focus of teachers from defensively carrying sticks for “mob control,” using insults, humiliation, threats, and corporal punishment to knowing and using demonstrably success techniques, eliciting more enthusiastic, positive pupil responses and successful learning behaviors.

### *In Adult Literacy curricula and training*

The EQUIP1 project created the first national literacy, numeracy, and life-skills curriculum for adult women and out-of-school girls. Built on programs established by dynamic communities in the more advanced 17 Yemeni governorates not targeted by EQUIP1 Yemen, the BE project helped fill a gap in terms of opening adult literacy programs in places where LAEO was not able to open. New approaches were tested at summer camps to identify what worked and what did not. Also, a concerted effort was made by the project to link community-initiated programs to project-developed programs and the LAEO network.

Life-skills workshops were conducted for Adult literacy facilitators and inspectors to raise awareness of women and girls about a gamut of issues ranging from the risks of the epidemic diseases and ways of precaution and cure; of anemia, the importance of a nutritional diet and the health risks to women resulting from insufficient consumption of protein, iron, and folic acid; ways of helping family and community members with disabilities, and improving their role in the community. As a result of these trainings, women's awareness increased and enabled them to share solutions that they could implement into their daily lives. The trainings helped boost their self-esteem and enabled them to express themselves with confidence.

Awareness-raising activities were also used to teach women grammar skills, such as the use of nouns, verbs and adjectives, while at the same time discussing solutions to problems raised. These awareness activities focused each week on a different life skill or health and safety issue thereby strengthening their writing skills. An outcome of the adult literacy program was that mothers were able to help their children with their lessons in basic reading, writing, and math.

Refresher Trainings were held for Adult literacy facilitators and LAEO representatives from time to time to assess the performance of the adult literacy programs. As a result of continuous training and follow-up, inspectors and facilitators now have the ability to teach and run literacy classes effectively, manage discussions smoothly, and have the ability to solve problems raised by the mothers.

Towards the end of the project, a three-day workshop was held to evaluate the adult literacy activities in the three governorates. All LAEO DG's from Amran, Mareb and Shabwah expressed their gratitude to USAID and stressed that USAID's BE program helped fill the gap of opening adult literacy programs in places where LAEO could not open. They were also impressed with the fact that mothers were able to read and write within a very short period of time and added that mothers found the REFLECT methodology very interesting as it helps them identify their own problems and solutions.

### *In coordinated Educational Management Information Systems*

The project broke a nearly decade long deadlock between competing MOE centers for data collection and reached a ground-breaking agreement with the MOE's principal central EMIS coordinating unit and the Directors Generals of education for Amran, Mareb, and Shabwah governorates to unite three different data collection teams into a single information unit for each GOE. A final agreement including specifications for technical assistance, training, and equipment to be provided by the project was signed by the above-named parties, the project, and the minister of education for the GOEs in all the three governorates.

EQUIP1 built on this successful MOE Technical Office experiment with rapid on-line data collection. First, the project immediately furnished the offices, purchased computers and related equipment and accessories, and installed a local area network (LAN) for the new team to use in collecting, storing, retrieving, analyzing, and disseminating data for the governorates' and the Ministry's decision makers. Basic computer trainings were held for GOE Information Units officials in Shabwah and Amran. GPS coordinates and school facilities data were collected for all the schools in Amran, Mareb, and Shabwah and the school mapping database updated. An effort was made consistently to link data collectors (IT staff) with data users (managers) at every opportunity.

During the course of the project, a workshop was held with central Ministry and GOE officials to introduce the importance of data for decision making. The workshop helped participants to identify decision makers at the various levels of the educational system, and the types of decisions made. Discussions were held about the data that are currently available to make decisions, how the data are used, and instances in which data gaps remain, and the vision for the future.

These efforts culminated in a workshop in Cairo in June 2008, the objectives of which were to 1) build capacity for data analysis including the ability to interpret tables, charts and graphs contained within atlas and other educational databases, 2) draft analytical chapter to supplement MOE Education Sector Atlas, 3) facilitate dialogue among program managers and data collectors, 4) produce action-oriented research agenda for MOE to use educational-planning and policy-making, 5) learn new skills related to planning and statistics, and 6) identify a way to share data among the three departments in the MOE (namely the Statistics and Planning Department, the School Mapping Department, and the Information and Communication Technology Unit) to effectively use the information gained at the workshop for planning by decision-makers.

