Challenging the Standard: Girls' Schools as Agents for Change in Afghanistan

Over the past decade, there has been a marked increase in design projects and initiatives located in so-called "developing" countries that have been realized through partnerships between foreign architects and aid agencies. The humanitarian assistance community has recognized that it is struggling to adapt in the changing face of crisis, and that more funding is needed for incorporating risk and the probability of disaster into international aid efforts.[1] Aid agencies are finding that building to anticipate and respond to the inevitabilities of conflict, population migration, economic downturn, and environmental crises—before they occur—is more cost-effective than providing disaster relief after the fact. Getting a roof over someone's head, or building a school, is no longer a simple task of laying bricks and covering rooms with a corrugated metal roof. More is at stake, and the shift toward initiating projects that are integral components within broader environmental, economic, and cultural systems calls for the expertise of architects.

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Architects working in the field of humanitarian assistance can be subject to the same criticisms and critiques that international aid organizations face, with their efforts only being as effective and as ethical as the agencies they are affiliated with. Practitioners run the risk of being accused of "parachute" design if they make uninformed assumptions or do not seek meaningful partnerships with the communities they are trying to help. Bruce Nussbaum, in his article, "Is Humanitarian Design the New Imperialism?" touched a nerve within the design community when he wondered if US American and European designers are presuming too much in their attempt to do good. "Are [they]...collaborating with the right partners, learning from the best local people, and being as sensitive as they might to the colonial legacies of the countries they want to do good in?" These questions were hotly debated, with several respected members from the field such as David Stairs of Designers Without Borders and Cameron Sinclair from Architecture for Humanity weighing in either for or against.[2] There is no doubt that much good has come from architects' involvement in humanitarian ventures, but this debate underlines the importance of examining the issues

surrounding aid work and design interventions. It is only through conscientious engagement that new models for a truly humanitarian practice can emerge.

Collaborating with the right partners, learning from the best local people, and understanding colonial legacies is not always easy, however, especially when working in a place like Afghanistan, which is the most dangerous country in the world for carrying out relief work, according to a recent UN report. Building anything in war zone presents a myriad of obstacles, and with the threat of US troops leaving in 2014, few aid agencies remain to help with rebuilding efforts. Those organizations that do persist in their work currently face political pressure to construct facilities quickly, before money and security vanishes.

Recently established bureaucratic standards for constructing schools in Afghanistan leave aid agencies limited latitude when responding to the unique conditions they find in the field. By examining one project currently under construction in the country, this paper will describe what happens when architects and architecture students get involved in this process: designing one school reveals questions concerning associations between governmental agencies, the general public, and foreign aid organizations. This paper also exposes the limits of such projects, discusses how restrictions might be overcome in future endeavors, and assesses how design can be a tool for improving the overall quality of educational institutions in the country. Designing for the long-term is critical, and, important considerations such as achieving public support and building sustainably should not be overlooked in Afghanistan's rush toward development.

The realization of the Gawhar Khatoon Girls' School, in Mazar-i-Sharif, Afghanistan, began as a graduate research studio working in collaboration with the aid organization Ayni Education International (Ayni). The school was then further developed by some of the studio participants and faculty, working with the architect Robert Hull, of the Seattle-based, Miller Hull Partnership. The school is to be completed in autumn 2014, and in reflecting on the evolution of the project, from a hypothetical studio problem to construction, it has become clear that the students' speculative process of inquiry—though idealistic—has revealed several relevant alternatives to current practices. Moreover, the dialog between the students and Ayni introduced the board members to the potential of design as a tool for enhancing their organization's responsiveness to the environment, community needs, and local culture. As a result of this exchange, the organization has altered the way it thinks about constructing its schools. Beyond the studio, the school project itself also promises to be an important first step in challenging standards and proposing alternative solutions for constructing schools in the region.

