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Mobile Repair Teams Link School Renovation and Community Participation Strategies

Safe and attractive furnishings are central to effective learning, whether in the schools of modern, industrialized countries or in the developing world. With little or even no maintenance, physical facilities can provide many years of useful service, but desks, chairs, cabinets, blackboards and the like are more subject to wear and tear and often end up rusting on the roofs of schools or languishing in nearby “graveyards,” much to the chagrin of governments or donor agencies that provided them as part of larger school improvement projects.

The USAID/Yemen Improving Basic Education, Especially for Women and Girls Program, implemented by the Educational Quality Improvement Program 1 (EQUIP1), has hit upon an imaginative and cost-effective approach to keeping school furnishings “new” through the use of highly mobile repair teams. The approach has proved remarkably effective, not only in making cost-effective improvements that quickly return school furniture to active duty but also in mobilizing communities to provide craftsmen to work with the team, thereby increasing ownership and sustainability. This brief article describes how the concept evolved and shows how the approach can be replicated in virtually any developing setting.

Evolution of the Mobile Repair Team Concept

Since the fall of 2003, the USAID/Yemen Basic Education Program has worked to renovate dozens of schools, train hundreds of teachers and headmasters, establish adult literacy programs, and mobilize communities, with a particular focus on girls and women. The project covers three governorates in the poorest and most remote areas of the country stretching from the mountains of Amran in the northwest to the expansive desert covering much of Mareb and Shabwah governorates in the east and southeast. Over 16,900 students attend the targeted schools, a level to be increase by at least ten percent over the project’s four-year life.

The three governorates in which the project works are highly tribal, and thus competitive, so multiple reconnaissance visits were needed to head off conflicts stemming from the perception that school renovations, teacher training programs, learning materials, etc. were being distributed in an inequitable or non-transparent fashion. These visits took place over the course of several months, during which team members repeatedly came across large numbers of desks, chairs, and other furnishings in need of repair.

Given the choice of transporting the furniture to a city with adequate repair facilities versus repairing it on the spot, it quickly became evident that the latter approach would be more cost-effective in the more remote areas. Furniture factories in Yemen charge at least \$45 for a new three-student desk, and repairing one at a central facility costs even more due to high transportation costs. By contrast, the marginal cost of repairing a broken desk on-site was estimated at only about \$5. Accordingly, the project established a two-person mobile repair team comprising a civil engineer and a driver/carpenter with a double passenger cabin four wheel drive pickup truck. The open cab in back was enclosed and equipped with an electric generator, power and hand tools, and various consumable supplies and materials. The approximate cost of outfitting a mobile repair team vehicle in Yemen is \$3,500.



Head of the Fathers’ Committee volunteers to repair desks at the Al-Jafrah school

Economic Advantages

The \$5 estimated average cost of repairing a multi-student desk includes the cost of materials consumed (plywood, paint, nuts and bolts, sandpaper, etc), but not the amortization of the vehicle or needed equipment. Other costs are minimal because fuel in Yemen is sold below world market prices and volunteers from the community help with the work. In other contexts, higher prices for fuel would raise marginal cost but would still be unlikely to push the cost of repairing desks on site above that of buying new ones. A mobile repair team also provides schools and communities a cost-effective way to share equipment for general repair and maintenance that would be too expensive or used too infrequently to justify providing it to individual facilities.

“Atmospheric” Advantages

While major school rehabilitation projects take time to get underway and show tangible results, a mobile repair team provides presence and visibility in multiple locations relatively quickly. A mobile repair team allows the project to make tangible visible improvements to schools quickly, demonstrating responsiveness to the immediate needs of the community while plans are being made for more permanent improvements. The repair team also provides the project an opportunity to even out the inherent inequities in the timing of delivering technical assistance across many locations. The Yemen Basic Education Project chose to schedule repair team visits first to the schools in the reverse order that they would be renovated. The last to receive major structural renovations became the first to have furniture repaired, for example, and vice versa. This has provided a mechanism for balancing the interests of tribes and religious sects, which, when in conflict, frequently lead to violence in Yemen. In other countries, projects may need to balance the interests of different ethnic or linguistic groups.

