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# An Isolated Village Finds the Energy to Keep Going

By [SIMON ROMERO](#)



Carlos Villalon for The New York Times

Farmers in Las Gaviotas, a Colombian village founded in the arid eastern plains 40 years ago, use a special tool, above, to plant pines that produce resin for biofuel.

LAS GAVIOTAS, [Colombia](#) — In the 1960s, an aristocratic Colombian development specialist named Paolo Lugari took a road trip across these nearly uninhabited eastern plains, a region so remote and poor in soil quality that not even Colombia’s historic upheavals of violence had taken root here at the time.

Stopping to rest in this vast expanse, written off by agronomists as the equivalent of a tropical desert, Mr. Lugari decided it was the perfect place to experiment with the future of civilization. He founded a village unlike any other in this war-weary country.

“The only deserts that exist in this world are deserts of the imagination,” said Mr. Lugari, 64, on a visit this month to the community he named after the river gulls, or gaviotas, he saw flying overhead on that trip more than 40 years ago.

These days, visitors travel by propeller plane over the bleak savanna to get here, or by bus past the occasional guerrilla or paramilitary checkpoint. The visitors rarely come. But when they do, they get a glimpse into a four-decade experiment to alter civilization’s dependence on finite fossil fuels and industrial agriculture.

Its 200 residents have no guns, no police force, no cars, no mayor, no church, no priest, no cellphones, no television, no Internet. No one who lives in Gaviotas has a job title.

But Gaviotas does have an array of innovations intended to make human life feasible in one of the most challenging ecosystems, from small inventions like a solar kettle for sterilizing water to large ones like a 19,800-acre reforestation project whose tropical pines produce resin for biofuel and a canopy under which native plant species flourish.

Las Gaviotas, Mr. Lugari explained, began with one idea: Instead of choosing an easy, fertile place to test energy self-sufficiency and creativity in agriculture, why not choose one of the hardest? The concept, devised before the 1970s oil crisis and well before this decade's fears of depleting oil supplies, guided the community's evolution.

While Las Gaviotas has largely faded from public view within Colombia, it arouses interest in energy-efficiency circles in rich countries. Luminaries in the field occasionally visit, like Amory Lovins of the [Rocky Mountain Institute](#), a longtime champion of energy efficiency in the United States, who came here this year.

The place turned out to be more forbidding than Mr. Lugari imagined. The country's long, mutating war migrated to the savannas around Gaviotas in eastern Colombia, a once tranquil region equivalent to three-fifths of the country but with less than 10 percent of its population. Drug traffickers and private armies arrived years ago, blazing trails to move cocaine into Venezuela and run guns back into Colombia.

Like an oasis amid this madness, Gaviotas drew peasants from the llanos, or plains, who moved here to earn about \$500 a month, about double the wage for rural workers elsewhere in Colombia. Some once nomadic Guahibo Indians joined them. Scientists, while largely avoiding Las Gaviotas now because of the surrounding violence, helped design the village's cluster of homes, laboratories and factories, which still lie 16 hours by jeep from Bogotá, the capital.

"We try to lead a quiet life, depending on nothing but our own labor and ingenuity," said Teresa Valencia, 48, a teacher who moved here three decades ago.

She said residents had to deal with guerrillas from the [Revolutionary Armed Forces of Colombia](#), the FARC, and gunmen loyal to a paramilitary warlord, Pedro Oliverio Guerrero, who reigns over the llanos with the nom de guerre Cuchillo (Knife).

"We don't take part in this war, and we ask those who enter our village to do so without their rifles," Ms. Valencia said. "So far, for us at least, this has worked."

It is impossible to know precisely how well this strategy has worked from a one-day visit here this month with Mr. Lugari, who lives in Bogotá. He guided foreign journalists and an American engineer who hopes

to create his own version of Gaviotas in New Mexico, on the condition that they not spend the night, because of kidnapping fears.

Visitors who arrive at dawn on a Cessna plane leave before dusk. They see inventions like a water pump powered by a children's seesaw, a solar kitchen and the forest of tropical pine trees that stands in contrast to the otherwise barren plains.

More than two decades after the pines were planted, with the help of a [mycorrhiza fungus](#) introduced to help digest the poor soils, jacaranda, ferns and laurels have flourished under their cover in what some agronomists call one of the developing world's most astonishing reforestation projects.

"A place like Gaviotas bears witness to our ability to get it right, even under seemingly insurmountable circumstances," the American journalist Alan Weisman [wrote in a 1998 book](#) about Gaviotas.

The village uses resin from the pines for biofuel in its tractors and motorbikes, and processes other resin for sale to use in products like varnishes and linseed oil.

Yet Las Gaviotas is not immune to the global economy. China recently flooded Colombia with cheap resin imports, forcing Las Gaviotas to slash production costs on the products it sells by 40 percent.

Mr. Lugari, whose father was a scholar from Rome and married into a Colombian political dynasty, shuns computers and travels with a heavy suitcase of books. On his one-day trip here, the suitcase carried [Fritjof Capra's](#) "The Science of Leonardo."

While Las Gaviotas spawns fascination abroad, some in Colombia are less sanguine about the village created by Mr. Lugari.

Jorge Zapp, a Bogotá engineer and early collaborator here, recognized the importance of Mr. Lugari's ideas and the force of his personality in making them reality. "But like all imperial regimes, from Julius Caesar to Castro, Gaviotas centers on one person," he said. "After some years, Paolo's shadow grew too big."

As if to underscore the point, residents of Gaviotas respectfully call Mr. Lugari "Doctor."

Others, like Mauricio Gnecco, a renewable energy expert at Los Llanos University in Villavicencio, have compared Gaviotas to a submarine, largely isolating itself from surrounding communities as it seeks lasting change within its own boundaries.

A mural in the village's common room depicts a community full of curious children at play amid the inventions, but only a dozen children attend the one-room school, raising questions about the community's future.

Mr. Lugari smiles at such doubts, shifting the conversation to new inventions, like a remote-controlled zeppelin to detect forest-threatening fires on the savanna.

One Gaviotera, as those born in this village are known, explained her theory.

“We have survived,” said the resident, Andrea Beltrán, 25.

“Maybe, at this time and place in Colombia,” she continued, “that is enough.”

*Seth Biderman contributed reporting.*



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The village uses the biofuel in its tractors and processes other resin for market sale.



The New York Times

Las Gaviotas is about 16 hours by jeep from Bogotá.

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