THE DEMAND FOR SCHOOLS IN AFGHANISTAN

Historically, sites for women and girls to assemble and learn have been rare in Afghanistan, but customs are slowly changing, depending on the locale.[3] In some parts of the country, restrictions on women going to school have eased, while in other areas, they are still discouraged from attending, or worse, threatened and the subject of violent attacks. Cultural standards still have a powerful hold on the status and acceptance of women's education, but schools are now providing a crucial 'second space' that permits Afghan women to enter the public realm in ways that were previously not possible.[4] Since the US led invasion in 2001, and the subsequent end to Taliban rule in the country, the Afghan government—with the help of various international organizations—has made great strides in establishing an educational infrastructure that is more inclusive of women. Currently,

there are more women attending school then at any time during the country's history, but the need for schools (for both boys and girls) is immense, with an estimated number of children requiring access to primary education expected to rise to 8.8 million by the year 2020.[5]

One of the many international aid agencies currently active in the country is Ayni Education International, a Seattle based organization that has funded education projects in Afghanistan since 2001. Ayni supervises the construction of schools and computer centers in addition to managing teacher training programs in and around Mazar-i-Sharif, Afghanistan's fourth largest city. Unlike some aid organizations overseeing bricks-and-mortar projects in developing countries, Ayni places great emphasis on building ties with community leaders, and their schools are only constructed where the organization is invited. Ayni also works closely with the Afghan government to insure their schools are integrated into the existing education system

PROJECT STRUCTURE

Last year, community leaders approached Ayni about replacing a dilapidated girls' school in the center of Mazar-i-Sharif. After committing to the project, Ayni invited graduate architecture students at the University of Washington to join them in developing proposals for the new facility. Seventeen students developed eight school proposals, which were thoroughly reviewed by Ayni board members. The initial intention of the project was for the students to work with a local architect from Kabul, but he withdrew from the project after a disagreement over his fee and the project budget. One of the studio co-instructors, Robert Hull, then offered to see the project through to construction. Hull became familiar with both traditional and contemporary construction methods in Afghanistan while serving there in the Peace Corps during the 1970s. Security concerns kept students from traveling to Mazar-i-Sharif, so much of the information about the site, the school, students, staff and community, was gathered by Hull during a visit at the project outset. Another valuable connection was Jason Simmons, a US American social worker who has established key relationships with community leaders, the school principal, and government officials over the past ten years. Simmons heads an Afghan registered NGO run by a staff of Afghan professionals that includes engineers, construction managers, and builders. It was this team that has carried out several of the school construction projects for Ayni, in and around Mazar-i-Sharif.

At the end of the academic quarter, a small group of students continued to work on the project with Hull. This team generated the permission drawings for review by the Afghan Ministry of Education, and the construction set that is currently in use on the building site. During the course of the school's development, many of the same concerns exposed by the studio at the project outset resurfaced, such as: material availability and acceptance, thermal performance, questions of constructability, and community engagement—each an important aspect in linking the school (and its users) to the surrounding environment.

PERFORMATIVE MATERIAL SYSTEMS

Many children going to school in Afghanistan must do so in less than comfortable conditions, as most schools are not heated due to lack of funds for fuel, and are typically closed during the coldest and warmest times of the year, causing students to lose several months of instruction. Preliminary studies conducted by the studio showed that by employing low-tech, passive strategies such as solar

orientation and thermal storage techniques, the school could remain comfortable even in below freezing conditions. The benefit of this discovery was not lost on the students or the Ayni board members, as this would allow the school to serve more students, increase student contact hours, or provide community amenities when it might otherwise have been closed for winter. Multiplied by many schools, more children could be served using the same amount of valuable space.

A series of recommendations were developed that resulted in several student proposals capitalizing on solar heat gain and the use of building mass as thermal storage. To minimize cost and maximize performance, students worked to closely integrate material selections with heating, ventilation, and daylighting strategies, thereby developing systems able to perform under difficult circumstances with few resources. For example, many teams opted to use locally produced brick, a material common to Afghanistan with a long tradition of use in that country, but has fallen out of favor as concrete has become more prevalent in contemporary construction. Students quickly recognized the advantages that masonry offers over concrete, and were inspired by material's potential to serve several functions simultaneously. Using masonry would not only support local industry and labor and give the school its character, it could also act as a shading and screening device, thermal mass, and serve as the vertical load-bearing structure if designed correctly. Orienting the classrooms toward solar south created problems with daylighting and summer heat gain, so students studied how masonry patterns could be manipulated to achieve the desired conditions for daylighting in the classrooms year-round while insuring shading during the summer months.

In designing the actual school, using passive strategies for improving thermal performance has also become a priority, and masonry is being used to some degree, but with no effort to capitalize on the material's potential load-bearing capacity.

