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## Engineers Without Borders Newsletter

Engineers Without Borders

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The community of Dulce Vivir

## Update on the Project

In March 2013, EWB-UMaine travelled to Dulce Vivir de Copan, Honduras to ensure smooth operation of the wastewater treatment system we built there over the past two years. A 10-foot by 14-foot shed was constructed to house a tank mounted on a trailer, which was used to empty the septic tanks and transport the waste to a nearby field for safe land application. Several swales were constructed and improvements were made to the curtain drains to divert storm water around the treatment system. Extensive work was done with the operations and maintenance team in the community to clean the septic tank filters, pump the septic tanks and modify the operations and maintenance manual to suit their needs. Lastly, three more vents were added to the collection system for improved ventilation.

Along with the construction aspects of the project, EWB-UMaine gathered health data and interviewed each community member about his/her satisfaction with the septic system. Residents were generally happy with the system, although there were some problems with odor at the houses nearest the treatment area. We think these issues have now been addressed with the vents and improved drainage. We also tested water for fecal bacteria to assess the state of sanitation in the area. Water samples were from household taps and pilas (water storage barrels) in the community, the stream that runs along the septic system, and a spring from which many community members get their drinking water. We found that the tap water was more contaminated than the spring water, and that storing the water could decrease the coliform counts, especially if the water is exposed to sunlight, or increase contamination if it is not carefully handled. We also confirmed that the treatment system does not increase contamination of the adjacent stream.

The trip was as fun as it was productive. On Sunday (a typical day off for workers in Dulce Vivir) we took the day to visit the Copan Ruins. We also greatly enjoyed working with the community members and visiting with the kids. Overall, it was a wonderful experience, and we accomplished much for the community of Dulce Vivir.

EWB-UMaine has greatly enjoyed our work with Dulce Vivir. However we are sad to say that this likely will have been our final trip to the area due to rising safety concerns about travelling to Honduras. We are confident that the community will maintain the system well and we will stay in contact with them. Currently the chapter is in the process of finding a new location for our next project, and we are excited about what the future holds!

## Meet some Community Members of Dulce Vivir

Natividad Ortega, known as Tiva, is married to Rigoberto Alvarado, the President of Dulce Vivir. She was born in Santa Rosa and grew up in Dulce Nombre. She likes to work around the house, and contributes to the family income by cutting coffee and making cigars to sell in Tegucigalpa, Choluteca, and Danli - where the family comes from originally. Tiva acts as the "collective mom" for Dulce Vivir. While we were there, her house was always open for us and she often brought watermelon for the workers, or even a shirt to protect us from the sun. (RIGHT: Tiva and her Grandson, Luis)



Wilson Armando Ortez is part of the Operations and Maintenance team for the septic system. He is smart, hard-working and very good with his hands. Unlike many young men his age (24), he doesn't go out at night, but prefers to try to improve his life and living space. For example, he designed and built both the plumbing and electrical systems for his house. He was born in Dulce Nombre but prefers the quality of life in Dulce Vivir, which he finds calm and peaceful.

Jose Marvel is 9 years old. He was born in Dulce Vivir and has lived there his whole life. He likes food, going to school, playing with his friends, and eating watermelon. Marvel also says that he enjoys doing chores for his mother and likes to play ball, hide and seek, and sing. He likes to help his father, and when he grows up he wants to be a mason, just like his dad. He is also very good at making animal noises!



ABOVE:  
The EWB-UMaine travel team with Dulce Vivir community members in front of the shed.

LEFT: Digging an upstream swale.

### Mission Statement

University of Maine Engineers Without Borders strives to foster a worldwide cultural awareness and a strong sense of volunteerism in today's future leaders through sustainable and community-driven engineering projects.

### Donors

Some of our corporate and individual (\$500+) sponsors:

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