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Dear Reader,

As awareness of the environmental, social and economic impact of our behaviors is expanding, reaching the media, making daily headlines and becoming part of the business agenda, so the search for experts, benchmarks and success stories is also increasing. As William McDonough expressed it, we need to redesign all our products, all our services — everything, meaning Everything. So it's natural that we are looking for the magic bullet that will rapidly solve the challenge.

Alas, it may not be that simple. However there is good news: better than examples to follow and copy, there are principles that we can adopt and adapt for our particular context. Reflection on what worked, innovation and engagement are the keys.

This month we are sharing with you the story of a Colombian town in midst of the savannah, that began forty years ago to develop a different kind of life — a sustainable one. The story is told from the perspective of two US American social entrepreneurs.

Enjoy the reading!

Isabel Rimanoczy
Editor

Quote of the Month

"There are no deserts...only deserts of imagination. "

Paolo Lugari
(Founder of Gaviotas)



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GAVIOTAS: VILLAGE OF HOPE

by Seth Biderman, Christian Casillas

We first learned about Gaviotas, the legendary sustainable Colombian village, in 2004, while working in our home state, New Mexico. The two of us helped found a group called La Mesita, "the small table," composed of three educators, a renewable energy scientist, a water-rights attorney, and a community organizer. We decided to start a project that would involve teenagers in organic agriculture and renewable energy in Ribera, a rural village in the north of the state. We believed that reviving northern New Mexico's agricultural and cultural traditions could help the region confront both its environmental crises, like unsustainable water use, and its deepening social problems, such as rural drug abuse and teen pregnancy.

A member of our group brought us a copy of journalist Alan Weisman's book, *Gaviotas: A Village to Reinvent the World*.

"This is what we're trying to create," she said. "This village proves it's possible."

All of us took turns tearing through the book, spellbound by the story of a visionary man named Paolo Lugari and the remarkable group of scientists, students, Guahibo Indians, and cowhands who had succeeded in creating a resilient community amid the barren soils, shifting politics, and sporadic violence of Colombia's eastern savannahs. The book's stories of innovation and perseverance inspired us as we moved forward. Our project convened scientists, educators, farmers, builders, and youth for a six-week, hands-on institute, where participants taught permaculture and organic farming, helped build an off-the-grid, energy-efficient house, and handcrafted a working wind turbine. The pilot project ran for two summers, but we were unable to maintain funding, and our colleagues went their separate ways.

It wasn't until five years later that the authors of this piece had the chance to visit Gaviotas. We had wondered if it held clues that could have moved our New Mexico project forward. Then by coincidence, the two of us ended up in Colombia at the same time.

We contacted New York Times correspondent Simon Romero, a fellow New Mexican who had grown up near the site of the La Mesita summer institutes. Romero had long wanted to report on Gaviotas. With his help, we arranged a one-day tour with Lugari.

Village of Surprises

The night before our visit, we all met up in the busy city of Villavicencio, gateway to the region of savannah known as los llanos. Over steaks and Colombian pilsner, Paolo Lugari captivated us with impassioned conversation that ranged from subjects like the brilliance of Leonardo da Vinci to the failure of Western education.



*In the "big, wet dessert" of los llanos, nothing grows except a few nutrient-poor grasses.
Photo by Alan Weisman*

He was just as energetic the next morning at daybreak in Villavicencio's tiny airport as he pointed out the black Gaviotas dot on a wall map, and told us to expect the unexpected. "In Gaviotas," he said, "one lives in a state of perpetual surprise."

Ninety minutes later, we began to understand what he meant, as our tiny Cessna airplane descended over Gaviotas. We'd read Weisman's account of the village's reforestation projects—

Caribbean pines had created shade and soil that nurtured the regrowth of hundreds of species of native flora and fauna. But nothing prepared us for the sight of 20,000 acres of dark green trees bursting impossibly from the acidic savannah soils.

A small group of Gaviotans met us on the airstrip and invited us onto a broken-down minibus, towed by a tractor that ran on biofuel produced in the village. The tractor hauled us into the forest, where the Gaviotans demonstrated how they collect pine resin with little more than an axe and a plastic bag. Between the pines was their new fuel crop, African palms. But the Gaviotas palm plantings looked nothing like the massive, monocropped rows of palms we'd seen outside Villavicencio. Gaviotans mimic nature by keeping the forest diverse, one palm to every 10 pines, interspersed with fruit trees and native plants.

The bus headed past a full-sized dirigible, constructed on-site to monitor forest fires, and into the village. There we watched children pump drinking water from depths of over 100 feet. The award-winning Gaviotan sleeve pump has allowed residents to stop using the contaminated shallow water sources around the village.



For three decades, the village of Gaviotas has worked to build a sustainable, imaginative community in the eastern savannahs of Colombia. They have planted 20,000 acres of pines, creating shade and soil that has nurtured the return of hundreds of species of native plants and animals. Photo by Christian Casillas

We paused at the community kitchen, which produces hundreds of meals a day using an energy-efficient stove that burns wood thinned from the forest. We then followed Lugari into one of the resident's simple homes, so he could show us the passive cooling system and demonstrate that water from the bathroom faucet was scalding hot, thanks to the rooftop solar water heater the Gaviotans had manufactured themselves.

