FHIA

HONDURAN FOUNDATION FOR AGRICULTURAL RESEARCH

# INSTITUTIONAL PROFILE

La Lima, Cortés, Honduras, C.A.
March, 2011

## A. NAME OF ORGANIZATION

Honduran Foundation for Agricultural Research.

## B. BACKGROUND

FHIA was established on May 15, 1984 by a group of representatives from both public as well as private institutions connected to the national agriculture sector. It was established as a means to strengthen the process by which technology could be generated, validated, and transferred to the Honduran agricultural sector. It was also intended to help diversify agricultural production for domestic as well as export markets.

The Ministry of Agriculture and Livestock and USAID played crucial roles in creating the Foundation. Their initiative was strongly supported by the United Brands Company, who donated its Division of Tropical Research facilities in La Lima, Cortés, to the Honduran government to be used as FHIA's headquarters.

FHIA began operations on January 1st of 1985, using the existing offices and laboratories located within the facilities of the United Brands research division. The facilities included a 100 hectare experimental station located in nearby Guarumas which was dedicated to the genetic improvement of bananas and plantains. USAID approved a project to finance the Foundation's operations from 1984-1994, while the Honduran government assigned a financial counterpart for the same period. USAID provided further funding for infrastructure development and improvements.

Currently, the Foundation's main installations continue to be in La Lima, Cortés, with regional offices in La Masica, Atlántida and Comayagua, Comayagua. Additionally, four experimental and demonstration stations operate in different agro-climatic regions of the country.

## C. NATURE OF THE FOUNDATION

FHIA is a private, apolitical, non-profit organization. The overall governing body is the General Assembly which includes 87 members. The Board of Directors is composed of nine people elected by the Assembly. The President of the Board, and representing the Honduran government, is the Minister of Agriculture and Livestock. The other board members are Foundation associates and representatives of Honduran private business sector.

## D. MISSION AND OBJECTIVES

### Mission

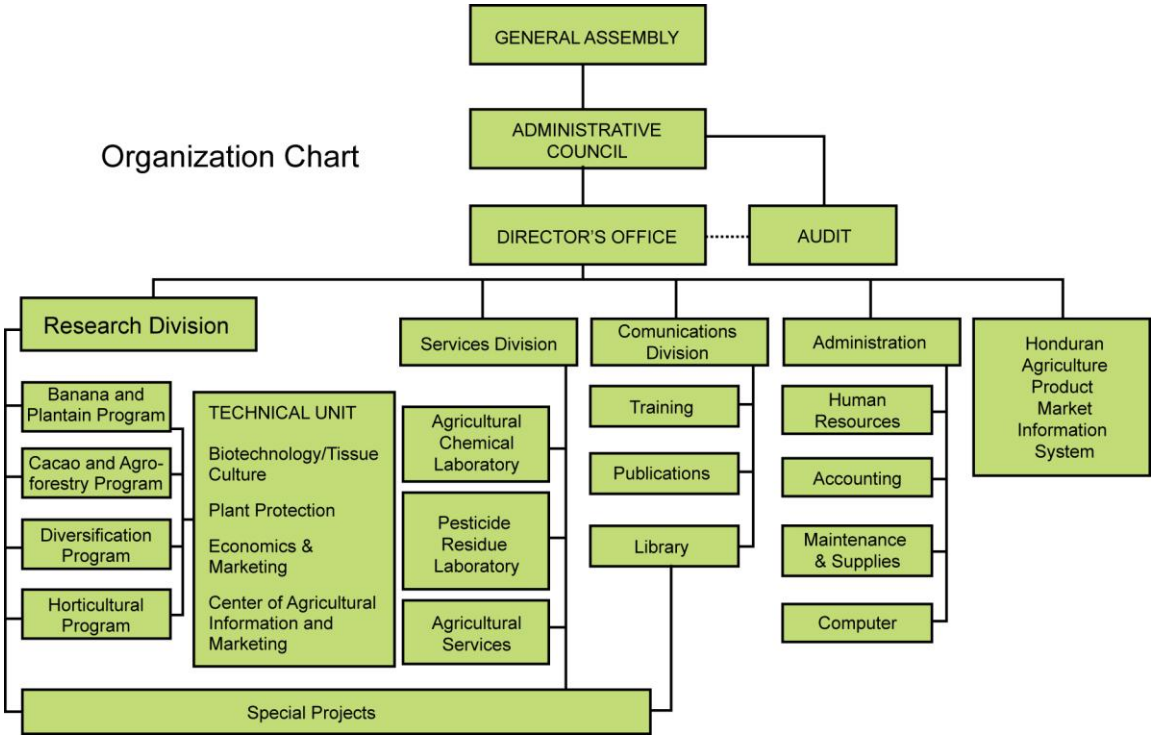
To generate, validate, and transfer technology for the national agriculture sector related to traditional and non-traditional crops for the local and foreign market.