## **ACHIEVING PROJECT TARGETS**

This section summarizes EQUIP1's success in achieving project outcomes. Among the 40 final project targets, the project met 14 targets and exceeded 24 targets. Among the 24 targets that exceeded expectations, 15 targets did so by 15 percent or more. And in five instances, the projected exceeded expectations by more than 100 percent. Only in two instances did final results not meet project targets. Project staff have been very transparent with USAID about these two results, both of which have been a consequence of ongoing security problems, and the USAID CTO and Senior Education Advisor have acknowledged that the project has satisfactorily fulfilled the spirit of these targets despite circumstances beyond its control.

In the first instance, IR 6.1.1.15 (*Number of schools having their repairable furniture repaired*), one school in Al Joobah district needed its furniture repaired at the time that the project's mobile repair team vehicle was stolen. Given the security situation in Mareb, and given that the project would have had to rent and re-equip an MRT vehicle and equipment just for that school, the project decided with USAID concurrence to supplement the existing usable furniture with enough new desks to allow every child a place to sit. This alternative solution was satisfactory to the school even though the project cannot claim to have repaired the school's furniture in this situation.

Secondly, with respect to IR IR 6.3.1.4 (*Number of GOE officials trained in basic computer education and basic data analysis*), the 20 officials in Amran and Shabwah have been trained, and the ten officials in Mareb are in training now but have not yet completed their course. Training in Mareb was delayed due to the security problems. At the time of the worst security problems in Mareb, the project's Mareb City staff were evacuated to Sana'a, and Sana'a-based staff were not allowed to travel to Mareb. USAID has accepted in writing that the inability to meet this one target was for reasons outside the control of project. USAID has said that the fact

that the remaining ten GOE EMIS staff are now in training, overseen by the new USAID-supported BEST project, is a satisfactory resolution.

## Final Performance Monitoring Plan Summary

Indicators	LOP Targets	Total
	2004-2008	2004-2008
<b>IR 6.1 Enhanced Access to Basic Education in the Public Sector</b>		
<b>IR 6.1.1 Number of Basic Education Facilities Improved {School Renovation}</b>		
IR 6.1.1.1 Number of desks refurbished	4,154	5,474
IR 6.1.1.2 Number of desks built or bought	733	1,632
IR 6.1.1.3 Number of new classrooms built	75	76
IR 6.1.1.4 Number of old classrooms renovated	308	337
IIR 6.1.1.5 Number of schools renovated	67	70
IR 6.1.1.6 Number of multi-purpose rooms built	6	6
IR 6.1.1.7 Number of multi-purpose rooms renovated	1	1
IR 6.1.1.8 Number of multi-purpose rooms furnished	5	5
IR 6.1.1.9 Number of schools provided with latrines and septic tanks	22	34
IR 6.1.1.10 Number of new latrines built	147	171
IR 6.1.1.11 Number of schools connected with water	52	53
IR 6.1.1.12 Number of schools having surrounding walls built	28	28
IR 6.1.1.13 Number of schools executing campaigns/activities related to good hygiene practices	77	77
IR 6.1.1.14 Number of schools made handicapped-accessible	67	70
IR 6.1.1.15 Number of schools having their repairable furniture repaired	69	68
<b>IR 6.1.2 Improved Quality of Instruction at the Classroom Level {Teacher Training}</b>		
IR 6.1.2.1 Quantity of teachers material (teacher manuals and training manuals) distributed	2,616	2,915
IR 6.1.2.2 Increased Number of children enrolled in project schools	1,462	1,462
IR 6.1.2.3 Percentage of 3rd grade students achieving minimal competency in Arabic and math	70%	Arabic=74.6% , Math=64.2% Total=71,1%
IR 6.1.2.4 Number of teachers trained (by gender)	895 M / 265 F	1,799M / 534 F
IR 6.1.2.5 Number of headmaster trained (by gender)	108 M / 14 F	216 M / 28 F
IR 6.1.2.6 Number of teachers trainers meeting ministry training requirements (by gender)	138 M / 16 F	142 M / 22 F
<b>IR 6.1.3 Increased Parental Involvement in Education {Community Participation}</b>		

