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Green Education: An A-to-Z Guide

EARTH University (Costa Rica)

EARTH is a private nonprofit international university located in the town of Guácimo in the province of Limón, a lowland region in the east of Costa Rica. EARTH derives its acronym from the Spanish title *Escuela de Agricultura de la Región Tropical Húmeda* (Agricultural School of the Humid Tropical Region). The W. K. Kellogg Foundation, the U.S. Agency for International Development, and the Costa Rican government worked with other national and international agencies to create this unique university in the mid-1980s. The higher education initiative emerged from recognition that unsustainable agricultural practices were damaging and straining soil, water, forest, biological, and other natural resources across Central America.

EARTH opened in 1990 when it began to offer a four-year degree in agronomy that incorporated classroom lectures, laboratory work, field practice, and community service. In spite of having less than 1,500 total alumni and existing for just a relatively short time, EARTH has already garnered respect from international research and educational institutions. In keeping with the university's mission to affect change in low-income areas, 80 percent of students are granted full or partial scholarships. EARTH University Foundation, a nonprofit organization based in Atlanta, Georgia, helps fundraise to support this mission; however, the sales of environmentally friendly goods and services produced on campus are increasingly able to finance the university's programs. University-run businesses show that profitable ventures can be environmentally sustainable.

EARTH's core objective is to prepare students to return after graduation to communities in the humid tropics and to promote sustainable development. Another core objective of EARTH University is to create a positive community impact. The university contributes to management and water quality monitoring in the surrounding Parismina watershed. Food that is not produced on campus is purchased under contracts with local farmers. Students spend one day per week working with a local family or school; they have installed over 1,000 biodigesters that utilize livestock manure to produce cooking fuel.

With a very low faculty-to-student ratio, EARTH's approximately 40 faculty members and just over 400 students come from over two dozen countries. EARTH was founded under the direction of President José Zaglul, who was born in Costa Rica and studied abroad until he received a doctorate from the University of Florida. Zaglul returned to

Costa Rica to work with various institutions, including the Centro Agrícola Tropical de Investigación y Enseñanza (CATIE), an international center for tropical research, before founding EARTH. Today, Zaglul travels extensively, promoting educational models such as EARTH that are hands on, community oriented, and ecologically sustainable. In 2009, Zaglul addressed the American College and University Presidents Climate Commitment (ACUPCC) Leadership Summit.

In 2007, *Grist* magazine voted EARTH the third-greenest university in the world. EARTH provides an unusual model for higher education that is accessible, holistic, practical, and focused on sustainability. Classes provide entrepreneurial and field experience, including a community service internship. The 8,200-acre campus includes a working banana farm, rainforest reserve, and cattle farm. Students help run these operations as they research ways that the university can develop or expand sustainable resource management and green entrepreneurship. Innovations from EARTH students have been disseminated around the world, such as the example of recycling plastic bags placed around bananas during transport from the field. EARTH has been able to minimize the use of agrochemicals during banana production with organic fungicide. Chemical-free production allows EARTH to reuse water and compost plant waste, in contrast to conventional banana plantations.

The university's research focuses broadly on agricultural systems, ecosystem management, carbon forestry, and biodiversity conservation. The university calls its research agenda “applied, guided, and beneficial.” Facilities include a food processing lab and an ethnobotanical garden, demonstrating the range from high- to low-technology initiatives. The university expanded in 2005 to include a new campus called EARTH–La Flor. This satellite site will host a green conference center and a sustainable technology center created with support from the Ad Astra Rocket Company, which intends to conduct plasma research.

In 2007, EARTH University declared itself carbon neutral. Its analysis of carbon balance included three installations—the campus in Guácimo, the La Flor campus in Guanacaste, and the EARTH University Foundation office in Atlanta. EARTH analyzed its carbon mitigation and sequestration sources such as its forests, banana, oil palm, and heart of palm plantations and other crop and livestock production systems and found it had the capability to capture 16,324 tons of carbon dioxide annually. In fact,

EARTH captures 15,170 tons more carbon dioxide annually than it emits. The university has several initiatives to reduce emissions, including the use of electric vehicles for on-campus transportation. A biodigester collects wastewater from the cafeteria and dormitories and uses it to produce energy. Students live on campus and are not permitted to keep cars: many rely on a bicycle for transportation. Three times a year, EARTH has a “day without a car” when all vehicles must stop at the university gates, which are located several kilometers from most buildings. This symbolic action receives local, national, and international attention.

EARTH University has a relatively long history of selling carbon credits to offset greenhouse gas emissions released from other locations. Emitters pay to plant trees on the Costa Rican campus. The university established carbon trade with the Port of Rotterdam even before the Kyoto Protocol popularized international exchange of carbon credits between industrialized and developing countries. EARTH has since become an international certifier of carbon neutrality and works with banks, airlines, and others to verify emissions reduction.

EARTH receives an endowment from the U.S. government and extensive support from EARTH University Foundation, a nonprofit organization based in Atlanta. The foundation organizes fund-raising campaigns using online marketing and social networking tools. “I plant …” is a program in which supporters buy a tree that is planted on campus—plaques with the names of tree donors are visible across campus. International sales of banana paper, a value-added product made on campus from recycled objects mixed with fiber made from banana stock, help the university become self-financing. In 2007, EARTH partnered with the giant health-food chain Whole Foods to sell Earth-bananas: this was the first product to receive the Whole Foods Whole Trade guarantee. The program represents the most stringent Whole Foods certification system and focuses on social and ecological sustainability in addition to promoting a high-quality product that helps to alleviate poverty.

Affiliated U.S. educational institutions include the University of Florida, Ohio State, and Michigan State in addition to partners in Germany, Chile, Argentina, and Uruguay. Regional EARTH networks are impressive: graduates make up a critical number of trained agronomists in some countries. Alumni associations, called AGEARTHs, exist in 16 Latin American countries. EARTH recently started a newsletter called *Impacto*,

dedicated to reporting the impacts of campus events and student work as well as the accomplishments of alumni and donors. The university publishes a journal twice a year called *Tierra Tropical: Sostenibilidad, Ambiente, y Sociedad*.

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