### Objectives

a. To perform research on traditional and non-traditional crops for local consumption and export, including production, processing, and marketing components at the national and international level.
b. To develop technical assistance projects for producers and to promote diversification with high value crops and modern technology emphasizing the application of best practices to optimize production and productivity while preserving resources and the environment.
c. To provide laboratory services as well as other services related to research and technology transfer.

## E. ORGANIZATIONAL CHART

To fulfill the organization's functions and achieve its mission, FHIA is efficiently organized with an internal structure distributed in the following manner:




**1. General Assembly:** the highest authority in FHIA includes all associates. It holds one annual meeting each year, but can meet as many times as considered necessary. It issues resolutions within the general guidelines for the Foundation's development and to ensure that its goals and objectives are being diligently pursued.

**2. Board of Directors:** composed of nine active associates designated by the General Assembly. It is the Board's responsibility to guarantee compliance with all of the Foundation's statutes, regulations and policies.

**3. Director's Office: t**he foundation's legal representative reports to the Board. The Director is responsible for the organization's efficient operation and the Foundation's adherence to approved annual work plans and accompanying budget.

**4. Research Division:** responsible for coordinating the efficient development of priorities and research efforts. The Research Division includes the following programs: Bananas and Plantains, Cocoa and Agro-forestry, Diversification, and Horticultural Crops. In addition, it coordinates the operation of the Technical Units and the implementation of special projects financed by specific donors. The personnel assigned to the different programs also responsible for providing technical assistance to growers.

**5. Technical Unit:** is composed of four specific discipline areas: Plant Protection, Postharvest, Information Technology, and Economics & Marketing. Each unit is designed to provide supporting services to the research programs, perform technology transfer and research projects, as well as to the general public in each of their respective areas.

**6. Services Division:** responsible for coordinating the supply of specialized services to FHIA's programs, departments, and projects as well as to Honduran farmers and neighboring countries. These include Agricultural and Technical Services, Agricultural Chemical and Soils Laboratory, and a Pesticide Residue Laboratory.

**7. Communications Division:** responsible for managing the Agricultural Communication Center which consists of three Operating Units: Training, Library, and Publications. This division provides services to FHIA's programs, departments, and projects in order to support the development of research activities and technology transfer.

**8. Administration:** which is divided into Human Resources, Accounting, and Maintenance & Supplies. It provides support to the Foundation's various activities.

**Human Resources:** The organization currently (2011) employs 296 staff members in the following departments and programs:

| Area | Management | Technical | Support | Total |
|---|---|---|---|---|
| Administration | 6 | 0 | 36 | 44 |
| Research | 7 | 10 | 86 | 153 |
| Services | 2 | 2 | 10 | 15 |
| Communications | 3 | 2 | 9 | 14 |
| Projects | 3 | 11 | 41 | 70 |
| **Total** | **21** | **25** | **182** | **296** |

**The Honduran Agriculture Products Market Information System (SIMPAH)** is a service that collects and disseminates useful and reliable market data regarding the wholesale prices of agricultural inputs and products sold in the country's main markets. Working with the Secretary of Agriculture and Livestock, FHIA has administered the SIMPAH system since 1998 and has extended its coverage to El Salvador and Nicaragua in the past few years.