Indicators		LOP Targets	Total
		2004-2008	2004-2008
	IR 6.1.3.1 Number of fathers and mothers councils formed	104	125
	IR 6.1.3.2 Number of fathers and mothers councils trained	104	132
	IR 6.1.3.3 Number of schools having active parent groups	77	78
<b>IR 6.2 Increased Literacy and Numeracy Opportunities at the Community Level</b>			
<b>IR 6.2.1 Increased Availability of Resources for Literacy and Numeracy Training {Adult Literacy + CP}</b>			
	IR 6.2.1.1 Number of communities served by literacy programs	30	51
	IR 6.2.1.2 Number of literacy programs established	40	46
	IR 6.2.1.3 Quantity of supplementary literacy materials distributed by the project	6,000	6,055
	IR 6.2.1.4 Number of adult literacy training participants	1,000	1,671
<b>IR 6.2.2 Increased Quality of Literacy and Numeracy Training</b>			
	IR 6.2.2.1 Number of literacy TOT receiving initial training	2	4
	IR 6.2.2.2 Number of literacy trainers receiving initial training	40	97
	IR 6.2.2.3 Adult literacy manual adopted as a national model	1	1
<b>IR 6.2.3 Increased Community Support for Literacy and Numeracy Training</b>			
	IR 6.2.3.1 Number of communities informed about importance of combating illiteracy among adults, especially females	77	77
	IR 6.2.3.2 Number of integrated educational and awareness materials distributed through parent's councils	3,370	3,370
	IR 6.2.3.3 Number of summer camps conducted with communities in support of literacy and numeracy	25	25
<b>IR 6.3 Improved Public Sector Environment for Education</b>			
<b>IR 6.3.1 Increased Availability of Tools, Technologies, Operational Procedures and Information Systems Successfully Introduced That Strengthen Educational Management {EMIS}</b>			
	IR 6.3.1.1 Number of school record books distributed to schools, DOEs and GOEs	77	77
	IR 6.3.1.2 Number of functional GOE local area networks established	3	3
	IR 6.3.1.3 Number of GOE EMIS systems implemented using data from different sources (including from the MOE/ICT, SMD facilities database, and the SMD/GPS data base) providing data for analysis and decision-making	3	3
	IR 6.3.1.4 Number of GOE officials trained in basic computer education and basic data analysis	30	20
	IR 6.3.1.5 Number of GOE, DOE and school officials trained in planning and policy making	70	139
<b>IR 6.3.2 Increased number of Host Country Institutions that have Used USG-Assisted MIS System Information to Inform Administrative/ Management Decisions</b>			
	IR 6.3.2.1 Number of GOE EMIS units using EMIS data for decision making	3	3

## CONCLUSIONS AND RECOMMENDATIONS

In June 2008, the EQUIP1 project hosted a one day workshop with the MOE to review the lessons learned from the period of 2004 to 2008. Attended by representatives from the donor community, this workshop was formally opened by the Minister of Education and the USAID Cognizant Technical Officer. The majority of speakers in the workshop were members of the communities that the BE program has been supporting. Communities were given the opportunity to explain what the challenges and the problems were before the intervention of the project (what their situation was before) and what has changed as a result of BE Program intervention; they also discussed the achievements of the project and lessons learned along the way.

The discussion at that workshop, including reflections about achievements and lessons learned, provide an excellent summary of considerations for future USAID educational projects in Yemen. A summary of workshop outcomes by component was included in the fifteenth project quarterly report and is reproduced here.

### Final Workshop

#### *Adult Literacy Component*

##### Achievements

1. Women and girls (who were deprived of education for many years) were provided with a golden opportunity to learn how to read and write and learn basic numeracy.
2. The adult literacy classes helped fill the gap of opening adult literacy programs in places where LAEO was not able to open.
3. Mothers were able to read and write within a very short period of time; they found the REFLECT methodology very interesting as it helped mothers identify their own problems and solutions. This is what differentiates the REFLECT methodology from the LAEO curriculum, which women found less inspirational.
4. The adult literacy classes empowered participants, helped boost their self-esteem, and enabled them to express themselves with confidence. Remarkable changes in attitude were noticed in inspectors, facilitators and the women participants. As a result of continuous training and follow-up, inspectors and facilitators now have the ability to teach and run literacy classes effectively, manage discussions smoothly, and have the ability to solve problems raised by the mothers.
5. Women's awareness increased on topics raised by the women themselves such as environmental, social, health, economic and religious issues, and enabled them to share solutions that they can implement into their daily lives.
6. As a result of the adult literacy program, mothers were able to help their children with their lessons in basic reading, writing, and math.

