

# ETHOS 10 Week Immersion Sabana Grande, Nicaragua

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### Abstract

Two students from the University of Dayton ETHOS program partnered with Grupo Fenix, a non-profit non-governmental organization in Sabana Grande, Nicaragua. The Students worked with community members and the staff of Grupo Fenix to visit community members conducting interviews and gathering GPS data as part of an initial needs assessment as part of a larger project to implement composting latrines in the village to improve sanitation, and sustainably deal with human waste. The group surveyed 409 homes and the GPS coordinates will be made into a map via GIS for Grupo Fenix.



Figure 1-A typical home in this region

### Grupo Fenix

Sabana Grande is located in the northern Totogalpa region. Totogalpa is one of the poorest regions in the country, and many family do not have access to electricity or running water. Grupo Fenix has deep roots in Sabana Grande, having worked in the community for over 10 years. The main goal of the organization is to promote healthy and sustainable practices. The organization has successfully implemented many projects including solar panels, improved ovens, solar cookers into the community, and most recently composting latrines.

### Project Description

The current method for sanitation in Sabana Grande is pit latrines. These are basically just holes dug into the ground that are covered when full. This is not a very sustainable system as new latrines are expensive and need to be dug very often.



Figure 2: Pit latrine

After community meetings and collecting data it was determined that urine diverting composting latrines would be the best sanitation solution for the Totogalpa region.

The first step of the project was to teach the community about the latrines. This was done through several community meetings and home visits. The latrines are a simple technology. They have two chambers, while one chamber is in use the other is composting. After about a year, the compost can be removed and used. The key concept behind these latrines is that the solid material stays dry. Urine diverting seats are used to do this.



Figure 3: Back of Latrine



Figure 4: 2 Chambers of Latrine

### Results & Discussion

The most important information the group wanted to collect was the GPS coordinates. This would allow them to lay the GPS points over a map to give Grupo Fenix a good idea of what their community looked like.

The data was collected using the team member's smartphones. While connected to the internet the group members downloaded a map of the area that they could then use offline as cell service was unavailable to them. The built in GPS in smartphones does not require service to find the user's coordinates. With this capability, the group members could find their current location at a given house and record their position to put into the excel sheet at a later time. An example of these excel files is below.

Figure 2-Standard Pit Latrine

The second most important piece of information was the type of sanitation families were currently using. During the interviews community members were asked what type of latrine they were using was how it was and when the community member planned on building a new latrine. With this information the team and Grupo Fenix will be able to prioritize which community members have the most need when the project fully materializes.

### Recommendations

- The importance of effective communication across cultural differences. This is necessary to understand people and their circumstances.
- The team was somewhat naïve, and came to Nicaragua with lots of assumptions. For some people culture is everything to them and the team had to learn how to navigate the culture effectively without offending or being perceived as acting superior.
- Language skills. It would have been helpful for the team to put in a stronger personal effort in learning Spanish before their immersion. It was imperative for the project especially as the students were going house to house, communicating with community members all day.

### Next Steps

- Community is fully mapped and demographic analysis is completed as all data collection is now complete.
- WASHtech: Technology Implementation Protocol (TIP) is implemented for the next phase of the project.
- A grant application to secure funding for phase 1 of TIP is near completion. Additional grants may be pursued.

### Acknowledgements

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