

*Gaviotas Review*

*Gaviotas* tells the story of a village that developed in the savannas of Columbia, *los llanos*, and has since become a poster community for sustainable development in poor, rural areas. Originally founded by Paolo Lugari, the eccentric son of an Italian businessman, and a few of his engineer friends as a rural field lab for development, the project soon transformed into Lugari's attempt at constructing an ideal society. In his own words, he was trying not to create a *utopia*, literally meaning "no place" in the original Greek, but a *topia*, a real place for humans to live. The book traces the story of Gaviotas amid decades of political unrest and civil war from its original creation in the 1960's until 2008, when the book's latest edition was published. Gaviotas' history is divided into three main chapters: The Savanna, The Tools, and The Trees.

The Savanna chapter deals with the initial settling of *los llanos*, considered one of the least habitable regions in the world, and the first Gaviotans' attempts at survival there. In the beginning, Lugari and his crew were unable to grow any sort of food in the nutrient-poor soil; all that would grow were some inedible grasses and a certain species of fire-resistant tree. After learning about some nearby missionaries who had been growing vegetables in similar jungle soil nearby, the Gaviotans devised a system of growing fresh food using hydroponics. For shelter, they constructed houses out of a mixture of the local soil and a small part cement, using first palm thatched, then clay tile, and finally metal roofs. As for water, their needs were met using the first revolutionary Gaviotas invention, a double-acting hand pump that could access the water table that sat below the savanna. These successes warranted the United Nations' funding of Gaviotas for more such innovations.

In The Tools chapter, the Gaviotans' had met some of their basic survival needs, and they started to expand with the help of their new United Nations funding. First, they completed a factory that they had begun building earlier. This would help them in mass-producing many of their following innovations. Next, they invented affordable, small-scale solar water heaters, with the rationale that the initial investment would save Colombian peasants money on fuel in the long run. These heaters eventually would become a massive success in surrounding cities. After perfecting the solar heaters' design, the Gaviotans turned to a project that had been growing in necessity as surrounding political conflict raged on: a hospital. This project was a colossal undertaking for the village, requiring four years to complete, but eventually providing medical care to Gaviotans, local Guahibo natives, and both warring sides. With their reputation improving as word spread of their feats, the Gaviotans set out on their most ambitious project yet: to provide clean drinking water to surrounding jungle villages in order to mitigate waterborne disease. Using their original pump model as well as a wind turbine design created specifically to function in their tropical climate, they were able to dig wells for villages whose water tables had previously seemed unreachable. Then, using the solar heaters, they could boil this water in order to sanitize it. This project would eventually be doomed to failure due to the Colombian government's firm, yet arbitrary, selection of locations to receive wells, but in the few locations where the project was appropriate, the well system worked perfectly.

The Trees chapter covers the most contemporary developments in Gaviotas. Over several years in the village, botanists had been attempting to make various species of trees grow. Finally,

they found a Caribbean pine that took well to the soil. As was the Gaviotas way, they decided not to clear the foliage that sprang up underneath the trees that they planted, in order to see what would happen. The eventual result was a lush pine forest that was gradually restoring itself into a native tropical rainforest. The pines did not reproduce there, so they did not threaten to invade the region and choke out local plants, but they provided the shade for the region's regrowth as well as the raw resin to give the struggling Gaviotans a steady, renewable industry. Finally, due to the Colombian government's eventual modeling of their own healthcare system after the United States', healthcare had been transformed into an industry in the country, requiring more bureaucratic overhead and patients served than the Gaviotas hospital was able to support. This service was subsequently abandoned, with the Gaviotans taking a new route. They began mass-bottling their own water and distributing it to local communities in order to ward off waterborne illnesses, which were the most common ailments, helping to save lives without the use of a hospital.

Through decades of mixed successes and failures, Gaviotas developed from an unlivable grassland into a thriving, environmentally-friendly community that is still trying to create the future of development today.