Olivia August
Nicaragua, Research Grant
Summer 2016

I approached my research endeavors with an ignorant confidence. Despite the number of stories I had heard from previous grant recipients of the many challenges they faced, I concluded that these warnings did not apply to me. I began my summer with a strict timeline and a laundry list of goals I wanted to accomplish in my eight weeks abroad. After only a few days in Nicaragua, I was quickly faced with many unanticipated challenges. The ambitious timeline of my original research proposal became obsolete. I was discouraged and disheartened feeling as though I had failed. However, with the guidance of my mentor and teammates, a reevaluation of my goals and limitations, and an incredible support team in Nicaragua, I was able to adapt my initial plan and accomplish much of what I had originally intended. This report will describe the progression of my research from the original proposal, through my summer experience, and my reflection after my return. I will reflect on the evolution of my research and the outcome of my eight-week experience.

In my original proposal I planned to create a site evaluation tool through collaboration with students in Nicaragua during the spring semester. The goal of this tool was to assess the perceived need and conscious want for a pedestrian footbridge of rural communities in Nicaragua. Throughout the Spring semester, I communicated with the students at the American University of Managua, UAM. We spoke bi-monthly through Skype and additionally exchanged several emails. However, we found collaboration through these means nearly impossible. We tried asking for input on elements that should be included in the tool. Then, we tried making a sample tool and asking for revisions and feedback. Both of our efforts were unsuccessful. The

students were unsure what should be included and only had positive feedback. I soon realized that the tool I would be traveling to Nicaragua with was far from the product of a collaboration. Instead, it was entirely my own. Eager to get out to communities and start assessing, I considered using this tool of my own creation. Days before I left for Nicaragua, I sat down with the founder of non-profit Engineering to Empower, E2E, Dustin Mix. He listened to my goals and plans for this summer and was immediately wary. He warned me that what I planned to accomplish was very ambitious given my time constraints. Dustin asked me to take a step back and hone in on my principal goals for this research. Then he suggested I take this focus and let it lead my research for the summer. I followed his advice.

I concluded that my focus of this summer was to create a tool to accurately assess rural Nicaraguan communities want and need for a pedestrian footbridge and to collaborate with Nicaraguan students and communities to create and re-prototype this assessment tool. This meant starting over. I spent my first weeks in Managua meeting with the faculty and staff that I had been corresponding with and explaining my purpose and research goal. We then held a series of informational sessions and classroom visits to reach out to interested students to assist in this research. Following these, I held a series of hour-long design thinking workshops to create a new tool. Each workshop, would have a large question that we wanted to answer. For example, how do you an identify a desirable partner community? I would break this question into smaller easier to answer questions such as what makes a successful partnership? Then, I gave each of the Nicaraguan students at the workshop a stack of post-its and a pen and instructed them to brainstorm for one minute and write down everything that came to mind on separate sheets. After a minute each student would share and explain their ideas and place them on the wall under the

initial question. We would then as a group discuss and organize the collage of colors and ideas posted on the wall. We would form sub-categories that the ideas fell into. Finally, we took these sub-categories to create themes and questions that we wanted to include in our tool. After four workshops we had answered: how do we identify a desirable partner community, how do we perceive need, how do we assess true want, and what is the best way to approach communities for assessment. I took the outcomes of our workshop, and formed them into a preliminary assessment survey. The result I created was largely not my own. The questions, ideas, and format that the tool was created from came from the students' workshop answers. I knew that this tool had taken shape from true collaboration and I knew for that reason it would be more valuable and successful.

After the tool was created, I needed to select a team of students that were involved and interested to work with me to conduct our survey in communities. I originally created an application for interested students to fill out. However, I found that by the end of the workshop series it was easy to identify the students that were committed and interested in this project. Our team consisted of myself, an engineering student, an architecture student, an international student, and the assistant director of international programs at UAM. For the next month, our team traveled all over the country to conduct our research. During my trip, the students were in the middle of finals and beginning their summer break. This made it nearly impossible to find times that worked for all five of us. We traveled to communities on weekends with available members of the team.

