

Field of Dreams

Why Big Island farmers are key to a sustainable state economy

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Friends of Richard Ha, president of Hamakua Springs Country Farm, describe him as the ultimate Big Island boy: humble, a little bit country and deeply passionate about the place he calls home. When he started out as a modest banana farmer more than 30 years ago, he had simple goals: raise his crops and provide for his family.

Those were simpler times.

Today, Ha is at the forefront of agricultural innovation, which many Big Island leaders say is key to a sustainable economy and community on Hawaii Island. Ha is developing a nutrient-recycling system that converts fish by-products into plant food and a hydro-energy facility that will use river water to create electricity. The idea is to reduce the cost of farming by improving efficiency. His efforts are critical to finding ways to make farming more profitable in a tourism-driven economy that skews land values and today is largely dependent on imported food.

“If we start refocusing our efforts on local industries, such as agriculture and small business, it’s possible to shift the foundation of our entire tourist-based economy,” says Matthews Hamabata, executive director of The Kohala Center, an independent, nonprofit academic institute for research and education in the environmental sciences.

It’s no minor task.

Historically, the Big Island has been the first to get hit and the last to recover in an economic slump. According to the state Department of Business, Economic Development and Tourism, the Big Island saw a 23 percent decrease in total visitor arrivals in August over the same month last year and a 48 percent decrease in cruise ship arrivals — direct results of skyrocketing fuel prices, the closure of Aloha Airlines and the departure of two Norwegian Cruise Line ships earlier this year. Many residents believe oil prices will continue to raise the cost of living and hurt Hawaii’s tourism industry.

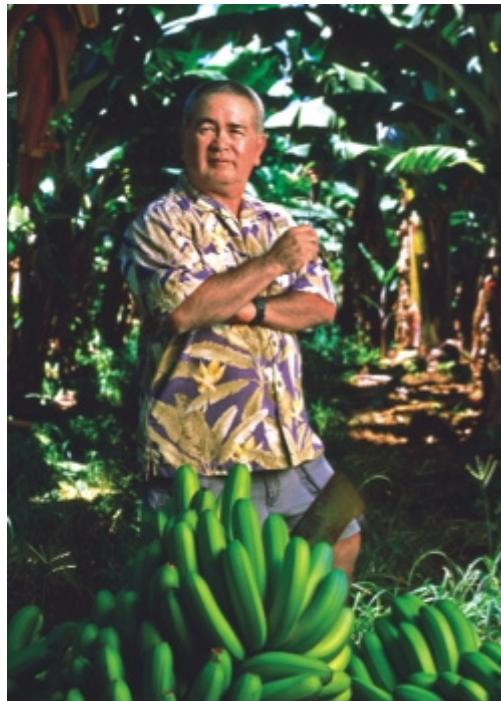


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“That’s why it’s never good to put all your eggs into one basket,” says Big Island Mayor Harry Kim, adding, “We have to find ways to diversify our economy.”

Of course, this type of discourse has been going on for years in Hawaii, on all islands and at the state level, with energy issues being the most talked about challenges of late. But Lorie Farrell, executive director of the Big Island Farm Bureau, says another important step for the state to become more self-sufficient is growing and consuming more local produce. “We’re never going to get away from tourism as a major source of our income, and I don’t think we should,” she says. “But, if we build up our local ag industry … we could start to take care of more of our own needs, and that means the money stays here.”

In that effort, the Big Island is front and center. Ha’s just one of many in this emerging grassroots movement.

“There’s strength in numbers,” says Judi Steinman, executive officer for the Hawaii Island Chamber of Commerce. “Whether it is psychological or actually enabling businesses and farmers to work together, I see a lot of people stepping up to do their part.”

As Ha works alongside three generations of his family and about 80 other employee on a 600-acre farm in Pepeekeo, it’s obvious that sustainability is something that’s very personal to him: “This is not just about trying to be green,” he says. “This is about looking out for future generations — my kids and their kids — so that they can enjoy the same life that I did. Local style is to take care of the people and take care of the land. That’s why sustainability is everybody’s kuleana.”

But when it comes to farming, Ha isn’t just trying to build up; he’s also trying to build out. His goal is to improve farming efficiency so that he and other farmers can eventually expand their market share of local produce throughout the state. By raising his crops hydroponically (in water and fertilizer rather than the traditional soil), Ha is able to significantly reduce the amount of pesticides and fertilizer he uses, both of which are imported and oil-based. Energy costs are also trimmed because tractors are not needed to till the soil.

Ha says just a few years ago, 80-pound bags of fertilizer sold for \$11. These days, smaller 50-pound bags go for about \$30. “That kind of stuff just kills farmers,” he says. “What’s going to happen down the line if we can’t afford fertilizer?”

When coupled with hydroponics, Ha’s aquaponics nutrient-recycling system could allow him to grow specific crops all year round. “Our object is to reuse the waste from bananas and feed it to fish, say like tilapia,” he says. “The fish give off ammonia as waste. Then, we take that waste water and run it through a biofilter, which converts the ammonia into reusable nutrients.” Ha later uses those nutrients to feed his hydroponic crops, eliminating the need for fertilizer.

