HURRICANES AND AGRICULTURE

Since 2017, Puerto Rico has been hit with many hurricanes, the largest impacts coming from María and Irma in 2017 and Fiona in 2022. Throughout our time in Puerto Rico, there were many discussions of the damage and devastation done by these hurricanes. From El Yunque National Forest to Old San Juan, the lasting impacts of the hurricanes are felt and remembered. In a research study done by the USDA and the Economic Research Service, Puerto Rico crop sales decreased by $82 million and the number of small farms under 10 acres decreased by about 50 percent following the two large hurricanes in 2017 (Kenner et al., 2023). Finding ways to improve agricultural production methods that reduce hurricane impact is important for Puerto Rican agriculture as climate change changes the intensity of tropical storms each year.

As an island in the Caribbean, Puerto Rico relies heavily on importing food to support the wants and needs of the citizens. When there have been large hurricane events, importing food can be challenging or impossible for weeks after the event. Agricultural facilities have to be secured into the ground with rebar to prevent destruction. To reduce impact from the hurricanes, each fence post was dug 2.5 feet deep and filled with concrete. The medicinal garden bed inspired by the Taino symbol for the Sun, designed by Tai Renee King, Photo Credit: Jamon Jordan

PROJECT OVERVIEW

During our time in Puerto Rico, we planted 45 endemic forest trees with the non-profit Para la Naturaaleza, cleared land and planted banana trees at a local farm, collected garbage in Toro Negro Forest and Cabo Rojo National Wildlife Refuge, and created a medicinal garden on the grounds of Universidad Interamericana Barranquitas. The medicinal garden was built with hurricane season in mind. Tai Renee King, Carolyn Crofford, Myles Tallmadge, and David Bugarin led the crew through resilient fence installation, gravity-based irrigation, and secure raised beds inspired by waves and Taino sun motifs. I learned how to mix and pour concrete, dig fencing holes, and more. To reduce impact from the hurricanes, each fence post was dug 2.5 feet deep and filled with concrete. Cinder blocks were used to create the raised beds and secured into the ground with re-bar.

DISCUSSION

There are small fincas and other agricultural businesses trying to change the future of agriculture in Puerto Rico, but when hurricanes occur, they can be wiped out or unable to afford rebuilding (Kenner et al., 2023). When speaking with fellow Oregon State student Nicole Guevara, who lives on a finca in Puerto Rico, she spoke about WHEN the hurricanes hit they would have to rebuild, not IF the hurricanes would affect them. This is a harsh reality, but agricultural community members can come together to share methods on hurricane destruction reduction.

During the construction of the garden, we realized we did not have enough tools for each student to be helping, so Para la Naturaaleza and Jose Rafael Medina Fuentes from a local plantain farm volunteered their tools. To me, this represents the importance of helping the community and the community helping you back.

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