

Is Food Sustainability Possible in Hawaii?

BY JASON Y. KIMURA

A primarily for-profit investment firm with a strong pro-Hawaii philanthropic bent, the Ulupono Initiative has big goals. By 2030, they are working toward a Hawaii that will have: 30% locally grown food (Gov. David Ige set a goal of 20%), 50% renewable energy, 85% of its waste managed. You can guess which one of these ambitious goals is the hardest by the size of the percentage: locally grown food.

Food sustainability, or food security, has become a hot topic in the islands, with many people and groups offering up solutions to the issues from a variety of perspectives, but solutions are elusive. Why is it so hard for Hawaii to attain food sustainability? The simple answer is that currently, it's marginally profitable to produce affordable local food in Hawaii. From there, the answer gets complicated.

Over the past seven years, the Ulupono Initiative has been trying to understand why food sustainability is so hard and what they can do about making it profitable for everybody in the food supply chain. "The way we measure local food is based on the dollar value of food that can be produced and manufactured here," says Kyle Datta, General Partner at the Ulupono Initiative. Ulupono's practical, dollars and cents investment perspective is a good one to take, because the basic question comes down to what consumers want. Although some private-public partnerships may help kick-start local food production, to be truly successful, consumers must be allowed to pick the winners by voting with their hard-earned dollars.

"We started this journey by asking whether consumers really want to



Kyle Datta, General Partner at the Ulupono Initiative

buy local food," says Datta. Based on surveys (several were taken for accuracy's sake), the answer is a qualified "yes." Although the majority of Hawaii's consumers are in favor of buying local food, only 20% are actually willing to pay more for it if there are cheaper alternatives. Predictably, they are those with higher incomes or have a strong enough belief in locally grown food that it trumps economics. Consumers want to buy local food, but they want it to be more affordable. The surveys suggest that consumers know what's locally grown and they believe it's healthier, but it's got to be at a reasonable price point. "We're not a wealthy state," notes Datta. "The challenge is to have affordable local food. The question is, how do we do that?"

Those who have studied the issue say that the most basic considerations come down to land, water, labor, and energy. These factors are more expensive in Hawaii than in other places and affect the affordability of food, so creative ways to make these fundamentals more affordable must be devised.

Hawaii's isolation also creates difficulties. Shipping supplies like fertilizer, feed, and raw materials is expensive and adds to the cost of local food. At least some solutions may be forthcoming. This year, Hawaii Pacific University's Oceanic Institute is opening a feedmill research facility in Hilo that could help reduce costs

by finding economical ways to create feed for animals, including cattle, poultry, and fish.

In order to make local food more affordable, productivity must also be increased through technology. "At a fundamental level, if you know your costs are higher, you know that your scale is going to be smaller," notes Datta. "To increase productivity and complete globally, what's needed is what we call a precision environment—controlling plant and animal lifecycles through technology." As an example, he points to sensor and information technologies, as well as other technologies that have been used in industries outside of agriculture and that are now only beginning to be applied to growing food. "That's where you see significant increases in productivity and yields for food in the last 10 years," continues Datta, who says that the Ulupono Initiative is doing research to find companies that have technologies that can be applied to Hawaii agriculture.

A key related issue is manufacturing and value-added products. Some have made a considerable effort trying to create additional revenue streams by turning agricultural surpluses and byproducts that would otherwise be wasted into value-added products. It is a powerful way to make local farming more profitable.

For example, the profit from growing cabbage is modest, maybe at around a 5% return, but turning it into kim chee or coleslaw could double profits. Another example is beef. To make local beef profitable, the whole animal has to be sold, according to Derek Kurisu, Executive Vice President at KTA Super Stores. Under his leadership, KTA has helped make that happen by buying the cheaper cuts after hotels and restaurants take most of the expensive ones to create a multitude of value-added products like KTA beef and pork lau lau, teriyaki beef for fundraisers, pipikaula, pipikaula poke, and Portuguese beef sausage. Milk production is another business that can be made much more profitable if some of the product is used for cheese and yogurt. On the horizon, ulu could be developed into profitable products. A local superfood, ulu, could be turned into



Galbraith Estate lands cleared by Sugarland Farms in exchange for rent credit is once again being farmed.

flour, pasta, and other products.

Water, land, labor, energy, productivity, and manufacturing are all essential to food production, but developing Hawaii's food supply chain is where the greatest need is in helping small farmers survive. One hurdle is food safety mandates. In addition to existing regulations, food safety laws are changing, and they will start to hit our shores in a few years. Without establishing food safety centers, Hawaii will lose a lot of smaller farmers. Datta points out that there are roughly 1800 farmers in Hawaii. Of those, about 1600 are small, maybe a couple hundred are medium to large, and only a handful of the large ones are able to meet food safety processing requirements.