An additional hurdle I faced this summer was the task of finding communities. I reached out to other non-profit organizations, Techo and the Foundation for Sustainable Development. Both seemed very excited and interested in the research, but failed to produce communities for us to approach for our research. Determined to find communities we decided to change our approach. We spoke with locals and consulted maps to find additional communities to approach. In the end, we were able to assess five communities all over the country, ranging in need and want.

After weeks spent creating the assessment tool and several more spent assessing communities, we were able to make changes and adapt our prototype, Appendix A. The conclusions we were able to make regarding identifying a desirable community were: signs of self-organization, cooperation, an established leader, and previous successful community projects. We concluded that a community that would be suitable to partner with to build a pedestrian footbridge would have to be cohesive, organized, and motivated. We asked questions in our tool that targeted these traits. For example, we would ask each household who the community leader was to see if it was consistent. Additionally, we asked about community relations and connections to see how the community interacted with each other. We also asked about regular community meetings or past projects that the community had completed. These questions allowed us to assess the organization and motivation of the community. Then, we determined a series of guiding questions to assess need in a community. We would ask about the issue of flooding in their community; the frequency, severity, and the impacts of flooding on their lives. Based on their responses, we could perceive the level of need in that community based on each of the household responses. Next, we approached the question of does this

community want a bridge? We asked the community if they had developed solutions to their flooding problem, without mentioning a bridge. We found that for some communities a bridge was not the solution to their flooding problem. Finally, we tackled the question of what is the best way to approach and assess communities. This was something we really fine-tuned through trial and error. Reflecting on the various ways that we approached communities, we concluded that we were best received when we walked through the community with a community leader. We found that we were able to reach more households and the people we approached were more open to conversing with us when we had a well-known community member with us. Additionally, we found that we were able to have more authentic conversations and were able to get more information from households we surveyed without our questions. By our fourth and fifth communities we had all memorized the questions and chose to deviate from our strict question and answer format. We found that through authentic conversation we were able to elicit the answers we wanted and more. Also, throughout out our assessment process, we re-prototyped our survey: adding and deleting questions, changing wording, rearranging the order, and adjusting the question type. We all felt that our final conclusions and our final prototype conveyed the culmination of our understanding and research.

In conclusion, this summer may not have panned out as I had originally anticipated, but I was able to collaborate with an incredible team of Nicaraguan students, I was able to interact with Nicaraguan communities all over the country, and leave with a thoughtful and tested assessment tool. The trials I faced throughout the summer, taught me how to adapt with always keeping my ultimate goals in mind when making decisions. I may not have assessed 12 communities as I had originally planned, but I believe my focus on creating a quality assessment survey was achieved. At the end of my trip, I was able to sit down with my whole team and

discuss the communities we visited and the tool we had created, Appendix B. I am incredibly thankful to Kellogg for giving me the opportunity to work with incredible students, meet amazing communities, and research a topic I feel very strongly about. I am fortunate to have recently been approached by the non-profit, Bridges to Prosperity, about integrating my tool and research into their community assessment procedure.

Appendix A

Encuesta del Contacto

Sección 1 – contacto

¿Su comunidad ha estado involucrada en proyectos anteriormente?

¿Cuál ha sido el resultado de estos?

¿Lo han hecho a tiempo?

¿Hubo conflictos en el proceso? ¿Cómo cuáles?

¿Hubo liderazgo de parte de alguien?

Si respondió si, ¿de quién?

¿Cómo se siente respecto a proyectos organizados por extranjeros?

¿Cuál ha sido su experiencia trabajando junto a extranjeros en un proyecto en su comunidad?

Sección 2 – contacto

Podría dibujar un mapa de su comunidad y señalar los siguientes puntos

- Mercado

- Escuela

- Iglesia

- Centro medico

- Parada de bus

¿Hay comunidades al otro lado del rio?

