Puerto Rico: Budding food resiliency and farm crops

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Overview
Puerto Rico, a Caribbean island in the northeastern Caribbean Sea, has an ideal climate for agriculture. The island’s unique topography and diverse ecosystems provide a broad range of soil types, from fertile volcanic soils to limestone and sandy soils, making it an ideal location for cultivating various crops. Despite its immense potential, Puerto Rico’s agricultural industry has faced numerous challenges throughout history, including colonization, industrialization, and natural disasters. The island’s indigenous Taíno people had practiced agriculture for centuries, growing cassava, yams, sweet potatoes, and other crops. However, with the arrival of the Spanish colonizers, the Taíno way of life was disrupted, and many of their farming techniques, crops, and knowledge were lost. During the 20th century, the United States industrialization era significantly impacted Puerto Rico’s economy and agriculture. The Merchant Marine Act of 1920, also known as the Jones Act, made importing goods to Puerto Rico more expensive, making it challenging for local farmers to compete with imported produce. As a result, many farmers abandoned their farming lifestyles and moved to urban areas to find work. In addition to economic challenges, Puerto Rico has faced numerous natural disasters that have devastated the island’s agricultural sector. Hurricanes Maria and Fiona are prime examples, with both storms causing widespread destruction of crops, farm equipment, and infrastructure. Despite these setbacks, there is renewed hope for the future of agriculture in Puerto Rico. Several initiatives are underway to revitalize the industry and promote sustainable farming practices. These initiatives include the development of new crops, the restoration of traditional farming techniques, and the creation of new markets for locally grown produce. With these efforts, the island can re-establish itself as an agricultural hub, providing fresh and healthy produce to its residents.

Plaintain farm and lab
My recent visit to a plantain farm owned by Jose Rafael Medina Fuentes and Blanca I. Cordova Diaz was a learning experience. I got to understand the techniques used to cultivate crops on steep terrains, as well as the process of preparing plantain seeds and maintaining crop health. This experience was a perfect complement to my tour of the InterAmerica University of Barranquitas laboratory, a key player in the collaboration between science and farm work. Here, I observed scientists studying lab-grown plantain seeds for genetic features that could improve pest resistance and hardiness against climate change, drought, and disease. The programs at UPR Barranquitas provide valuable support to plantain farmers, including the trading of farmers’ plantain seeds for lab-grown seeds, soil testing, and infrastructure. Despite these setbacks, there is renewed hope for the future of agriculture in Puerto Rico. Several initiatives are underway to revitalize the industry and promote sustainable farming practices. These initiatives include the development of new crops, the restoration of traditional farming techniques, and the creation of new markets for locally grown produce. With these efforts, the island can re-establish itself as an agricultural hub, providing fresh and healthy produce to its residents.

Campo Caribe: Lettuce hydroponics facility
I was excited to visit Campo Caribe, a multi-variety hydroponics lettuce growing facility that thrilled me. As someone who loves lettuce on their sandwiches, I know how hard it can be to find fresh and non-rotten produce in stores. Often, imported lettuce and produce have already started showing signs of rot or beginning spoilage, making it difficult to enjoy as you need to cut off any rotten parts. Campo Caribe’s goal is to produce good quality fresh lettuce for the island of Puerto Rico, with no goal of exporting their produce out of Puerto Rico. Although Campo Caribe’s current primary focus is producing lettuce, they did mention that their vision did not stop at lettuce, and they wanted to grow more varieties of fresh produce for the island. I was fascinated by the intricate hydroponic system they had set up and their use of Styrofoam as a flotation device for the lettuce sprouts and water coverage to minimize evaporation. The facility’s high-tech water monitoring systems, minimal chemical application, and special attention to constructing a facility prepared for hurricanes give me hope for future production facilities and show Campo Caribe’s dedication to providing high-quality lettuce for the island.

Reflection
As an individual committed to constructing a regenerative farm and advancing Puerto Rico’s agricultural knowledge, I have faced numerous obstacles and hardships, such as mongoose killing our chickens, no running water, relying solely on rain water in a cistern or electricity on the farm, and managing raw land. I am not discouraged, alone, and uncertain about the path forward. However, participating in this program and connecting with inspiring individuals has instilled in me renewed courage and hope for the future of Puerto Rico’s agriculture and farmers. During our visits to various locations, I encountered fresh ideas and a sense of resilience, particularly at the plantain lab, tree nursery, and lettuce hydroponics farm. These organizations are devoted to making a meaningful difference in the lives of Puerto Ricans and farmers. This trip has reoriented me towards my ultimate goal of creating a safe and welcoming regenerative farm that serves as a resource for our community, showcasing the potential of regenerative farming in Puerto Rico and fostering skills to reduce our reliance on imported food. I will take everyday poco a poco.

Where do we go from here?
The next step to bring Puerto Rico closer to food stability is encouraging education and agricultural opportunities for the younger generation and providing accurate information to the current farming generation. Not everyone can afford to buy land and become a farmer, but there needs to be more outreach to become part of the agricultural advancement wave that is sparking in Puerto Rico. Many people I have talked to are interested in farming and agriculture, but they need to know where to go or who to talk to for involvement or accurate knowledge. Universities are the ideal place to find up-to-date information on farming in their local areas, and organizing community outreach programs on agricultural topics would benefit the community greatly if paired with a local farmer, even if it promoted small-scale home growing.

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Pictured: Service learning team, and staff at InterAmerica Barranquitas

Pictured: Students walking up the steep terrain at the plantain farm to plant plantain seeds.

Pictured: a test tube containing a small banana seed at UPR Barranquitas.

Pictured: hydroponically grown salad from campo caribe.

Pictured: Lettuce sprouts in foam for flotation in the hydroponics pool, at Campo Caribe.

Pictured: Service learning team, and staff at InterAmerica Barranquitas


Pictured: densely packed lettuce sprouts in foam for flotation in the hydroponics pool, at Campo Caribe.

Pictured: Students walking up the steep terrain at the plantain farm to plant plantain seeds.