Project Overview: Where? Why a Samé Polytechnic School?

The site for the Polytechnic School is located one mile to the north of Same, Tanzania and located on a main route (highway B1). The town has population of approx. 20,000 and is a train stop for the main Tanga line of the national railway network. The town can be characterized as gathering and distribution center for the people of the rural area. The main commerce is providing for the tourist and churches.

Recently the United Republic of Tanzania has taken measures to provide high quality education for its people. The measures are part of the Vision 2025 strategic plan (MOE 2005). The plan mandates that all students graduate from secondary school. However, secondary school curriculum does not provide vocation training or means of acquiring job skills. In order to provide an opportunity for the graduates of secondary education to obtain job skills, the Catholic Diocese in Samé, Tanzania is proposing to build a 1000 student polytechnic school for the rural population of Tanzania. Though the Catholic Diocese is spearheading the effort, the polytechnics school is planned to accommodate all religions.

A sustainable Project

The poor economic rural location combined with the undeveloped status of Tanzania (UN-OHRLLS 2008) has left most of the population to build their homes and structures with little to no oversight or regulation conformance. The following pictures (Figures 1 – 4) were taken in rural East Africa in 2007 and give an indication of the quality of construction. The pictures are of multiple newly constructed structures. The Catholic Diocese recognizes the deficiencies in the construction knowledge and methods, and realizes the deficiencies are due to the lack of knowledge and the limitation of resources.
Knowledge Transfer – A Sustainable Solution for Rural East Africa
A Collaboration of Academia, Industry, and NGO

A secondary goal in the construction of the polytechnic school is to transfer information and technology to the rural people and to raise the quality of the built environment. In this secondary goal, the school can show the world what the people of Tanzania can do, despite their economic level. And it is to be a stepping stone for the people themselves to build similar quality buildings.

The solution is to create a permanent change that can be found in a goal of “providing a means for long term change locally with local resources incorporate local culture” - a sustainable solution.

The Challenge Defined

The challenge in creating a long term effect is to first determine baseline of quality and the authority structure. The authority structure also includes becoming familiar with the cultures way of life and discovering how new ideas are accepted and incorporated into the culture. Once this is established, the challenge becomes to put the technology and knowledge in terms of the local resources.

FREQUENT travel to the site is imperative in meeting this challenge.

The Culture (Authority Structure)

The years of experience in working with rural East African cultures have made it clear that developed nations (western culture) contrast greatly. Western culture can be described as task and goal oriented. Also authority is derived from titles, licensures, and codes. A plan is made, a schedule is created, and goals are set. The objective is completion of the project. The authority is given to a person with title or a document with a stamp. In contrast, the culture of rural East Africa is focused on relationships first and foremost; and authority is derived from the tribal leader. Acceptance and change is garnered from strong relationships. A document with a stamp or person with a title will have little effect on creating change. In order to create lasting change, a relationship with the leader needs to be established, and this occurs from consistent and long term contact. In Kenya, we had a person on site for 3 months. In Tanzania, we spent three years of annual travel establishing a relationship. It is noted that the importance of relationships to the local population, means that we may spend two days saying, “Hello”. And we spend three days saying good bye. Therefore, to walk off the plane with a western culture thinking of adhering to a schedule and completing tasks is grossly unrealistic.

By establishing a relationship with the leaders of the local population, our suggestions (information and knowledge transfer) are open to being accepted. And if accepted, then can become part of the culture and long term change can take place.

Cal Poly Students

The goal of the program at Ca Poly is to give students an opportunity to make a difference in the world (in addition to gaining an experience beyond the classroom). The goal of the current project is to aid the people of rural Tanzania in becoming self-sufficient and sustainable in design standards and construction methods.

The current project is a technical college in Same, Tanzania and has been on-going since 2008. To date, relationships with governing bodies (political and tribal) have been solidified and approvals for land use are in the process of being procured. This year, the students have investigating construction methods and knowledge transfer techniques. The students working on this project are from the College of Architecture and Environmental Design.
Both the goals for the students and the people of Tanzania are meet through the planning, design, and construction of a technical school in Same, Tanzania.

How the students are engaged at Cal Poly is through a program that identifies a component of the project in need and then at the beginning of the year (fall quarter) a call for interest and a project team is assembled. The project is conducted in a "design office" model where the advisor and lead student have contact with the client, and the team as a whole "buys into" the solution (design sherets) and how to accomplish it. The team is broken into sub-teams and the sub-teams are given freedom to use their education and resources. Periodic meeting (usually weekly) are required for progress report, updates, and team building. Funding is sought and if successful, students travel to project site.

We have learned that sending Cal Poly students to assist in construction and to convey ideas is very effective in instilling overall improvement in design and construction. In addition the Cal Poly student gains the experience of live with and working with another culture. There are currently over twenty students working on this project. The students are from all five departments in the CAED (students major in Arch. Eng. / CM / Arch / L.S. Arch / CRP). It is a goal to send as many students to Africa this spring break and this summer. It cost approximately $5000 to send a student over for two weeks.

This effort in assisting the rural areas of East Africa was fostered through David Lambert’s Masters Project (MS Arch with Specialization in Architectural Engineering). For additional information please contact the Arch. Eng. office (805)756-1314.