But here's another reason why his success is so important. On average, Big Island residents pay more than double the highest rate on the Mainland for electricity, at about \$0.42 per kilowatt. Ha says Hamakua Spring's monthly electricity bill rose from an average of \$9,000 a month last year to more than \$15,000 a month this year. Energy is a major obstacle for farmers today and Ha is trying to show the way around it.

Ha soon will be able to breathe a little easier. He is just months away from tapping into a nearby river to create enough hydro energy to power his entire farm operation. The river water will flow downhill into a pipe and turn a turbine that will create electricity. Ha says once all the infrastructure costs are amortized, he'll save more than half of what he would've been paying per month for electricity.

While sustainability talks are most often spotlighted at big conferences or with massive studies and commissions, Big Island leaders say it's this type of innovation by individuals like Ha that's generating a lot of progressive talk — and action — on Hawaii Island.

That grassroots momentum is exactly why it might just succeed, says Betsy Cole, deputy director of The Kohala Center. She says sustainability is really an effort that needs to be led by the people; not something that politicians or government will solve on their own. "The old plantation hierarchy won't work here; change has got to start with the people," says Cole.

It's that same thinking that motivated the Hawaii Island Chamber of Commerce to create the E Malama Aina Festival, scheduled for Nov. 7 and 8. Visitors will learn about what each business industry, such as transportation, agriculture and alternative energy, among others, is doing to promote better sustainable practices. No surprise, Hamakua Springs' Ha is co-chairing the event.

On the opposite side of the island, a community-organized program called Kokua Kailua is helping to pump extra revenue back into struggling Kona businesses. On one Sunday each month, Alii Drive, which is comparable to a mini Kalakaua Avenue, is transformed into a street fair for local merchants to sell their products. Vivian Landrum, executive director of the Kona-Kohala Chamber of Commerce, says the purpose of the event is to encourage kamaaina to shop, dine and buy local. "It's all about supporting our local vendors and keeping our hard-earned dollars in Hawaii," says Landrum. The first Kokua Kailua event held in August drew an estimated 1,800 visitors.

The Big Island is overflowing with projects just like these aimed at educating the community about the importance of supporting local producers and promoting local agriculture. Derek Kurisu, executive vice president of KTA Super Stores, has been championing these issues for decades. Kurisu has made it his personal mission to discuss issues of food sustainability and adds an additional layer to the discussion as well: food security. In the event of an emergency, Kurisu estimates KTA alone has at least several weeks' worth of food for the entire island of Hawaii. "But that's only a few weeks," he says. "What are we going to do after that, wait and cross our fingers?"

In 1994, Kurisu created the Mountain Apple Brand to provide local manufacturers an opportunity to better

brand their products and lower packaging costs under one unified label. All Mountain Apple Brand products are grown, processed or manufactured in Hawaii. Today, more than 50 local vendors supply more than 200 different Mountain Apple Brand products to six KTA Super Stores on Hawaii Island. Whenever possible, KTA sells locally produced products over Mainland imports.

“When you have more products manufactured here, we become more sustainable,” Kurisu adds.

In 2007, The Kohala Center released the first phase of its Island of Hawaii Whole System Project, a research and action venture conducted by the Rocky Mountain Institute. The goal of the project was to promote and innovate long-term planning and local food self-reliance. The report said that the low local market share — at 15 percent for food — and the high price residents pay for it, which makes up about 22 percent of their average income, are problems that degrade the island’s economic and environmental sustainability and quality of life. It also noted that vibrant agricultural and local food production sectors have the potential to protect land from urbanization, decrease fuel used for transporting food and reduce waste for the already overflowing landfills.

The Big Island Farm Bureau’s Farrell says the disconnect between local farmers and consumers frequently hinders the growth of local agriculture. “We need to do a better job of educating the consumer about what’s grown here and the advantages of eating local produce,” she says.

However, The Kohala Center’s Hamabata says the resurgence in farmers’ markets around Hawaii Island is a good sign that residents are catching on. The Hilo Farmers Market, which began 20 years ago, is the largest of its kind on the Big Island. About 200 farmers and small businesses participate every Wednesday and Saturday. According to Keith De La Cruz, who bought the market in 1999, all of the plants and produce, with the exception of garlic, sold at the market are grown on Hawaii Island. “The dollar that is being spent on fresh local products goes back into our community and customers get that direct interaction with the growers.” He estimates close to 5,000 customers visit the market each week — 70 percent of whom are local.

Contrary to what many believe, De La Cruz says prices at the Hilo Farmers’ Market are very competitive with those at grocery stores. But Mayor Harry Kim says the real success and potential of local agriculture isn’t about price; it’s about the consumer. “If we want to promote local ag people, well, we better buy their products and stop grumbling about the fact that they might charge us \$0.50 more,” Kim says. “We as consumers have to realize that the cost to produce here is much higher. We better think about what is at stake if we don’t support our local industries.”

There is some precedence for the Big Island’s potential to solve sustainability issues.