The longest stop on our tour was in the economic heart of Gaviotas, its pine-resin processing and packaging factory, which now generates almost 80 percent of the community's revenue. Here, cartloads of resin are brought from the forest and distilled for use in making varnish, paints, and adhesives. The entire factory runs on renewable energy. Steam used for processing the resin is created in a boiler fueled by sustainably harvested wood, while the generator and tractors operate on African palm oil or recycled vegetable oil from Bogotá mixed with pine turpentine. Many of the residents' motorcycles run on a gasoline and pine-turpentine mix.

We kept our eyes open for some lesson we could bring back to New Mexico, a secret to Gaviotas' success. Our first clue came from an offhand comment we overheard in the factory. Lugari asked a foreman how work was proceeding on a project to use byproducts from the resin processing to pave the muddy roads. The foreman gave an inconclusive report.

"Excellent," said Lugari. "We'll proceed A.V.V."

"A.V.V.?" we asked.

"Allí vamos viendo," he explained. "We'll see what happens as we go along."

The response seemed nonchalant, but it represented an approach that has been fundamental to the village's longevity. Everywhere we looked, we saw examples of how the Gaviotans had encountered obstacles, gone back to the drawing board, and "surprised" themselves by discovering a way to adapt. The very building in which we stood, for example, had been a solar hot-water panel factory before shifting markets and government policy forced Gaviotans to search for a new product. Gaviotans' efforts to grow their own food had led them through experiments in hydroponics, use of organic fertilizers, and African goat-herding. The beautiful glass and steel building that was once a fully functioning hospital was converted into a research laboratory and then a water-purification and bottling plant.

It became clear to us that most of the successes at Gaviotas were not a result of brilliant planning but of a trial and error process, replete with wrong turns and detours.

Gaviotas showed us that there is not an orchestrated march toward a finished product—there is only the process, the unpredictable evolution of strategies and ideas.

The Flow of Ideas

Back in Bogotá, we looked for more clues to Gaviotas' success as we met with Dr. Jorge Zapp, the 67-year-old scientist who served as unofficial technical director of Gaviotas in the 1970s and 1980s.

After leaving Gaviotas, Zapp spent years as a technical evaluator for the United Nations Development Program, and we asked him how Gaviotas had influenced international development projects elsewhere in the world.

Zapp said Gaviotas never had a formal plan for disseminating solutions or technology. But ideas flowed in and out of the community through "natural diffusion." He rattled off a list of appropriate technologies pioneered in Gaviotas and adopted in projects "from Patagonia to Maine." There was the double-action water pump, a simplified cement and chicken-wire building technique, and pioneering work in low-cost hydroponics. Gaviotan solar water heaters have been installed atop buildings across Colombia. A brick-making press—not invented by Gaviotans but proven viable when they used it to build their factory, hospital, and homes—became a key tool in the reconstruction of cities across Latin America leveled by natural disasters.

But the real lessons of Gaviotas aren't about technology. "What was spread in large part," Zapp said, "was that people learned to believe in their own abilities."

Gaviotas demonstrated to the world how effective it is to involve ordinary people in creating their own technologies and solving their own problems.

Case in point: A Peruvian government official visited Gaviotas in the early 1980s and took note of the village's nutritional program, which provided a daily glass of fortified milk to each child. The official brought both the idea and Gaviotas' collaborative approach back to Lima. Instead of creating a top-down government program, he helped mobilize poor mothers to prepare and distribute the milk themselves. The program ultimately empowered thousands of women through the popular movement known as Vaso de Leche. The nutritional practice spread, and with it the Gaviotan emphasis on community participation. Zapp's experiences at Gaviotas led to a turning point in his work. He left what he calls the "priesthood of science," in which experts deliver knowledge to "the masses," and committed his life to helping people develop their own solutions.

Making Space for Creativity

We came away from our visit to Colombia with a new understanding of what it looks like to address environmental and social problems in a sustainable, inclusive way.

Lugari made it clear that Gaviotas is not something you can replicate. He'd visited organizations and ecologically friendly towns around the world. But none combined all the essential ingredients he feels are necessary for sustainability. Security concerns, shifting national politics, and financial constraints have hamstrung efforts to create larger versions of Gaviotas elsewhere in the savannah.

We spoke with Alan Weisman, who confirmed Lugari's assessment. Weisman has received thousands of inquiries about Gaviotas from professors, energy experts, high schools, international NGOs, and even a dance company in Oregon. "People constantly tell me," Weisman says, "that the place just gives them hope." But Weisman knows of no one who has started a Gaviotas replica.

Lugari never intended for Gaviotas to serve as a blueprint for sustainable development, or even a clearinghouse of appropriate technologies. Instead, he wanted to show the world that it was possible to live sustainably by drawing on local resources, or as he describes it, living within the "economy of the near." And he has done so by staying faithful to two principles: allowing space for adaptation and creativity, and ensuring that everyone, not just "experts," is involved and empowered.

To realize our New Mexico vision, we'll need to embrace Lugari's principles and release our grip on our plans. We are now exploring ways to collaborate with others and expand our summer institute into a year-round "school." We envision a place where youth work with community members and create their own new strategies and technologies, searching for the imaginative "surprises" that our own little corner of New Mexico so desperately needs.



Seth Biderman and Christian Casillas wrote this article for **America: The Remix**, the Spring 2010 issue of YES! Magazine. They were born and raised in Santa Fe, New Mexico. Biderman is a teacher and writer currently based in Colombia. His work has appeared in New Mexico Magazine, the Santa Fe Reporter, and The New York Times. Casillas is a Ph.D. candidate at the University of California-Berkeley's Energy and Resources Group.

Read the fascinating story of Gaviotas since its start in the 1970s: www.yesmagazine.org/issues/rx-for-the-earth/842

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