Prospectus

A look into Bridges to Prosperity
(Technical Topic)

Case studies of prior experiences with B2P and reflection on "white savior" mentality
(STS Topic)

By

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November 5, 2020

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction

Bridges to Prosperity (B2P) provides isolated communities access to education, healthcare, and other opportunities by constructing footbridges over impassible bodies of water. It was founded in 2001 by Ken Frantz, and since then, Bridges to Prosperity has built over 100 footbridges in Africa, Asia, Central and South America. The goal of this capstone project is to locate a community in need of a repair for an existing footbridge, a replacement structure, or a new footbridge. I am doing technical work on the specific project assigned to us and we hope to connect with the community, identify the need, and develop a set of design drawings to include structural details, construction sequence, schedule of construction, and a detailed estimate of material and construction costs. We will work with Bridges to Prosperity and Engineers in Action (EIA), B2P's university-led chapters, along with UVA alumni, to help with making this a successful project. I bridged the capstone/technical research to the STS research by wanting to dive deeper on how Bridges to Prosperity was able to be successful and avoid the "white savior" image over the period of 19 years and counting. I was intrigued to see how a non-profit organization like B2P was able to gain trust and continue to be trusted from isolated communities in Africa, Asia, Central and South America, many of them where English is not their native language. I was inspired by the technical project to research a bridge project built by B2P in the past that ran into major problems and challenges for the STS portion. For the STS research, I will explore "best practices" for engineers to be trained on what is "good" and how to effectively interact with people from many different cultures and backgrounds.

Technical Topic

With the help of Bridges of Prosperity and Engineer in Action, we were able to locate an isolated community in need. The capstone/technical project where we will be helping build the footbridge is located in the small community of Guayabitos, Bolivia. Guayabitos is located in the municipality of Pojo and the department of Cochabamba. The department of Cochabamba has a population of over 1.7 million and the primary languages spoken are mainly Spanish and Quechua, an indigenous language spoken by the Quechua peoples ("Cochabamba Department," 2020). The municipality of Pojo's population is just over 11,000 and that is where the community of Guayabitos resides. Engineers in Action are very familiar with this area already, as they have built a number of footbridges in isolated communities of Bolivia. Bridges to Prosperity has a number of representatives in more than 10 countries, so the communities voice is heard through the B2P representatives who happen to live in these specific countries.

In coordination with each other, Guayabitos, municipality of Pojo, and the department of Cochabamba sent Engineers in Action a number of documents approving the construction of the footbridge in the isolated community. In these documents it expresses the financial agreement, expectations from both the community and EIA, permission of the use of land for the construction, construction costs, and the importance of the footbridge to the community of Guayabitos. There are many needs for a footbridge in this specific area, and it described in a letter to Engineers in Action by the municipal mayor of Pojo, Eloy Rocha Villarroel, and the Community Director of Guayabitos, Abel Grageda Aranibar. The primary need for a footbridge in the first place is that during rainy season, the river swells, making the

body of water virtually impassable without great danger. The needs for this community specifically are to provide accessibility to students, inhabitants who need to go to other communities, and sick people who need to visit the health center (Villarroel, 2019). The community directors actually reach out to Engineers in Action first, given their great reputation in building footbridges, and it just their means of expressing their needs greater. Since Engineers in Action and members of the community collaborate in every step of the process, including the construction of the footbridge, their goals inherently align. The goals of both EIA and members of the isolated community are to provide accessibility for students so that they can attend school, to have a means for inhabitants to travel to other communities to increase collaboration, and so that sick people can freely access the health centers and hospitals that are in the general vicinity. The goal of Engineers in Action specifically, in relation to the students, is to provide a way for students to improve communication and professional skills that are required to effectively interact with people and groups from all walks of life. There are number of resource and logistic challenges when it comes to the construction of the footbridge. Financing is a huge challenge that Engineers in Action has to face every single project. Generally, the footbridges are financed by half of the expenses coming from the municipalities where the communities are located, and the other half of the expenses are funded by private external donors ("FAQs."). The major challenge comes from getting funds from external fund donors, building that trust so that they want to donate. Inclement weather is another challenge, since it is often very unpredictable. To counter that, extra days are put into the construction schedule. Managing materials or making sure materials are on schedule is a challenge that every construction

may face. A new logistic challenge to EIA is challenges with COVID-19. The coronavirus has caused many of the projects in 2020 to be cancelled and is already affecting travel for footbridge projects in 2021. Metrics of success include percentage increases in children enrolled in school, healthcare treatment, fertilizer investment, crop yield, farm profits, labor market income, and women in the labor market. Return on investment is also another metric of success for EIA. The overall timeline for this capstone project is that all drawings are to be completed between Fall and Spring, specifications and construction estimates are to be completed in the spring, and construction of the footbridge is to happen in the summer, in a 2-week span. As of November 5th, my team has almost completed the preliminary design of our footbridge, using AutoCAD. Problems with the right bank of the river has slowed the process down as erosion has greatly affected the area.

