Pedal Power Empowering Rural Communities in Guatemala
San Andrés Iztapa, Chimaltenango, Guatemala
United States- Savannah College of Art and Design
Project Lead: Javier Chau Team Members: Emma Wosje, and Alyx Price

Summary, a two-sentence summary of your project

Our team collaborated with Maya Pedal, a Guatemalan NGO, to improve the design of a pedal-powered washing machine and prototype a pedal-powered plastic shredder. These two machines were then donated to two different areas- the washing machine was sent to a community in Cobán, Alta Verapaz to simplify the labor-intensive task of laundry for women and the plastic shredder was donated to a girls empowerment group for the purpose of recycling old plastic and making new things.

Project Description

● How did you decide what issue(s) you wanted to address and what approach(es) or strategies you chose to implement in your project?

Income and quality of life vary greatly among Guatemalan communities- for this project, we wanted to design something to help bridge this gap. Our goal was to provide access to the same opportunities with fewer financial resources. For this reason, we wanted to create pedal-powered machines that would improve daily tasks and make economic opportunities.

● Why did you choose your host site? In what ways did local relationships support you or contribute to the project?

Guatemala was our host site because the Project lead, Javier Chau, is Guatemalan and very familiar with the country, its customs, and issues. For his High School senior thesis, Javier researched clean energy, sustainability, and recycling in Guatemala. During that time he met Maya Pedal and its CEO, Mario Juarez. At the time he had plans to work with them and develop a new pedal-powered machine but sadly he could not fit it into his schedule at the time. Now, 3 years later, he has reconnected with Maya Pedal to produce this project. From day one Mario emphasized the importance of becoming like a family at work. He held true to his word and we met his entire family on the first day of arriving at a large lunch. Over our stay we continued to grow close to Mario, his family, and friends- we ate many meals together, played soccer, exchanged languages, and shared talents. Mario's head technician and only employee, Huber, taught us how to use metal shop tools, weld, and build pedal-powered machines.

● What changes or adjustments did you make to your original plans, and why?

There were some adjustments to our schedule throughout the project as time was always an obstacle for us. We were working on two bikes simultaneously- improving the performance of the washing machine design while starting the creation of the plastic shredder. The trial and error factor of both machines greatly impacted our timing. More specifically, our original plastic shredder design had to be rearranged. Originally the shredder was placed to the side of the bike wheel, however, we had to move it above the wheel. By re-locating the shredder blades the bike can pull more sufficient force to break down rough plastic.

● Did other fundraising efforts contribute to your project? What were they?

Yes, we had a GoFundMe that was campaigned for on our Instagram and sent out amongst family and friends.
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● Are there opportunities for continuing your work on this issue? If so, please describe.

Our relationship with Maya Pedal and Las Niñas Liberdan will not end with this project, but rather continue in a collaborative online format. We plan on building a pedal-powered plastic shredder in Savannah, Georgia, our home base, so we can work with Las Niñas to help prototype new products made from shredded plastic.

Reflection

● How do you define peace?

Peace is equal access and opportunity.

● In what ways might your project contribute to peace? What changes occurred? Short-term? Long-term?

We decided to address the issues of accessibility in Guatemala. In most of Guatemala laundry is still done by hand by either a maid or a woman in the household. The task is labor intensive and time consuming, however, electric washing machines are expensive and most homes are not made to house one. The pedal-powered washing machine is perfect for those looking to simplify tasks and have more time in the day for other things such as leisure, study, or work. As for the pedal-powered plastic shredder, recycling is not a widely available service in Guatemala because of this the streets, rivers, and parks can become littered with plastic. Shredding plastic is not a new concept but by creating a machine without the need for electricity it is more accessible. Once the plastic is collected it can then be shredded and the pellets can either be sold or melted into new products. One machine can help communities recycle and create some profit in a self-sustainable long-term way.

● What did you learn about the dilemmas, challenges, or conflicts that underlie the targeted issues or utilized approachesestrategies?

Our team learned to appreciate and be satisfied with the work achieved in a short time. We also improved our emotional tools by practicing understanding and appreciation for other cultures and their social structures. Gendered tasks are connected directly to cultural norms and to change them requires...

● Has your project changed the way you think about the world? How has the project changed, challenged, or inspired you?

Beyond providing new shop skills, this experience conditioned us to be more adaptable and resilient to new circumstances. The project also helped us understand the value of relationships and community. Human connection is the flame to gasoline that can start a real change in the world.
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Personal Statement

● A brief statement, suitable for use as a quotation, addressing the value of this project and what you have learned. Indicate the student’s name (yours or your teammates’) for quote attribution.

“This experience was more than a project. It helped me open my eyes to the value, appreciation, and impact of human connection. Being able to help and interact with communities from different cultures, backgrounds, and histories made this summer unforgettable and enriching. In the end, I am pleased with the humanitarian work we did and will continue to do.” - Javier Chau