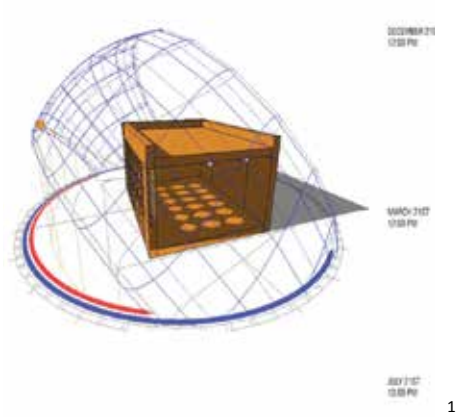

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Figure 1: Initial studies for a masonry screen as a built-in strategy for controlling daylight, regulating temperature, ventilating classrooms.
Courtesy of Esmaili and Kamara.

Coupling materials with environmental and structural systems is an approach that can be traced back to traditional Afghan architecture, and was one of the strongest strategies developed by the studio. Unfortunately, this idea has been partially lost in the realization of the project, due to the translation of building code requirements (IBC) and current practices favoring concrete frame construction with masonry infill, despite the existence of other less complicated and seismically stable systems, such as confined masonry. In one view, reinforced concrete

frames with masonry infill walls is a wasteful construction method due to the large percentage of underutilized material and structural redundancy. Furthermore, this method is complex, requiring the expertise of a structural engineer, whose services are typically not available in developing countries such as Afghanistan.

Exclusive reliance on reinforced concrete highlights how many locally available building materials, such as brick and mud, are stigmatized. The studio and the project team grappled with the knowledge that most Afghans do not want to see exposed brick, and that any design using mud or wood would most likely be rejected for a building made of more contemporary, "clean" materials, in spite of the cost of importation. This was difficult to accept, especially in light of Afghanistan's rich history of innovative construction technology based on the efficient use of indigenous materials.

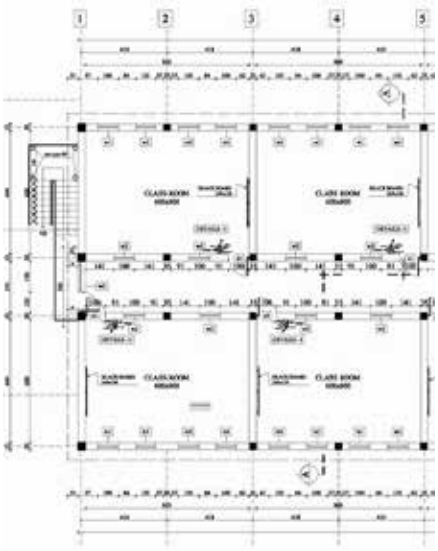
The tension between tradition and modernity revealed through material preferences and construction practices is an issue widely faced by designers working in transitioning, agricultural societies.[6] Design decisions made under these circumstances must acknowledge the desire for 'modern' buildings, and local prejudice toward non-industrially produced materials. But materials originating in the surrounding landscape offer the potential to link the act of building with the immediate geography and culture. Architects such as Ziegert Roswag Seiler and Diébédo Francis Kéré have pushed the limits of indigenous materials to meet contemporary standards, opening up new modes of production embedded in local traditions–these projects benefit the wider community and have set a precedent for future development.

Unfortunately, most international aid agencies and NATO reconstruction programs currently funding projects in Afghanistan have not yet recognized the importance of establishing and promoting local and sustainable material resource systems. Encouraging such efforts favors self-reliance, rather than dependence on imported resources, an important step in helping Afghans prepare for a future without international aid money and assistance. Establishing a balance between contemporary standards and material systems (whether local or imported) is a promising area for future research, and will be pursued on subsequent projects involving the University of Washington, Ayni Education International, and the Afghan Ministry of Education.

CONSTRUCTION IMPLEMENTATION AND COMMUNICATION

One of the challenges to realizing projects in developing countries is finding solutions that are not only buildable and economical, but also appropriate for the locale. As previously outlined, determining the school's structural system was based on a complex series of factors—from material availability, to seismic requirements and cultural acceptance. In addition, planning in Afghanistan must account for the fact that the country has lost most of its skilled labor to years of wars and unrest, meaning a project's success lies in capitalizing on familiar and simple construction methods.

To insure uniformity and safety, all agencies building schools in Afghanistan are required to follow the Afghan Ministry of Education (MoE) standard plans—developed by the US architecture and engineering consulting firm, Louis Berger Group. Literally a 'dumb box,' the standard school does a fair job of providing shelter (if constructed properly), but the plans make no attempt to accommodate important considerations such as orientation, climate, or local needs.