Some of these farms are already able to handle everything from production, processing, and food safety to cold storage and distribution. However, most small farmers only have production and are missing the rest of the supply chain. Assuming that the food safety issue has been resolved, there still needs to be a statewide cold storage system put in

Systemic Food Sustainability Solutions

- Make land, water, labor, energy, and food safety accessible
- Become price competitive via the technology of precision agriculture
- Expand value-added processing to increase profitability
- Collaborate within the state to be competitive with imports

place, as well as a seamless distribution system that can move products from producers to wholesalers to retailers to consumers. The missing and broken links in the food supply chain cause a considerable amount of produce to be wasted and makes local food expensive.

One project in Central Oahu is aiming to not only revitalize local agriculture in Wahiawa after the loss of sugar and pineapple, but to serve as a template for the rest of the state. Named after a former plantation workers' camp, the Whitmore Project is an ambitious plan to bring farmers and the state together to increase food production, create jobs, engage in partnerships, and to provide workforce housing. To do this, the project is attempting to address most if not all of the hurdles previously outlined. A persistent force behind the Whitmore Project is State Senator Donovan Dela Cruz, who has championed innovative ideas to resolve the fundamental issues of land, water, labor, energy, productivity, and manufacturing, as well as food supply chain issues.

At the center of the organized effort is the Agribusiness Development Corporation (ADC), which was established by the state in 1994 to help with the transition of former plantation lands and water systems to a diversified ag industry and to initiate the development and support of facilities

to help farmers. Many experts believe that Hawaii has enough land for sustainable agriculture, but the combination of housing developments being built on ag land and neglect of the land are major threats to the success of agriculture. Therefore, one of the first orders of business for the ADC was to acquire a large inventory of land, which began with the 1,700 acre Galbraith Estate purchase at the end of 2012. The land was slated for housing, but the community put a stop to it. The \$25 million purchase was funded by state general obligation bonds, the Office of Hawaiian Affairs (which owns 500 of the 1,700 acres), a private donation, the U.S. Army (for a buffer zone), and C&C Clean Water & Natural Lands funds.

Dela Cruz insists that the state must own the land in order to give farmers the long-term leases they need to invest in developing their farms. He points out that it is difficult for private landowners to commit to long-term farming leases that tie up their land and bind them economically. Banks are reluctant to give loans to farmers with short leases, and farmers do not want to invest in expensive infrastructure on land that they may not be able to retain long enough to realize a return on their investment. “Under ADC’s management, these lands will be protected in perpetuity for farming,” says Dela Cruz, “and only the state can grant long leases.”

Not a regulatory body but a facilitative one, the ADC has the power to create subsidiaries to cap and lower overhead for any problem, with the goal of making local produce more cost competitive with imports. What the ADC doesn’t have is a lot of money, but it can give rent credits to farmers who invest in infrastructure or help with other issues. For example, Sugarland Farms cleared and reconditioned the Galbraith lands in exchange for rent credit. The ADC isn’t working alone. There are over a dozen state and federal divisions and departments involved, including the state and U.S. Department of Agriculture, Department of Education, College of Tropical Agriculture and Human Resources, the U.S. Army, HI-Tech Development Corporation, Hawaii Public Housing Authority, and many others.

Since the 2012 Galbraith Estate purchase, things have been moving fast. At the time of the purchase, an additional \$4.2 million went to the Whitmore Annex, which included the old Tamura’s warehouse. The plan is to retrofit the space for food safety, packaging, and processing of value-added products, storage, and office space. In January of 2013, the state purchased 24 acres from Castle & Cooke for \$3.6 million. The following year, the legislature appropriated \$1.5 million to plan and design an ag tech park, and in 2015, the state purchased a 257-acre parcel from Dole Food Company, Inc.

Last year, the Legislature appropriated \$31.5 million to the ADC for the purchase of 895 additional acres of ag land. When these lands are acquired, along with other pending purchases, the Whitmore Project will have over 2,800 acres. Since Dole announced its plans to sell almost 18,000 acres in Central Oahu and on the North Shore, Dela Cruz has worked tirelessly to get the state to fund the purchase of additional land near the ADC’s initial 1,200 acres from the Galbraith Estate.



Sen. Dela Cruz in the old Tamura’s warehouse on Whitmore Annex land in Wahiawa.

Also in 2016, the Whitmore Project got a tantalizing taste of success. Sugarland Farms, a project tenant, harvested 2.7 million pounds of watermelon—equivalent to 74 shipping containers—and 750,000 pounds of red bell pepper. For two months, the import/export percentages were reversed—only 20% of these crops were imports and 80% were locally grown. Dela Cruz points out that

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the fast three- to four-year turn-around time to get good crops is due to leveraging ADC's power to credit farmers' investments to their leases so they can make improvements on the land or build processing facilities.

Currently and going into the future, the College of Tropical Agriculture and Human Resources (CTAHR) is helping farmers through research and development. This includes troubleshooting problems, patenting new technologies, experimenting with new crops, and helping to develop value-added crops. Experimental crops have included tea and blueberries. New niche crops are revenue generating and highly sought after. Dela Cruz contends that in every town in Hawaii, there is a microclimate that certain niche crops thrive in. Think products like Kona Coffee and Kula Lavender. These attract visitors to their respective areas, which helps other area small businesses. "If every rural town had one crop," he points out, "Hawaii would have an inventory of value-added products that create destinations for ag-tourism and bring visitors to the state."