Beyond Repair: Impact on the Community

USAID/Yemen places a great deal of stress on involving community members in local problem-solving. In Yemen, the Ministry of Education (MOE) strongly supports community participation as a policy but there is a general lack of knowledge and experience of implementation at the local level. Repairing school furniture provides an immediate and concrete activity around which the community can focus and see results. Often communities are unable to make repairs themselves because they do not have the tools or cannot find the needed materials in the local market. A mobile repair team allows each targeted community to share a wide range of equipment and to transport materials that are not otherwise available. Thus, an opportunity is created for decisive, effective, and meaningful joint community action. Beyond simply repairing desks and chairs, the mobile repair teams help to:

- Make schools safe and more effective places to teach and learn;
- Motivate, and mobilize parents and community leaders to take responsibility for improving the educational environment for their children, and demonstrate how to do it;
- Provide opportunities to showcase and praise local talent, reinforcing the status of even illiterate skilled and semi-skilled workers in the community;
- Provide teachers with concrete examples to show their students how literacy (instruction manuals for equipment) and numeracy (carpenters measurements and logistics planning) are valuable skills with practical applications;
- Provide literacy and numeracy programs for adults and out-of-school youth;
- Provide short-term opportunities for learning practical job skills to adults and out-of-school youth; and
- Provide positive models for collaborative behavior for school administrators, whose previous interactions with the community have often been limited.



Two children stand amidst a pile of broken furniture at their school in Al-Fateh



A group of youths assist in repairing desks at the Salem Baker school

Sustainability Issues

Mobile repair teams produce immediately useful results and foster community participation but are not inherently sustainable as the project retains full control and responsibility for managing the process paying all operating costs. On another level, the Yemeni Ministry of Education (MOE) readily acknowledges that it lacks a coherent repair and maintenance strategy budget, or staff to manage one if it were developed.

However, the teams are integrated into MOE systems to the extent that central ministry and governorate level building engineers are involved in planning and overseeing what a team does, when, where, and how. It is also integrated to the degree that MOE social workers, teacher and headmaster trainers, and adult literacy facilitators are able to use the teams' visits as a constructive supplement to their curricula and community development.

One valuable lesson learned came from a large multilateral donor agency that has been building schools in Yemen. The donor wanted to assure that the community would be able to maintain the schools that were being built and so provided each with a basic tool kit. However, the hand tools in the kits were too simple to be used for anything more complicated than repairing a broken window or lock. No individual or group was asked to assume responsibility for repair and maintenance, and no one was trained. The agency now openly reports that the tools disappeared after a couple of months. The need to assure responsibility for maintaining and using more expensive resources such as a fully equipped mobile repair vehicle is, of course, even greater. Likewise, training at all levels in repair and maintenance strategies, methods, and team work is very important for sustainability.

Launching an effective mobile team requires an investment in building systemic and human capacities. This includes training the mobile team members together with project community participation facilitators and training key staff of the host country counterpart ministry, agency, or organization. When the Yemen Basic Education Project briefed a European donor agency on the mobile team, the agency said that they had provided a similarly equipped vehicle to one of the Yemeni governorate-level offices of education (GOEs). They offered, among lessons, learned that they had not asked for commitments as to how the vehicle would be used and by whom, did not provide training, and did not ask for commitments that the vehicle would be staffed and its operating costs routinely covered in one of the annual budgets at a specified level (e.g. central ministry, governorate office of education, or local governing council). The European agency reported that within months the vehicle had been stripped, and its equipment disappeared.

Making a mobile repair team sustainable after the investment costs have been covered by the donor requires a serious commitment on the part of the host country partner to (a) develop and maintain the necessary policies and strategies, (b) continue to provide long-term staff and funding after funding support has ended, (c) operate the systems and provide the materials, and (d) provide the training and continuous routine supervision that are necessary to make the team a success.

Further Information

For more information about the USAID/Yemen Basic Education Program's mobile repair team, contact USAID CTO Susan Ayari at AyariSH@state.gov.



Group of men measuring materials to repair school equipment at the Salem Baker school in Korah



A group of students measure materials at the Al-Fateh school in Amran