¿Cuántas personas cree usted cruzan el rio/cauce todos los días?

Encuesta de la Comunidad

Sección A - todos

¿Cómo describiría a los habitantes que viven en su comunidad?

¿Qué considera que es lo mejor de su comunidad?

¿Qué es algo que haría usted para mejorar las relaciones en su comunidad?

¿Hay conflictos en su comunidad?

Si hay conflictos en su comunidad, ¿Cómo se resuelven?

¿Cuál es el proceso?

¿A quién acuden para resolverlo?

¿Su comunidad tiene un líder?   SI / NO

Si respondió si, ¿Quién es?

¿Cómo toman decisiones en su comunidad?

¿Toman en cuenta su opinión?

¿Siente que es un proceso efectivo?   SI / NO

Si respondió no, ¿Por qué?

¿Cómo se entera acerca eventos, proyectos o noticias en su comunidad?

Seccion B - todos

¿Qué proyecto le gustaría ver en su comunidad?

¿Qué tan serio cree que son las inundaciones en su comunidad?

- Prioridad
- Muy serio
- Serio dependiendo de la temporada
- No muy serio
- No es problema

Si pudiera realizar algún proyecto para resolver las inundaciones, ¿cuál sería?

¿Su comunidad ya ha pedido alguna solución para las inundaciones?

¿La última temporada de inundaciones le afecto su rutina diaria?   SI / NO

      Si respondió si, ¿Cuántos días?

¿Qué tan alto tiene que estar el rio para decidir no cruzarlo?

- A la pantorrilla
- A la rodilla
- Más arriba de la rodilla

¿Cuántas veces en el año subió a este nivel?

¿Cuándo el rio llega a este nivel, que tan difícil es cruzarlo?

- Imposible
- Peligroso pero se puede pasar
- Pasable

¿Conoce a alguien que se ha lastimado cruzando el rio en los últimos cinco años?   SI / NO

      Si respondió si, explique el caso:

¿Qué tan seguido cruza el rio?

¿Para qué cruza el rio?

Si cruzan el rio para llegar a centros de salud, escuelas, mercados, trabajos o paradas de buses preguntar las siguientes preguntas

Sección C - todos

¿Cómo llega a su destino? (bus, motocicleta, caminando, bicicleta)

¿Cuánto le toma llegar a este lugar? (en minutos)

¿Hay alguna otra ruta para llegar a este lugar?

      ¿Esta ruta es más larga?

Durante el último año, ¿Cuántas veces no pudo llegar a su destino?

¿Qué hace cuando el rio subo demasiado?

- Intenta cruzarlo igual
- Se va por otra ruta
- Encuentra alternativa (otro colegio, centro de salud, etc.)
- No va al lugar

Appendix B

Community 1: Las Caleras/ Los Nortenos de Santa Teresa

Want
- Really want it
- Bridge almost always mentioned as a project they wanted
- High priority

Need
- Two rivers they need to cross
- Schools, health centers, markets, bus stops, etc. on the otherside
- They have unsafe crossing
- Two rivers: Ochomogo needed the bridge more
- Kids missed school, parents take kids
- If they had an emergency, it would depend on the river
- River rises above the knee and is pretty fast
- 50 people cross a day
- No other way to cross

Community Organization and Leadership
- Well-organized
- Meeting place
- Held a meeting when we came
- Everyone knows each other and communicates frequently
- Our contact was the leader

Community Relations
- A lot are related to each other
- Problems but they get solved

Feasibility
- River deep enough for a bridge and span was extremely wide
- Materials may be hard to deliver

Perceived Alcaldia Relations
- Not very good
- Possibly political
- Haven't received help
- Don't have water or electricity
- Ignored by alcaldia

Manual Labor

- 10 families, mostly women, all would come and help
- Have already worked together on a construction project

