

# Recycling Center Ramp & Water Bottle Globe

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## Abstract

- Recycling center at Familias Especiales needed a way to transport heavy bags full of recycled material down a long hill.
- Recycling center wanted a decoration/symbol to represent their work and sustainable mission.
- Partnered with Global Glimpse that provided funding to complete the projects.
- Completed both ramp and symbol with Global Glimpse.

## Introduction

- Familias Especiales is a non-governmental non-profit organization that works with people with disabilities and their families located in Matagalpa, Nicaragua.
- The goals of the organization is to help these families attain basic resources and services in the areas of health, education, employment, recreation, physical accessibility, transportation, and spirituality.

## Project Description

### The Ramp

- Goal: Improve the process of transporting recycled materials.
- Researched pulley and slide systems.
- Chose a slide design based on the need for a temporary solution and structural integrity of the building.
- Researched materials based on environmental constraints.
- Integrated in a mural design on the slide to act as decoration when slide was not in use.
- Constructed a slide from pieces of plywood and a frame of recycled wood material.
- Varnished boards to make weather resistant.



Figure 1: Sanding



Figure. 2: Varnishing

### The Ball

- Goal: Create a decoration/symbol to represent the organization and be made from recycled materials.

## Project Description

- The organization wanted a ball made from chicken wiring and recycled bottles.
- Calculations to determine the size of the ball and number of bottles needed to fill it.
- Constructed the ball by welding a frame and securing wiring to it with zip-ties.
- Bottles placed in the wiring and spray painted.



Figure 3: Creating the ball



Figure 4: Welding frame

## Results & Discussion

- Both the ramp and ball were successfully created under budget.
- Ball appeared misshapen and was not visually appealing.
- Bags did not slide all the way down the pieces but ramp withstood the load from the bags.



Figure 5: Painting bottles



Figure 6: Finished Ramp

## Recommendations

### The Ball

- A less ductile material should be used for the frame.
- A larger diameter could be created since the weight of the frame was minimal.

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