But there's more to the Whitmore Project. Dela Cruz envisions an agri-business technology park where there will be processing and packaging that are up to food safety standards, and co-op opportunities to share facilities to reduce operational costs. The ag tech park would also house software and manufacturing companies that develop technology and equipment for farmers.

Speaking of ag-tourism, Dela Cruz envisions much more than an industrial looking tech park. A ride around Wahiawa town with Dela Cruz reveals his passion for the look of old Hawaii during pineapple and sugar days. He points out remnants from the old days as examples and bemoans the fact that current building codes do not allow overhung storefront roofing. Exemptions will somehow have to be granted. If Dela Cruz's vision comes to fruition, the ag tech park's commercial design guidelines for its main street would bring back the charm of old Hawaii, with stepped facades and the overhanging roofs of plantation era buildings. Processing



Green World Coffee Farm is the type of successful model that Sen. Dela Cruz hopes will be the norm for the Whitmore Project. A profitable coffee shop, eatery, and gift shop attracts tourists and locals alike while coffee beans are processed and roasted in the same building.



Eric Edra tends watercress on Alex Kanamu's experimental aquaponics farm. The cylinders are fish hatcheries for tilapia he is raising in a symbiotic setup.

facilities will have small retail storefronts that sell the value-added products being manufactured in back. Furthermore, there will be a walking bridge from Wahiawa town to the tech park along the path of the old Kaukonahua Gulch railroad trestle.

Other features of the Whitmore Project include:

- An agricultural foreign trade zone to decrease costs by deferring duties on imported materials.
- Re-designating and expanding the Wahiawa Enterprise Zone to benefit from tax incentives.
- Designing a new reclaimed wastewater irrigation system for the Wahiawa Wastewater Treatment Plant, eliminating outfall to Lake Wilson, and providing R-1 water to farmers at a lower rate than potable water. Redirecting wastewater will also clean Lake Wilson, turning it into a recreational destination.
- ADC partnership with a private company to create pumped storage hydroelectricity to sell energy to farmers at lower rates.
- Build workforce housing next to Kemoo by Lake Wilson.
- Collaboration between farmers and the Department of Education to create programs to educate high school students and prepare them for agricultural jobs after graduation.

Dela Cruz has met resistance for funneling resources to the Whitmore Project, but he counters, “Competition is not between the islands, but between Hawaii and the world.” Furthermore, he sees the Whitmore Project as a possible template for other communities in the state to follow and adapt to their own situations, and readily admits that the ADC shouldn’t be at the center of the project—the office of the governor should be. What’s lacking, he says, is a comprehensive statewide plan for agriculture—something he and other colleagues are working on. Dela Cruz points out that without an overarching strategic plan for the entire state, resources will be spent and decisions are likely to be made in ways that don’t take the bigger picture into account. In the meantime, the ADC being point for the Whitmore Project is the next best thing.

Like the answer to whether people

want to buy local food, the answer to whether food sustainability is possible in Hawaii is a qualified yes. It’s clear that Dela Cruz isn’t focused on this question because it may not be the right one to ask. There’s too much that hasn’t been grown, hasn’t been tried. There’s been too much that hasn’t been built and implemented. There is no comprehensive state plan that puts into place measures that make sense for all of Hawaii.

Whether Hawaii can attain food

sustainability may only be answerable in a general way this point in time. Most experts think we have enough land, and some think that it’s possible to come close to complete food self-sufficiency. But perhaps the question is, “Should we be food self-sufficient?” Hawaii hasn’t been food self-sufficient since the old days of the Hawaiian Kingdom. Today, we are no longer an agrarian society, and unless we as a society are willing to become one and give up most of the

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processed, dried, and frozen foods that make up the majority of every supermarket's shelf space, then probably not. It's not likely that Hawaii's people will collectively give up the foods we import that can't be produced here, and no one thinks that Hawaii's farmers are going to grow all the rice, wheat, and corn that is needed to replace those imports, or that manufacturing facilities will be built to process them to the level and variety we enjoy.

However, it's a matter of focus. We *should* put our efforts into greatly increasing all the local produce, meats, dairy, and value-added products we can and reap the benefits of a bigger market share. "The industry to revitalize the economy is ag," says Dela Cruz, who perhaps possesses the bigger vision. We can't produce everything, but by focusing on the things that we can do well, we may be able to bring on a revitalized Hawaii via a convergence of agriculture, innovation, and tourism.



Jari Sugano of CTAHR explains how reflective mulch repels insects better for the current experimental crops of cauliflower and eggplant. Heavy in iron, the aged soil needs to be reconditioned. The challenge is to find farmers who will grow some of the researched crops.

 The advertisement features a background image of several wooden bowls filled with poke (diced salmon and tomatoes) on a green banana leaf. A large, stylized fish-shaped logo in blue and white contains the word "Seafood" in white. Above the logo, the words "TIMES" and "BIG SAVE" are written in red and green respectively. At the bottom, there is a list of store locations and operating hours.

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