According to Hawaii Electric Light Co. (HELCO), 31.3 percent of the Big Island’s power comes from renewable energy, compared to 10.3 percent on Oahu and 19.3 percent on Maui. Earlier this year, Gov. Linda Lingle called for 70 percent of the state’s power to be generated by clean-energy sources by 2030.

Kim says HELCO is promising to achieve 50 percent renewable energy within five years.

One of the leaders in the field is Puna Geothermal Venture, which currently produces about 30 mega watts of renewable energy — about 20 percent of the Big Island’s electricity — with the potential to generate even more. The company uses state-of-the-art technology to extract geothermal steam and hot water from Kilauea’s volcanic heat and converts it to electricity. Hawaii Island is also taking advantage of its abundance of natural resources by producing solar, wind and hydro energy that gets put back into the grid.

Then there’s the Natural Energy Laboratory of Hawaii Authority (NELHA), a state-operated ocean science technology park that has yet to realize its full potential in energy-related research. NELHA was built to stimulate economic development and diversification. It is the largest technology park in Hawaii, with 870 acres of prime coastal property at Keahole Point in Kona. Originally developed in 1974 to provide a support facility for research on the ocean thermal energy conversion (OTEC) process, NELHA is now landlord to about 40 commercial enterprises. Together, these companies generate more than \$40 million a year in total economic impact, creating more than 250 jobs and high-value product exports. Koyo USA is one of these businesses. It desalinates and ships millions of bottles of mineral-rich, deep-sea water each week, making it one of the largest exports for the state.

NELHA also supports a number of aquaculture endeavors, which utilize deep-sea water that is pumped from 3,000 feet through a 55-inch, 9,000-foot-long pipe. The combination of warm (80-degree Fahrenheit) surface water with cold (40-degree) deep-sea water, creates 52-degree water — prime for raising lobsters, Japanese abalone, kampachi and clams, according to John Deveau, a NELHA volunteer who gives weekly presentations at the park’s Hawaii Gateway Energy Center.

However, due to budget cuts by the state as a result of the declining economy, many key energy-related projects planned for NELHA have been put on the back burner, says Kim.

“The potential is there; the money is not,” he says.



The Big Island is larger than all of the other Hawaiian Islands combined. The high cost to transport food and goods intraisland means locals pay significantly more than Honolulu residents for just about everything. Perhaps this, along with the massive hit they've taken in tourism, are the reasons Hawaii Islanders seem to have a heightened awareness of what can and needs to be done in order to be more sustainable.

But that doesn't mean it isn't a tough row to hoe.

The Kohala Center's Whole System Project identified two main obstacles hindering local agriculture: the price of land and the availability of labor. Because of the high demand for prime Big Island property, the cost of undeveloped land is drastically higher than farmland in other parts of the world. In many cases, farmers can get a larger return by selling their land for development rather than farming it. However, farmland on the Big Island is still generally less expensive than in other parts of the state, giving Hawaii Island the most potential for growth. According to data from the state Department of Agriculture, about 60 percent of crop lands in the state is on Hawaii Island.

Dr. William Mokahi Steiner, dean of the University of Hawaii at Hilo's College of Agriculture, Forestry and Natural Resource Management, says the real dilemma isn't lack of land; it's the shortage of farmers. Last year, the program graduated just 36 students.

"So many things are stacked against them [local farmers], including the cost of land and equipment, the low returns for the hard labor ... and policies that do not make it attractive to our students to try to continue," says Steiner. However, he is seeing a rise in students dedicated to sustainable approaches.

Steiner says the farmer-shortage crisis is the result of a system that believes it is more important to spend millions of dollars to promote tourism than build sustainable communities in Hawaii by supporting appropriate education in the schools. "Tourism, remember, creates service jobs for the most part," Steiner

adds. "An education in agriculture, when coupled with the right incentives to promote its adoption in our communities, builds entrepreneurs and independent businessmen and women."

Still, Kim reminds that there is only one irrigation reservoir on the island, located in Waimea, and that the Hamakua and Kohala ditches that carry water to many of the farms on the Hamakua Coast were damaged in the two massive 2006 earthquakes. According to the Whole System Project, it will cost about \$30 million to rehabilitate some of the old sugar-cane irrigation structures, which, at present, seems like the most plausible solution to transport water to the farms.

And it always comes back to the people.

"Most of the time, [politicians] do what is popular, not what is right," says Kim. "If they know that the public fully supports something, they'll jump on the wagon real fast."

Although there's still much that needs to be done, Kim says he's proud that Hawaii Island is leading the state in the movement to become less dependent on imported oil. No doubt, the Big Island's upcoming mayoral election will have a huge impact on the island's future and pending projects. With only a couple of months left in office, Kim recounts a simpler time when asked what his hopes and dreams are for the Big Island.

"I was blessed to be born and raised in the most beautiful place on earth — a place where the village took care of me. I was so lucky to be placed in jobs that I could try in a small way to help pay back the village, and that has been my life. What do I hope? I hope for more of that from other people. I hope that regardless of where we go with technology and everything else, that we still remain a village of taking care of each other, our land, our environment, just caring. And if that's what that buzzword sustainability means, then let's go for it. We need to."