STS Topic

As stated in the introduction, Bridges to Prosperity is an American non-profit organization that provides isolated communities access to education, healthcare, and other opportunities by constructing footbridges over impassible bodies of water. There are many American non-profits who have the same mission of providing humanitarian services to underprivileged communities and countries around the world, but have failed to avoid the "white savior" image. The white savior complex refers to a Western industry or organization, primarily predominately white, acting to help non-white people, but in a context which can be perceived as self-serving (Bakar, 2019). Bridges to Prosperity is a Western organization that is predominately white, who helps non-white people in isolated

communities, so how has B2P avoided the white savior complex in its 19 years of service? How are they funded, and how those that are funding B2P's footbridge projects came to trust the non-profit organization?

Answering the first question, avoiding the complex is engrained in the culture of Bridges to Prosperity. I've personally been involved with B2P for a little over 2 months, but I can see it myself. From what I've observed, the people who represent Bridges to Prosperity simply do it for the passion of providing access to economic opportunities of people from underserving communities, I don't even get a slight sense that they are doing it for self-service. B2P also does a great job of being transparent and providing as much visibility as possible, especially with financials. Fifty percent of the funding of every project comes from municipality buy-in, and the other half comes from private external donors. Bridges to Prosperity works with all levels of government of that country where the community is located, so that municipality is able to trust them. Concerning the private external donors, the reason why B2P was able to gain trust from private donors is because their missions directly align. For example, Rotary clubs are popular donors, and their mission to practice service and integrity directly aligns with B2P's mission to connect rural communities with healthcare, education, and economic opportunities ("FAQs").

Over the course of their history, B2P has had a couple of best practices, one of which didn't particularly work, and one where it has worked and is continuing to work. Before 2017, many of the footbridge projects were heavily student-led and didn't receive much direction from the representatives of Bridges to Prosperity. Before departing, students would be given a very informal presentation about the

culture of where they are specifically headed. This was very ineffective, as it was too informal, and it didn't give the students enough time to learn and understand the cultures and values of the communities. In 2017, Bridges to Prosperity released the Cross-Cultural Competency (CCC) course. This course is intended to help engineering students grow in their understanding of working cross-culturally and collaborate with other Cultural Relations Managers. This approach has proved to work almost perfectly, as students are able to become competent in cross-cultural communication.

The white savior complex has been evident in American culture for a while now, from films such as *The Blind Side* where Sandra Bullock is the main character*,* and celebrities going to low income countries so that they have more pictures for their social media (Coyne, 2020). Many organizations, specifically engineering organizations, go into these countries with the best intentions of providing humanitarian services, but it is often not a good look from the public eye. Engineering students from Engineers in Action must avoid this bad image by gaining the trust of people from the outside looking in and doing their services with genuine intentions and not for self-service. Best practices are used to help train engineering students when working abroad to understand what is "good" through maybe integrative, grassroots engagement or Social Justice Capacity orientation to engaged engineering. In Ashford's article on major challenges to engineering education, he states that engineering can not do it alone, it will need the help from science as well as social and legal changes needing to occur. Best practices to address challenges in engineering education include technological/scientific changes and system changes to organization/institutional structure (Ashford, 2004).

Grassroots engagement with engineering students proved to help students engage in cross-cultural interactions with communities in Brazil. Service learning and community service is an integral part of universities in Brazil, so students are able to appropriately communicate with people from many different communities (cite this). Using the two mentioned articles above as a review of Bridges to Prosperity's work, I will be conducting a case study that includes prior published material from B2p. For example, this project in an isolated community of Nicaragua had major challenges because of its lack of cross-cultural preparedness, lack of leadership from B2P, and failure from B2P's best practices.

Next Steps

Technical:

- Finish BridgeEDU courses (Suspended Bridge Design, Project Management, Construction Management, Suspended Bridge Construction) in Fall and Spring
- Construction drawings completed between Fall and Spring
- Completion of construction specifications and estimates in Spring
- Construction of footbridge in Summer

STS

- Must finish building the rubric of evaluation for STS analysis
- Explore BridgeEDU's Cross Cultural Competency course
- Must locate and start analyzing case study material

References

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