

EARTH University, Costa Rica: A New Kind of Agricultural University

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SYNOPSIS

EARTH University, an autonomous educational entity, was newly designed and established in Costa Rica in 1990. Although a significant part of the plan of study focuses on agriculture and natural resource management, the university's core purpose is to prepare leaders capable of promoting sustainable development in the tropics. EARTH's unique educational model is based on technical and scientific knowledge, entrepreneurial mentality, values and ethics, and social and environmental commitment. In addition to inculcating practical skills that benefit interactions at many levels throughout the AIS, EARTH's experiential curriculum balances theory and practice through work experience, community development, the academic program, entrepreneurial projects, and internships. The emphasis on entrepreneurial skills equips graduates with a greater range of career choices, and exposure to rural communities is vital for producing graduates dedicated to serving the sector and rural people. A major lesson is that the development of robust rural economies requires individuals capable of applying knowledge and skills from across disciplines, often in very practical and applied ways. Faculty must engage directly with their students in production, processing, and marketing as well as in research and extension. Reward and promotion criteria must be designed to encourage innovative teaching and engagement as well as research. Assured funding combined with continuous fund raising enable the university to maintain high academic and infrastructure standards.

CONTEXT

EARTH—an acronym for the university's name in Spanish, Escuela de Agricultura de la Región Tropical Húmeda—is a private, international, four-year undergraduate institution located in the Caribbean lowlands of Costa Rica.¹ An initiative

of a group of largely Costa Rican business, academic, and government leaders, EARTH was founded in 1990 with significant investments from USAID and the W.K. Kellogg Foundation, with strong support from the government of Costa Rica. The support provided by USAID allowed for the establishment of an endowment that covers between one-third and one-half of the university's annual expenses.

EARTH University was established in response to urgent problems in Central and South America, including rural poverty, high population growth, low productivity, migration to cities, destruction of fragile ecosystems, and political instability and war throughout the region. EARTH is a private, nonprofit, international university, autonomous and independent of political pressure. It has an international faculty, a student body originating from 25 Latin American and Caribbean countries, a small number of students from Africa, and is small, with 400 students and 40 faculty. The university's 3,300-hectare farm is used for training as well as commercial, income-generating crop production.

PROJECT OBJECTIVES AND DESCRIPTION

Although a significant part of the plan of study at EARTH focuses on agriculture and natural resource management, the university has defined its core purpose as preparing leaders capable of promoting sustainable development in the tropics. The curriculum is highly integrated and transdisciplinary. While the acquisition of technical and scientific skills and expertise is obviously important, the development of values, leadership, commitment, and a diverse set of skills, abilities, and attitudes are considered equally important.

The development of EARTH in the 1980s coincided with a significant change in the agricultural sector and a marked shift in the structure of employment opportunities in agriculture. Whereas previous generations of agronomists and other professionals had found relatively

abundant employment in Ministries of Agriculture, development banks, and other public agencies, by the 1980s structural adjustment programs and other changes had largely eliminated these possibilities. Consequently, EARTH's academic program was focused largely on preparing professionals for the private sector. Providing graduates with entrepreneurial skills and abilities became fundamental to the program. The centerpiece of entrepreneurial training at EARTH is the Entrepreneurial Project course (see the next section).

INNOVATIVE ELEMENTS

To create the type of leader capable of responding to the social and environmental problems facing rural communities of the humid tropics, EARTH developed a unique educational model based on four pillars: technical and scientific knowledge, entrepreneurial mentality, values and ethics, and social and environmental commitment. As part of this model, EARTH created an experiential curriculum that balances theory and practice. Five keystone programs within EARTH's curriculum are based on experiential learning:

- **Work Experience.** This course is taken by all first-, second-, and third-year students and continues in the fourth year as the Professional Experience course. In the first and second years, students work in crop, animal, and forestry production modules on the EARTH farm. In the fourth year, students identify work sites or activities on campus or in surrounding communities that correspond with their career goals and develop and implement a work plan, dedicating a minimum of 10 hours per week to the "job."
- **Community Development.** In their second year, in an extension of the Work Experience course, students work on an individual basis with small-scale, local producers on their farms and with organized groups in sustainable community development. During this experience in the community, students try to resolve problems facing the region's inhabitants. The community transmits real-world experience and provides learning opportunities for students.
- **Academic Program at EARTH-La Flor.** In their third year, students spend seven weeks living with a host family near EARTH's education and research center in Guanacaste, a province in the dry tropics of Costa Rica, where they have the opportunity to become actively involved in the region's development process. Students contribute to improvements in the communities and also gain experience by

working with companies in the region in such areas as: crop management techniques and practices for melons, sugarcane, rice, and citrus; livestock management practices; small-scale and industrial aquaculture; and regional efforts in alternative energy generation from wind, geothermal, solar, and sugarcane-derived sources. Students also learn about water management and biodiversity in the dry tropics in relation to each of the above-mentioned activities.

- **Entrepreneurial Projects.** Students develop a business venture from beginning to end during their first three years at EARTH. Small groups of 4–6 students, of different nationalities, decide upon a business activity related to agriculture and natural resources and conduct a feasibility study (including financial, social, and environmental criteria). If the study is approved by a panel of professors, other students, and external experts, the university loans money to the company, and the team implements the project, including the marketing and sale of the final product. After repaying their loan, with interest, the group shares the profits. The Entrepreneurial Project is accompanied by a series of classroom modules related to business organization, accounting, marketing, and similar themes.
- **Internships.** In their third trimester of their third year, students leave campus and take part in an internship program with a host organization such as a business, NGO, or farm. This internship program lasts 15 weeks and is a crucial component of the student's experiential education. Using knowledge and skills acquired in their first three years at EARTH University, students obtain real-world practical experience upon which they can reflect during their fourth and final academic year.

These programs give students opportunities to develop planning and leadership skills, foster responsibility, encourage them to become decision makers and critical and creative thinkers, improve their ability for analysis, synthesis, and evaluation, and apply technical and scientific knowledge in real situations.

IMPACT

In its twenty years of operation, EARTH University has graduated some 2,000 students, the majority of whom have returned to their home countries to work in agriculture and rural development. The EARTH educational model is widely recognized as suitable for developing graduates who have the academic and practical knowledge, skills, and confidence to take leadership positions in the sector. Many graduates create their own businesses and become employers.

LESSONS LEARNED

The key to graduating professionals capable of successfully promoting change and sustainable rural development is to begin with young people who have a vocational interest in agriculture, natural resource management, rural development, and related areas. Such graduates are likely to return to rural areas and engage in the complex and difficult work that drives development. Investment in choosing and recruiting new students is a major contributor to the production of graduates dedicated to serving the sector and rural people.

Universities have to be engaged with rural communities. Too often, universities are located in the capital city and lack the resources (or the will) to get faculty and students into rural areas to engage directly with farmers and their families. Frequent and direct contact with the realities of rural life and the challenges of agricultural production are essential in the formation of future change agents.

Higher education in agriculture has become increasingly specialized, with the result that many graduates have great difficulty integrating knowledge across disciplinary boundaries. Yet the development of robust rural economies requires individuals capable of applying knowledge and skills from across disciplines, often in very practical and applied ways. Particularly at the undergraduate level, a generalist formation would seem to be more relevant to the

needs of most developing countries. An emphasis on entrepreneurial skills equips graduates with a greater range of career choices. Exposure of students and faculty to agricultural communities leads to better communication, greater understanding of rural living conditions and livelihood challenges, and the formulation of technical and social solutions.

A favorable student-to-faculty ratio (10–1 at EARTH) allows for quality interaction and instruction. Faculty have to be willing to get their hands dirty and to engage directly with their students in production, processing, and marketing as well as in research and extension. Reward and promotion criteria must be designed to encourage innovative teaching and engagement as well as research. At the same time, teachers and professors must be provided decent compensation for their service. Substandard salaries and working conditions only serve to drive the best out of education, leaving the mediocre in charge.

Agricultural institutions, faculties, and schools require investment and must be equipped with the latest technological advances to make a meaningful contribution to building human resources for agriculture. Although assured funding enables the university to maintain high academic and infrastructure standards, fund-raising remains a constant task for a private autonomous university, since its future depends on such income.