General Summary of the Adult Literacy Registration Results

No.	Governorate	No. of Women Registered	No of Women Attended the Exams	Absence	Drop Out	Fail	Pass
1	Amran	592	519	46	73	-	473
2	Mareb	442	310	56	132	37	218
3	Shabwah	637	542	36	95	5	501
	Total	1,671	1,371	138	380	41	1,192

Percentage of pass and failure in the adult literacy classes in three governorates

- Percentage of women attended the final exams to total no. women registered: 82 percent
- Percentage of dropout to total no. of women registered: 18 percent
- Percentage of absence to total no. of women attended the final exams: 10 percent
- Percentage of pass to total no. women attended the final exams: 87 percent
- Percentage of fail to total no. women attended the final exams: 3 percent

*Teacher Training Component*

Lessons Learned

Delivery of quality training requires proper planning, preparation and implementation. Below are the lessons learned:

1. Trainers (whether teacher trainers, headmaster trainers or inspector trainers) should participate in the development of MOE training manuals.
2. Selection of trainers must be based on criteria including the trainer's knowledge and years of experience, her/his previous performance assessment, and collegial spirit (e.g.,

team player, self-starter, patient, keen on self-improvement and up-to-date on training methodologies).

3. In choosing the proper timing for training implementation, there should not be a large gap between trainings and actual implementation of the training in the field.
4. It is important to ensure the availability of quality training materials and that they are provided to the trainers/trainees in timely manner.
5. It is necessary to develop and organize an inclusive evaluation process during the training using tools that have already been developed based on scientific criteria.
6. There should be proper coordination with the training sector and involvement of concerned parties on all levels of planning, implementation and decision-making related to the training process.
7. During the implementation of the training sessions in the field, trainers who have participated in developing MOE manuals should be selected to conduct professional development follow up.

Delivery of quality training requires follow-up activities after training:

8. Teacher inspectors should be trained to conduct follow-up after training.
9. Inspectors should implement planned field visits to targeted schools to provide in-service, on-the-job guidance, and training to the teachers who have been trained.
10. Professional development workshops (or skills improvement workshops) and meetings should be conducted in cluster schools, to be attended by the headmasters and teachers of all the satellite schools. These workshops should be conducted by the inspectors who conducted the field visits and in-class observational assessments of teachers' performance.

Other lessons learned:

11. Delivering a complete package of services to schools such as renovating schools, forming and training mothers' and fathers' councils, and training social workers, contributes to delivering quality training and improves students performance and test scores.
12. Providing libraries to schools contributes to improving students' performance and test scores.

Teacher Training Statistics as of April 2008

Type of Training	Number of Teachers Trained											
	Mareb			Shabwa			Amran			Totals		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Training Master Trainers	18	1	19	19	3	22	6	0	6	43	4	47
Head Master Training	31	1	32	77	13	90	0	0	0	108	14	122
Head Master Trainers Training	3	2	5	8	0	8	6	0	6	17	2	19
Grades 1-3 Teacher Training	318	43	361	168	49	217	56	8	64	542	100	642
Grades 4-9 Arabic Subject Training	78	20	98	86	16	102	120	38	158	284	74	358
Grades 4-9 Math Subject Training	61	11	72	61	12	73	52	36	88	174	59	233
Grades 4-9 Science Subject Training	23	9	32	18	2	20	15	3	18	56	14	70
“My Arabic Library” Grades 1-3 Teachers Training			90			93			65			248
No. Of Teacher Inspectors			17			17	14	1	15			49

