Engineers' Obligation and Responsibility to their Communities

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Behind every engineer there is a person with a different story and therefore different motives. People study engineering for different reasons and intentions, and the same applies for the career paths people choose. However, at the end of the day as soon as someone gets an engineering degree and finds a job, they are assuming a certain obligation towards the people they are working for. This sort of responsibility is a reflection on the impact of an engineer's work, and how much they choose to assume that responsibility is a reflection on how much impact they expect from their work. But what does this look like on an everyday basis? How can we, as engineering students, learn to integrate this into the technical designs we learn to do at school and at work?

The first thing that is important to recognize is that the success of a design is subjective. Different people may have different intentions for a project, so it's important to define who will be impacted by the work. These people are the stakeholders, and their opinions should be somehow reflected in the design process and the final project. How their voices are heard and integrated is dependent on the engineers driving the project, and throughout the design process these opinions will have to be weighed against technical standards and analysis. An example of a factor of a project that should be considered is its sustainability. When the materials are being chosen and the project is being built how long are they expected to last? How will the materials and the design interact with the surrounding environment? This is up to the stakeholders and experts to weigh in on and oftentimes up to engineers to make judgment calls based on standards and regulations. Another factor that is important in our EWB projects is how the community's cultural practices and previous interactions with similar systems affect how they will use the new system. This may be part of an educational component of the project but something that should be considered before the system is finalized.

All in all, for any project there will be a number of factors that will have to be considered besides the technical engineering components. In working with international communities there may be factors that we wouldn't typically consider for projects in the US, and sometimes they may only be discovered in conversations with the stakeholders. A big takeaway from this should be that for most decisions in a project, it shouldn't be up to one person to decide on. There should be multiple people weighing in, and these people should have different interests and expertise. At the end of the day, while we may have the best intentions for a project, the biggest chance we have that it will be successful is if we bring a team of people together that have a diverse set of backgrounds and skills.