Student Interaction

**A16 course**

*Student asked:* Do we need to use the 3 cable style system? Can we come up with another way to anchor the balloon?

*I replied:* You are welcome to come up with alternative solutions to hold the balloon in place.

*Further discussion* with student brought up ideas of building structures to shorten the cables while raising the balloon.

**A17 course**

*Q:* If we choose to build in area 4 is it automatically assumed we are going to hit bodies, despite the low chance of that happening?

A: Good question. Yes, you will still incur the full negative social impact score. While you may not disturb a specific burial site, by choosing to build in the overall area, you have the potential of aggravating a local community group. This could result in them not wanting the project to move forward.  They don't like the idea that when people come to the site, there will be a wire that could interfere with their activities at the site. This is why there is the negative impact score associated with this region.

Q: What if I can't find any research/data to support things like schools or charging stations in the specific area my team wanted to provide power?

A: Do the best you can with locating specific power needs for your location. If you can't find data for your specific area, you can use data from another area, but be sure you make clear that the data you got is for a different area and where the data was for.

Q: Can we build a fence in the rhino migration zone?

A: Yes, you may add additional infrastructure to the community. However, you will need to include the projected costs for this infrastructure. You must also discuss how your additional structures will socially impact the community both negatively and positively. You can use any changes you make to justify changes to your proposed social impact score.

Q: Is there a better way to get data for the community about their thoughts and opinions on the proposed project before we pick where to build and what to power within the community?

A: If you were going to be building in the actual community then you would want to go and interview people/have focus groups/etc to determine the specific needs of the community. However, based on the limited time frame of this project, you can use the social impact scores and your research to do the best job you can when developing your proposed ideas. As you will find during your IQP, it is essential to work with communities when developing infrastructure, or other projects, to see what they need, not what you think they need. An amazing technical idea will likely go no where if people don't want to use it!

Q: For site 1 there is a 5% chance of hitting a gas pocket. If we rent equipment to check where the gas pockets are, and avoid the gas pockets when constructing, would we still receive the negative impact?

A: Interesting idea. If you can identify a piece of equipment that does this, and that can be brought to the region of sub-Saharan Africa in which your group is proposing the installation, then you will not receive the negative social impact score and you would only be assessed the $5000 construction cost. However, you will need to determine the rental cost and any costs and/or social/environmental effects incurred due to the delivery of the equipment to the local community.

H.O.W. A17 (we will have pictures of this soon. Do we need permission from students to use images?)

**Students did:**

At this station, you will be testing how helium balloons behave when anchored in three locations and blown by a fan. This station is designed to aid you in working on your first term project. Try out different balloon positions, anchor locations, and wind positions. See how the anchor "cables" behave in the different configurations with changing heights.

**Students were asked to answer the following question:**

Based on the locations you placed the balloon anchors at your H.O.W. station, list 1 or 2 concerns that would be important to the stakeholders in the regions that you selected. (i.e. you picked 3 zones, how would the people in that zone, or who care about that zone, react to the anchors being built in each of the 3 places?)

Student answer 1:

If the anchors were put near animals, the animals might get scared of it or not like it because it is something new and unfamiliar. The construction would take a while too, which would effect migration. If you are drilling in zone 1 there is a possibility of hitting a gas mine. It would be cheap but it would effect a lot of people if gone wrong. The possible burial site is risky because of upsetting people who have close friends and family there but it is also cheap.

Student answer 2:

We built one our anchors at zone 6, 7 and 2. Zone 5 will result in is losing money to pay the land owner (the cost is much higher than the cost for building in zones 7 and 2), but anchoring there would have a social impact score of +8. Zone 7 might cause building problems since the zone is swampy, but building there will help with mosquito and disease control. Zone 2 will disrupt the rhinoceros migration route, which will affect the animals and might definitely cause social unrest since rhinoceros are going extinct.

Student answer 3:

If we anchor our cables in zone 7, we will have a social impact score of +4. We will be reducing the mosquito population and help reduce disease. Another zone we can  construct In is zone 2. This has a social impact score of -3. This is on a rhinoceros migration route but it's low cost and will allow for us to have our turbine at a higher elevation. Because of this, we will be able to produce more energy, sell more energy, and pay off our costs quicker.

Student answer 4:

For zone 1, the potential high cost would be detrimental for the company. It would have negative health impacts if the pockets were breached. For zone 6, the initial cost is high, which is not ideal for the company. However, it is worth not destroying public land and potentially causing a safety hazard. For zone 7, the only negative impact would be destruction of the swamp. However, this would ultimately benefit the human population.

Student answer 5:

6 and 7 are good locations to use because point 6 would give people in the community jobs from the new company and point 7 would get rid of a mosquito ridden swampland which would result in a +12 social score.

The reason why we chose POINT 1 is because it seems like the least "risky" position for one of the cables to be which might negatively impact the balloon. The overall positives of this outweigh the negatives but the only issue with this combination is the overall cost of the project.

Student answer 6

The largest concerns that we would face come in the form of money and social concerns. In the rhino area you would be having a huge impact on rhino migration harming the environment if you build on the private land you have to shell out a ton of money in order to build there.

Student answer 7:

zones 6,7,and 8 would cause people to react positively. Zone 6 would be costly, but eventually the money would go back to the community and the power generated would make up for the cost. Zone 7 would reduce the mosquito population, so any mosquito enthusiasts would be unhappy. Zone 8 would not have any impact because the school would be placed in zone 3 unless residents really wanted a school in zone 8.

Student answer 8:

zone 2 there is a cheap cost to build but it would potentially ruin the migration route. We could potentially put it at the corner **of** the route to minimize impact.

Zone 7 swamp, we would help reduce mosquito population but might be challenging to build in swamp.

Zone 6 private, we would have to pay the landowners but they could make a positive contribution to the community after they receive their compensation but one thing to think about would be how tight the lines are and how high the balloons are because of safety concerns.

\*Student answer 9:

We picked zones 6, 7, and 8. Zone 6 is very expensive, which people would likely be hesitant about, although it will provide a couple jobs to the community. The people who get jobs would approve, but those who don't get a job might not benefit much from that and only deal with the cost. Zone 7 is good because it's relatively cheap and will also reduce the mosquito population for better health. Zone 8 is okay to build in since it's cheap and if we leave zone 3 open, there are no issues with the school location. In fact, zone 3 is the better option for the school anyway.

Student answer 10:

There are concerns about the physically building the cable bases, so when we picked zone 7,8, and 2, the cables stopped is from building schools in zone 8. Schools are methods of yours mobility, so the people in the zone would want their school to make their kids smarter. In zone 7, building a cable reduces mosquito populations, making their be fewer disease centers for people in the region, which they would want. Then some 2 doesn't necessarily effect people but it does event rhinos, which could bother activists.