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Due to the Gawhar Khatoon School's prominent position next to the Balkh Ministry of Education, government officials gave Ayni special permission to depart from the MoE standard plans, with the goal of creating a new model school. Because the MoE school's are simple to construct—and can be achieved though several alternative construction methods, depending on material availability—the students used these plans as a basis for their work, adapting them to local conditions and needs. As a result, new standard plans for repetitive classroom blocks were proposed, which could be arranged in different ways without complicating construction.

The students also proposed that the school's construction support techniques requiring manual labor. Labor is cheap in Afghanistan, and machines are expensive to rent, so using more hand work, and less machinery to build not only lowers costs but also provides jobs for more people. In addition, several schemes proposed that the project be used as a training model for learning either new or traditional construction methods. The design team continued to develop straightforward, familiar construction methods for the school project, and like the studio proposals, the plans are based on simple, repetitive classroom arrangements,

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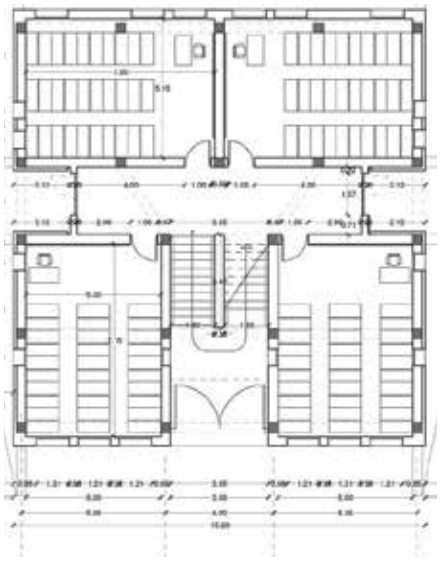
Figure 2: An Ayni school constructed using the Afghan Ministry of Education's standard plans. Courtesy of Ayni Education International.

Figure 3: Student proposal for new standard classrooms. Courtesy of Esmaili and Kamara.



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duplicated in three blocks, which were completed at different phases to allow for material delivery onto the site

Although the execution of the actual building has not been conceived of as a training project, a conscious decision has been made to minimize the use of machinery during construction. The foundations were painstakingly excavated by hand, and many of the larger stones used for the foundation walls were hewn on site. Ayni and the design team have put 100 percent reliance on the local team's ability to translate the plans and to carry out the construction as they see fit. The construction team has previous experience building schools, and at the current phase of construction, it appears that they are extremely competent in their work.

Communication between the design team and the local team began with the transfer of the construction drawing set, sent via Dropbox and printed locally. Email, Dropbox, and Skype have been the primary methods used to communicate and to transfer data, but are unreliable because of intermittent Internet bandwidth availability in Afghanistan. The design team and the executive director of Ayni meet with the local contractor once a week via Skype to discuss any problems or questions regarding construction. One of the most interesting methods of communication used on the project has been the photo documentation of the construction by a local young woman, Airokhsh Faiz Qaisary. Each week Qaisary visits the site, photographs the work, and then emails her photos on to the design team and Ayni. These photos have been an invaluable tool for monitoring construction and have proven useful in discussions with the contractor.

Major problems with communication have been avoided thus far, but the project is located in a war zone, and a site visit by the architect is currently too risky (for the architect and for the local team). In certain areas of the country, there have been instances of Afghan employees being threatened or killed for their association with US government—funded projects. This is not to say that is the case for Gawhar Khatoon—especially since it is privately funded and built at the behest of local community leaders—but any outward association with the US must be carefully considered. Such a project can't even be called 'parachute' design, but rather "remote design," where the architect must relinquish most of the responsibility for the final building. Surrendering control of the construction phase might seem problematic, but this has allowed the school principal, the structural

Figure 4: Classroom blocks are repeated to simplify construction.
Courtesy of Hull, Garland, Esmaili.

engineers, and the local workforce and government officials the freedom to engage and to be associated with the project.

COMMUNITY ACCEPTANCE AND ENGAGEMENT

In Western societies, the visibility of people in public spaces is considered key to promoting security. In Afghanistan, however, the visibility of women outside of the private domain is deemed to encourage insecurity.[7] The institution of *Purdah*—the practice of secluding or concealing women from view—is deeply ingrained within the culture, and dominates the daily life of most Afghan women. Although women may appear in public, they must be veiled, and if unaccompanied by a male relative, they are often subject to harassment. Women are discouraged from gathering in public, and are often restricted to working and socializing from within the confines of their homes.

