Thesis Project Portfolio

DESIGN AND CONSTRUCTION OF A SUSPENDED FOOTBRIDGE FOR THE COMMUNNITY OF COILOLO, BOLIVIA

(Technical Report)

THE EFFECTS OF COMMUNITY INVOLVEMENT ON THE SUSTAINABILITY AND SUCCESS OF INFRASTRUCTURE DEVELOPMENT PROJECTS

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

There are many communities around the world that have a need for infrastructure that cannot be provided from within the community. One of the biggest infrastructures needs centers on the need for transportation infrastructure connecting communities to essential resources. Our capstone research attempts to address this problem in the community of Coilolo in Bolivia. Our group worked with Engineers in Action to design and assist in the construction of a suspended footbridge for the community of Coilolo in Bolivia. This footbridge will provide the community of Coilolo with access to essential activities and places, which were previously cut off by the Rio Coilolo during the rainy season. The river can overrun its banks for up to six months in this region of Bolivia, cutting a line in between the community of Coilolo and their direct access to a large portion of their fields and markets to sell their crops. The river also cuts off access to the nearest school for the community of Coilolo.

The community of Coilolo is responsible for providing EIA with adequate site information and a statement of community needs that can be mitigated by a footbridge. Also, the community of Coilolo will provide the main work force for the construction of the footbridge. The students, in this case, our capstone group, will be responsible for proposing a design for the suspended footbridge and preparing a construction plan for the bridge. It is key that our group relies heavily upon the community given information on their needs and the setting of the site. One STS theory that can be easily applied to our project is the Social Construction of Technology (SCOT) STS theoretical framework. This framework sees all technology development as a resultant of social action. This is the main framework that will be used to conduct my STS research. I expect that the research will enforce the beliefs stated in the SCOT framework. Our capstone group and EIA relies heavily on the community we are serving to provide us with information to nail down project specifications. I believe my research will show that without involving the community, infrastructure projects will fail to meet the true needs of the community.