Community 2: El jobo en area del San Ramon

Want
- All people we talked to wanted a bridge
- They also wanted **property rights** and not live on the private property
- Have talked about past people coming and promising a bridge
- Have already asked for a bridge/ built a replacement

Need
- El jinete is in the mountains and needs to cross to get to medical center
- All the families need to cross for church, school, medical center, markets
- They have a very unsafe bride right now
- They built their own bridge and are still using it
- Always a river
- Three times a year they cant cross: October
- Flooding into their yards
- No other route

Community Organization and Leadership
- Community in El Jobo were very close and connected
- Community has meetings
- Isolated from the side of the river, cut off from contact and notices
- Don Porfilio not community leader but he is the most in contact with them
- And they have a community leader but he doesn't listen or do anything

Community Relations
- No conflicts
- All got along

Feasibility
- Flatter area
- Hard to build bridge with freeboard
- Could get cars across

Perceived Alcaldia Relations
- Asked for things but hadn't received
- Seemed disconnected from their alcaldia

Manual Labor

- 80 + plus people cross it, 10 families in el jobo but lots more people cross
- Have built their own latrines with a Swedish organization

Community 3: Las Escaleras 2

Want
- People right near the river really wanted
- There are 3 rivers that they need cross
- People picked the river closest to them
- La Hacienda, El Diamonte owner is very helpful when it rains helps community members near river
  - Moves rocks and sand

Need
- No other way to cross
- Las Escaleras 1 has the schools church health center
- Times the children school
- 15 families in las escaleras 2
- People close to the bridge need and want a bridge
- Rainy season, in October, they have trouble crossing

Community Organization and Leadership
- A lot of them said different leader names
- Community leaders are very hard to contact/ meet with
- They meet but the community isn't invited, some people don't show up
- Very unorganized community

Community Relations
- People around the first river got along well near the pastor
- The owner of another hacienda, further up has helped them build a basketball court
- The community got along better now

Feasibility
- Big cars can cross
- Flatter where the road crosses but unsure what it is like further up

Perceived Alcaldia Relations
- Asked for a bridge a light post and a bridge and had never heard back
- Seem disconnected
- Bad communication/ relations

Manual Labor

- Las haciendas, 15 families, and 70 people cross a day

Community 4: San Claudio 1 & 2

Want
- Can cross when above head
- They all wanted something to fix flooding: deeper canal, or better road, drainage
- Some asked for a bridge
- Not a high priority, only floods when it rains a lot

Need
- Takes a lot of rain for it to flood
- Another route instead of crossing: longer but not significantly
- Cross everyday regardless of how high it is
- Have not really had problems
- Some cross for school and markets, others only cross to see family

Community Organization and Leadership
- Not very good organization
- Committee leaders that met for meetings
- They learn about notices from others
- The decisions are made without them

Community Relations
- Some say it was good others said it wasn't that good
- Not lots of communication between communities
- Spread out and not very closely connected

Feasibility
- Flood plain
- Water collected
- Very flat
- No bridge possibility

Perceived Alcaldia Relations
- Alcaldia built the first bridge and planned on building another
- Never came back to build, marked tree
- Alcaldia had maintained the road for them

Manual Labor
- Good number of families
- Hadn't worked on projects together before
- Lots of fincas in the area

Community 5

Want
- They used have a problem
- It was solved

Need
- None
- Got a bridge a year ago from the alcaldia

Community Organization and Leadership
- very well organized
- leader knew everyone and had good communication with families
- youth, female, male representatives that met once a month

Community Relations
- community gets along pretty well
- good communication and relations
- know and communicate with their leaders

Feasibility
- very small cause
- not deep

Perceived Alcaldia Relations
- really good
- they get the projects they ask for
- have good contact with the alcaldia to ask for projects

Manual Labor
- work really with outside organizations to help with construction and any well that they can

Survey

- walk around community leader or contact
- try to approach it more as conversations versus question and answer
- making sure we are not promising anything; we are here for research
- good length
- good to have split between the contact and the rest of community