Designing a school in Afghanistan means conforming to the cultural dictates of *Purdah*, and responding to the dual (and often conflicting) requirements of privacy and the inclusion of women within the public realm.[8] Families will not send their girls to school if safety is not assured, and the school's security is dependent upon public acceptance and support. For these reasons, the studio took the position that the school should be designed for security; yet also offer permeability, with the goal of establishing connections to the surrounding community. Providing educational facilities–computer rooms, libraries, classrooms, or neighborhood meeting spaces–that can be used by the students and community alike, without compromising safety, was seen as a way of fostering support for the school. Students can access these facilities when school is in session, and the community can use them after hours, and during school vacations.

A very different strategy for promoting community acceptance and participation has been implemented by school officials for the actual project. A stone laying ceremony was held with much fanfare and local participation, and an open house is also planned for the school's official launch. These efforts are well intentioned, and will most likely build some local support for the school, but more could be done to involve the staff, students, and community in a project that will have a lasting impact on an important neighborhood in the city.

Providing the young women and girls who will attend the school an opportunity to shape their environment is a means of empowerment. To this end, the design team recruited the help of the project documentarian, Qaisary, who not only photographed the school construction, but also interviewed teachers and students for her documentary on the day in the life of an Afghan schoolgirl. Qaisary asked students to consider what they would like their future school to look like, and to draw what they imagined. In their drawings, the students describe a school that connects them with their surroundings and with each other, where they can "engage in their spatial environments in ways previously unknown or unavailable to them, opening up new freedoms and potentials…"[9] The students depict themselves sitting in classrooms with open windows, playing volleyball together, and gardening.

Playing outside is clearly valued, and through their sketches, the students highlight the school grounds as the only secure and culturally accepted exterior space they are allowed to occupy. Providing landscaping and playground equipment is well beyond the scope of a typical MoE school, but the importance of these amenities cannot be ignored. The design team is currently raising money through a crowdfunding campaign, and plans to collaborate with the school community and Global Partnership for Afghanistan in realizing the green spaces on the school grounds.

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Figure 5: Students imagine a place to learn, play, and to connect with nature. Courtesy of Qaisary.

CONCLUDING REFLECTIONS

Andres Lepik observes that schools can "serve as architectural beacons for a society."[10] Girls' schools, in particular, are already considered to be major contributors in Afghanistan's move toward development.[11] The country is experiencing a rapid but unpredictable period of modernization, and schools are the setting where women and girls will negotiate this transition. Schools are also ideally positioned to provide community infrastructure that may prove critical after the NATO drawdown, planned for 2014. Now is a crucial time to consider how these institutions can positively influence the environment and the community beyond the building's physical boundaries. International influences in the form of standardized school plans and structural systems have been imposed in order to meet Western requirements, and following these has become the easiest way for NGOs and the NATO reconstruction forces to build quickly and cheaply. Unfortunately, important relationships to larger cultural and environmental systems have been lost in the process.

It is through the involvement of architects and architecture students in the Gawhar Khatoon School project that strategies for improving the school building process have emerged, and as it stands, the school promises to be more than what it would have been without the involvement of the design team. Future projects will need to push the standard school typology even further, transforming the perception of schools as artifacts, to that of conduits, through which greater environmental, material, and cultural systems might flow. Reshaping schools to be active agents engaged with their local environment will require collaborating with government policy makers on issues of community involvement, gender inclusion, and sustainability, as they pertain to school construction. The best solutions will most likely come from within, but until Afghanistan has enough of its own architects, it is up to aid agencies working on the ground in the country to recognize the potential in challenging routine solutions, and to capitalize on the design services offered by foreign architects.

Architects cannot solve all of the problems currently facing the education system in Afghanistan, but by designing to respond more robustly to the needs of the local population, the necessities of climate, and the realities of daily life, the potential for schools to react as instruments for change is enhanced–both for the

students and the wider community. Ayni Education International estimates that for every girl educated in their schools, seven to eleven family members are also positively affected. Schools touch the lives of many people, and the opportunities offered by these institutions should be designed to reach their greatest potential.

ACKNOWLEDGEMENTS

My deepest thanks go to Janet W. Ketcham, Daniel S. Friedman, and David Miller for initiating this project. Special thanks also to Airokhsh Faiz Qaisary for her bravery, and to Rima Al Ajlouni for sharing her research on representations of architecture in children's drawings.

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