Teacher Training Impact

<b>Pre-Training</b>	<b>Post-Training</b>	<b>Impact</b>
Before being trained 25 percent of teachers were observed to have prepared lesson plans.	After being trained by the project, 80 percent of the teachers were observed to have prepared lesson plans.	Students exposed to more information
85 percent of teachers used the traditional method to instruct (lectures)	65 percent of the teachers use modern methods: Groups, discussions, interactive learning, exploring local environment	Increased teacher self-confidence levels and performance in the classroom. Students began to participate in the education process
Lack of teachers capable of determining behavioral objectives (e.g., most teachers ask questions just to test memorization skills of	Increase in teachers capable of determining behavioral objectives: Most teachers now ask various questions that develop the thinking process	Development of analytical thinking

<b>Pre-Training</b>	<b>Post-Training</b>	<b>Impact</b>
students)		
Most teachers assigned the students excessive homework assignments with the idea that more homework increases students' gained knowledge	Most teachers are capable of planning homework assignments that stimulate the learning process for the students	Homework helped to expose the students to information in the school and home
Most teachers are not aware of the students' intellectual growth	Teachers are aware of students' growth and pay attention to it	Teachers corrected the student's homework, and used the information thus gained, among other indicators to judge and track the students' learning
Teachers were not using educational aids	Teachers use various educational aids to enhance classroom learning	
Most teachers created a dictatorial environment	Most teachers create a safe environment	A safe learning environment taught the students to enjoy attending classes
Teachers used to focus on male students in a mixed classroom	Teachers are dealing with both genders equally	
A weakness in the ability of teachers to assess student achievement	Most teachers are capable of assessing students in different ways such as through observation, homework and tests	Using different forms of assessment helped to achieve the planned objectives

### *Community Participation Component: Achievements and Lessons Learned*

1. Successful schools have a high level of parent and community involvement.
2. The active role of fathers' and mothers' councils in schools plays a vital role in improving the quality of education.
3. Increased parental involvement in schools that did not exist in the past help link the community with the schools:
  - Mothers in the past never entered schools but now they get involved in different activities in school and closely monitor their children's studies; this contributes to solving educational problems faced by the schools.
  - Fathers' and mothers' councils participated in school renovation and school furniture repair; this contributed to the improvement of the learning environment.
4. Community participation helps to
  - Lay the foundation for democracy and governance;
  - Create awareness among the community about the importance of education;
  - Increase in girls' and boys' enrollment in schools;
  - Create a solid base for other activities to take place, such as school renovation, adult literacy and teacher training;

- Accomplish activities with less cost and effort, and contributes to solving educational problems faced in schools;
  - Eradicate illiteracy among women (many mothers opened their own literacy programs and encouraged women from their communities to join); and
  - Improve the learning environment (fathers' and mothers' councils participated in school renovation and volunteered in school furniture repair).
5. The social worker is considered to be the engine of the school. Social workers have helped
- Link the community with the school;
  - Follow-up with students in school;
  - Reduce the number of girls dropping out of school;
  - Motivate students (boys and girls) to learn;
  - Solve students' and teachers' problems in school;
  - Conduct field visits to student houses (boys and girls);
  - Organize extra-curricular activities in schools (such as sports, summer camps, and picnics);
  - Establish social funds in schools to support poor students; and
  - Develop case studies of student social problems such as absenteeism, failure, and revenge, and helped to solve them.

### *School Renovation Component*

#### Lessons Learned

1. Active community participation contributes to improving the learning environment in schools.
2. Consulting local community members is necessary in identifying needs when locating/adding new facilities such as latrines and walls.
3. When selecting targeted schools, consider the challenges of tribal conflict; try to balance their needs to avoid any conflict that may affect the renovation process.
4. Structural assessment should be conducted before renovation; update the assessment if more than 6 months have passed before the actual renovation starts.
5. To assure that existing school buildings could tolerate the structural stress of renovation without risking collapse or other harm to the students and teachers, a risk management strategy was developed. Three firms were engaged, each with specific scopes of work
  - a. Structural Engineering Assessment firms to do pre- and post-renovation assessments of the buildings, their foundations, and the underground conditions (e.g. sinkholes or erosion);
  - b. construction firms to conduct the renovations according to the specifications of the project architects and the structural engineering firms; and
  - c. Monitoring and Certification (M&C) engineering firms which had technical staff on-site everyday, all day, while renovation or construction was occurring.

