In Puerto Rico, healthier eating could help build a healthier planet

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Uriyoán Colón-Ramos stands in a fruit and vegetable bay at GW's Harlan Greenhouse, where she instantly recognized the plantain and papaya trees she grew up with. Credit: William Atkins/GW Today

Growing up in a rural area of Puerto Rico, Uriyoán Colón-Ramos and

her family felt a strong connection to, and pride in, the land they lived on.

"There were all these stories about our grandparents and great-grandparents and the soil," said Colón-Ramos, an associate professor of global health in the Milken Institute School of Public Health at the George Washington University. And yet, when it came to food, "We never actually ate from the land."

Some estimates suggest that more than 80% of food consumed in Puerto Rico is imported. "We would always eat super-processed foods that we thought were very Puerto Rican, and yet had nothing to do with Puerto Rico—like Spam and cream cheese mixed together, wrapped around with marmalade, on Ritz crackers," Colón-Ramos remembered.

In Colón-Ramos' childhood, norms about healthy eating were set by English-language textbooks from the mainland. That meant pears and apples were touted as the go-to healthy fruits, despite being shipped to the archipelago in individual styrofoam and plastic wrap packaging that left them tasting, to Colón-Ramos and her peers, "like cardboard." Fresh local produce, like bananas, starfruit and papayas, grew on the roadside but "were not considered to count as 'proper food.'"

"It was very paternalistic," Colón-Ramos said. "You start to realize that what you eat is a result of all these historical, political, economic and social forces."

The consequences of this model are both nutritional and environmental. Century-old federal laws limit how food imports can be transported to Puerto Rico from the mainland, since both are considered U.S. ports, and the convoluted importation process is a major source of greenhouse gas emissions. Crops grown in neighboring Costa Rica, for example, must be offloaded completely in Florida and uploaded into another

vessel—one that is U.S.-owned, crewed, registered and built—before the crop is allowed to go into Puerto Rico.

Changes in global supply and distribution, like those experienced during the COVID-19 pandemic, devastate such import-reliant food systems. Puerto Rico also is acutely vulnerable to other effects of climate change, made clear by the destruction wrought by Hurricanes Irma and Maria in 2017.

Now, as part of the most recent cohort of the National Science Foundation's Convergence Accelerator, a diverse team led by Colón-Ramos has received a $750,000 grant to identify and test a set of viable strategies to increase demand for nutritious and climate-friendly foods among food-insecure individuals.

The team includes private food industry leaders from PRoduce, a food delivery and online farmers' market app with more than 65,000 users and a network of more than 400 local food producers, as well as from Trito Agro-Industrial Services, Inc. (TAIS), a large-scale composting system that to date has recycled 940,000 pounds of organic material and reduced 434,000 pounds of carbon dioxide in Puerto Rico. By integrating academic and nonprofit expertise—the team also includes educational nonprofit Instituto Nueva Escuela de Puerto Rico, which is dedicated to promoting well-being via family-engaged Montessori public schools in the archipelago—they are working to increase access to nutritious and climate-friendly foods among food insecure individuals via a sustainable business model.

Colón-Ramos said there are two key obstacles to eco-conscious food security: first, concerns about food security lead consumers to ignore the nutrition piece; and second, these concerns operate separately from questions of eco-friendliness. Solutions that address both nutrition and climate change tend to cater to wealthier segments of the

population—consumers who are already highly conscientious about their health and the environmental impact of their food, and who have the financial and social resources to act on that knowledge.

"To date, to be able to identify foods that are both healthy for you and also healthy for the environment requires almost a Ph.D.," she said. "So it is extremely exclusionary."

In Phase 1 of the Convergence Accelerator study, therefore, Colón-Ramos and her team will develop and track the impact of an "eco-score," a simple visual element in the PRoduce app that rates an item's nutrition value and climate impact. While the Phase 1 development of this eco-score is specific to Puerto Rico and its Caribbean agricultural context, it's a model designed to be scaled and adapted globally. In addition, the team envisions a Phase 2 of this project in which the app will generate real-time user-level data that can inform existing and new nutrition security initiatives and policies.

"Puerto Rico is the perfect incubator for a project like this because everybody has felt the dire consequences of climate disaster on food insecurity and nutrition," Colón-Ramos said.

Part of the solution, surprisingly, may come from health insurers. Local farmers currently suffer from a double bind: They may have the ability to meet high consumer demand, but in the absence of that demand must charge high prices to survive—and demand doesn't exist because the prices are too high. Colón-Ramos said many health insurance companies currently apply a model of "food as medicine," subsidizing food shopping as part of the insurance plan in an effort ultimately to reduce healthcare costs and save insurers money.

"Including nutrition and climate-friendly foods as part of that program seems like the natural next step for health insurance companies that

already engage in 'food as medicine,'" Colón-Ramos said. Combining the nutrition and ecological score of foods, and deploying those same resources to subsidize foods that have a higher eco-score, could be a system-level intervention with major implications for food-insecure citizens.

In short, the project aims to make it simpler for people to eat sustainable, nutritious foods, especially when they don't have the money or time to independently research what those foods are.

Choosing food that's good for you and good for the planet "is not the easy choice, and we urgently need to make it easier," Colón-Ramos said. "The vast majority of Americans are being excluded from these solutions, and we need the vast majority of people—not just Americans, but in the world—to be choosing these foods."

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