Dr. Luis Fernando Osorio
Director
Department of Food Agroindustry
Panamerican Agricultural School of Zamorano
Honduras

Panelist: Session I
Reducing Rural Poverty through Agriculture
The Key to Prosperity in Central America
A Change in Culture

Luis Fernando Osorio, Ph.D.
Professor, Director Food Science and Technology
ZAMORANO UNIVERSITY
Addressing the challenges:

Zamorano University

• The early years
  • Sam Zamurray and The United Fruit Company
  • Three-year agronomist program

• Zamorano today
  • Four undergraduate degree programs
  • 1,320 undergraduates from 23 countries
  • Over 7,000 graduates around the globe
  • Applied research and outreach
  • International faculty
  • Backing from US and around the world
Honduras: Last 30 years

1985
- Population: 4 Million
- Percentage of people living in poverty: 50%

2015
- Population: 8 Million
- Percentage of people living in poverty: 67%
International community donations

In Honduras during 2010-2012:

- **760 development projects**
- **40 donors**
- **$2,130,847,240.25 invested**

Source: Honduran Ministry of Foreign Affairs and International Cooperation
http://pgc.sre.gob.hn/es
Resistance to change
ZAMORANO AND THE STATE OF TEXAS

<table>
<thead>
<tr>
<th>Number of Zamorano Alumni</th>
<th>Working</th>
<th>Graduated Current status</th>
<th>Enrolled</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
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<td>1</td>
<td>14</td>
<td>9</td>
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Texas A&M University
Joint research projects

- Evaluation of fruit extracts (prickly pear, black carrot, sweet potato, mango) against cancer cell lines
- Evaluation of extract of fruits and their byproducts (cacao) against cancer cell lines
- Evaluation of mango fiber processing (gallotannins)
- Evaluation of processing of açai (tropical fruit)
Strategies to change the culture of poverty
The ISEEK small business development program has been developed at Purdue University, and has become the national flagship small business development program in India. In association with Purdue, Zamorano will introduce the Institute for Social Empowerment through Entrepreneurship and Knowledge (ISEEK) in Honduras, through a project called SAKSHAM. The main objective is to facilitate the creation of 37 successful small businesses in Honduras in the next 3 years, directly empowering 370 young people. Using ISEEK’s collective entrepreneurship model, each business will comprise of approximately ten “business owners” and create jobs for their respective communities.

http://www.krannert.purdue.edu/centers/iseek/
The Global Food Security Consortium is a worldwide association based at Iowa State University, created with the purpose of providing food security for the world, taking every step of the food chain into consideration. It focuses on innovative and interdisciplinary research, education and engagement programs oriented to six main fields: Germplasm and Seed Systems, Climate Resilient Crops and Animals, Sustainable Water Systems, Post-Harvest Utilization and Policies, Regulations and Trade.
Youth & universities to challenge and change the culture of poverty

Physical presence

Support education

Technical Assistance

Governance

Research
Prevention of Childhood Malnutrition, Stunting and Infections through Scalable Tropical Fruit Processing in the Dry Corridor of Honduras

Investigators
Cardona/Talcott/Talcott/Hernández
Tropical Fruit Products

Development of sustainable technology in processing of shelf-stable fruit products

Education in fruit processing for households and small women-owned businesses

Fruit-products as supplemental feeding for infants (200-1000 days of age)
Healthy snacks for schools

Sustainability through product-acceptance and revenue for local businesses

Providing shelf-stable fruit products in food deserts

Support for women-owned small businesses

Intestinal health in children – Reduced stunting and malnutrition

Training in agriculture and processing

Figure 1. Multi-Targeted Approach of Tropical Fruit Processing
<table>
<thead>
<tr>
<th>Education in Business and Production</th>
<th>Improving Childhood Health</th>
<th>Educational Capacity Building</th>
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<tbody>
<tr>
<td>Household gardening of tropical fruits</td>
<td>Providing functional food products in food desserts</td>
<td>Education of health care professionals, dietitians, nutritionists</td>
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<tr>
<td>Women-owned Small businesses - artisan production of stable food products</td>
<td>Human clinical trials intestinal health in children 200-1000 days of age</td>
<td>Education of Zamorano graduate students to apply their skills in Honduras after graduation</td>
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**Figure 2.** Overview of Objectives
Research Collaboration

Figure 4. International and Interdisciplinary Team Approach
74 Years Of Academic Excellence
<table>
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<th>Goal 1</th>
<th>Goal 2</th>
<th>Goal 3</th>
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<tbody>
<tr>
<td>A) Development of processing technologies with tropical fruits that are sustainable in households and small businesses in the Dry Corridor</td>
<td>A) Introduction of tropical fruit-based baby foods as complementary food to breast feeding in existing breast-feeding programs managed by Zamorano University</td>
<td>a) Research and support of sustainability of project</td>
</tr>
<tr>
<td>B) Education of households and small women-owned businesses</td>
<td>B) Introduction of healthy snacks in school lunch-programs already supported by Zamorano University</td>
<td>b) Human clinical trials with children studying:</td>
</tr>
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- a) Reduction of GI infections and inflammation
- b) Malnutrition
- c) Stunting
- d) School performance

**Figure 3. Specific Goals**