The combination of these three firms, under the guidance of a Yemeni construction liability lawyer, allowed the project to avoid attempts to renovate schools at risk of collapsing, identify substandard work immediately and have it corrected, and to assure high quality for the finished products, in compliance with or exceeding U.S. and Yemeni building codes and standards. One of the lessons learned was that this prudent

methodology aimed at assuring low risk and high quality work, also had the unexpected result of lowering the average cost per square meter.

6. School renovation can make schools more “girl friendly” by building new classrooms, privacy walls (fences), and separate latrines and washbasins; this has helped to increase girls’ enrollment dramatically.
7. For school renovation to be sustainable, it is important to use locally available materials and human resources (i.e., fathers and other community volunteers).
8. Schools should have privacy walls to make schools safe and secure, where students and teachers feel safe anywhere in the building, and where access is controlled.
9. Schools should have stimulating architecture that invokes a sense of pride and can be considered a genuine asset for the community.
10. Water should be available before building flush toilets; an agreement between the project and the local community members must be made to guarantee that the newly built latrines have water. New ECOSAN (dry latrines) should be built in the areas where there is scarcity of water.
11. Other issues that should be taken into consideration during renovation are
  - Wooden strips should be replaced with ceramic tiles;
  - Qamaris should be replaced with plastic glass and steel grills;
  - Use of steel or metal water tanks and feeding pipes should be avoided; and
  - Soil tests should be carried out before selecting the design of the septic tanks.
12. Maintenance committees should be formed in schools after the renovation process is completed to ensure that the school is maintained regularly (maintenance committees are comprised of members from the fathers’ and mothers’ councils, teachers, social workers and students).
13. New student furniture designs should be applied to help make changes in teaching methodology and techniques.
14. Pre-maintenance workshops should be conducted to increase awareness among the targeted schools and communities about the objectives of the mobile team workshops.
15. Before building new multipurpose rooms, identify the people who will manage the operation of the building to give all other users the time and opportunity to use it. All schools should have handicapped access (ramps), giving the handicapped children equal rights and easy access to schools.

## **Summary of Conclusions and Recommendations**

Based on outcomes from the final workshop and staff experiences over the four-year project period, following is a summary of conclusions and recommendations.

### *Conclusions*

- Higher quality and lower cost for building and renovating school facilities with longer useable life is possible.
- Improving teacher and student performance is a lower cost investment than previously thought.

- Building trust in communities has its benefits (long term ownership for maintaining facilities, and collaborating to improve teacher and student performance) and limitations (security issues remain).
- Non-flush toilet technologies (ECOSAN) need to be used as the norm, unless a reliable source of water can be proven.
- Tribal conflicts and disputes between communities and the government are much more manageable than an environment of unchecked banditry.
- There is a huge demand for girls' education and adult female literacy programs in Yemen and that was clearly demonstrated in the project.
- Trade-offs between investing-in vs. avoiding high risk environments (high risk high gain vs. low risk low gain).

### *Recommendations*

- Partner with other donors investing in school renovation and construction policy and strategy development, improving tendering policies and procedures i.e. transparency and cost controls, and standardized modular designs adaptable to specific sites.
- Encourage MOE to shift their own focus as well as donor investment into renovating current facilities, while putting a temporary moratorium on building new schools. Stopping the decline of current facilities is more likely to improve access for more students faster and at a lower cost than building new facilities.
- Shift from FLUSHSAN to ECOSAN latrine technologies and in the process take advantage of side projects for using the fertilizer (liquid and solid) for school gardens, or for sale to generate income for the school. This could be something that could perhaps be managed by the parents' committees.
- Assure adequate post in-service (INSET) training follow-up through the use of Quality Teams, Peer Teaching among teachers, and/or mentoring for new teachers.
- Expand Adult Female literacy programs through LAEO GOE and DOE networks by-passing the central semi-autonomous LAEO headquarters in Sana'a, which is not interested in seeing actual community programs work.
- Maintain as much follow-up assistance as possible in Amran, Mareb, and Shabwah, wherever possible, for as long as possible through low cost TA and follow-up visits, and not new schools or equipment.
- Introduce as much assistance to Sa'adah as possible where feasible (post conflict assistance tailored to the needs of those families, parents, pupils, teachers, and others traumatized by the war).