## F. RESEARCH PRIORITIES

The research priorities for each one of the programs are as follows:

### 1. Banana and Plantain Program

This program develops disease and pest resistant banana and plantain varieties while maintaining high production and the ability to thrive under adverse production conditions. This program also

seeks to reduce these crops' dependence on agro-chemicals in order to reduce production costs and contribute to a sustainable production with minimum impact on the environment.

**2. Cacao and Agroforestry Program**

Generate, validate and transfer appropriate technology utilizing an agroforestry system for small and medium-sized producers in flat lands and hillsides with high precipitation. The systems must be a profitable alternative to the traditional migratory slash and burn agriculture and contribute to the protection of natural resources. Due to the socioeconomic profile of the beneficiaries of this program, efforts are made to identify, evaluate, and transfer low cost cultural practices with a minimal amount of agro-chemicals to improve their income.

**3. Diversification Program**

Identify and introduce new crops that will contribute to the country's agricultural diversification and promote higher-value commodities for both internal and external markets. Develop research in agronomic management of crops through technological innovations that allow for efficient production in the country. Provide technical assistance to producers.

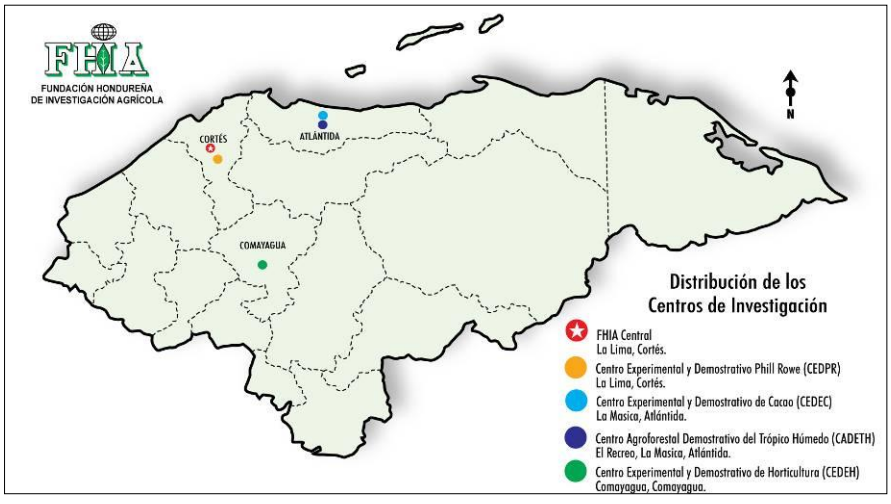
**4. Horticultural Program**

Identify profitable fruit and vegetable crops; evaluate production systems, varieties, and cultural practices that will allow for more efficient and profitable production for both local and export markets.

## G. INFRASTRUCTURE

In order to carry out its functions, FHIA has its headquarters in the Municipality of La Lima, Cortés that include offices, laboratories, and warehouses. It also operates four experimental stations in different agro-climatic zones throughout the country that conduct research, technology transfer activities, and protection of phytogenetic resources:

1. "Phil Rowe" Experimental and Demonstration Center (CEDPR), Guaruma, La Lima, Cortés.
2. Experimental and Demonstration Station for Cocoa (CEDEC), La Masica, Atlántida.
3. Humid Tropics Agroforestry and Demonstration Center (CADETH), El Recreo, La Masica, Atlántida.
4. Experimental and Demonstration Station for Horticulture (CEDEH), Comayagua, Comayagua.




**Map showing FHIA Research Centers in Honduras.**

## H. SOURCES OF FUNDING

In order to guarantee stable funding for the organization, USAID established an endowment fund through the Honduran government in 1993. The main source of funding for FHIA since 1994 has been the interest generated from the endowment. This fund is managed by an Endowment Fund Committee of five members, four of which are associates of FHIA and a fifth who is a representative of the Honduran Secretary of Finance. The committee's actions are governed by a series of regulations and the committee reports directly to the Board of Directors.

## I. INSTITUTIONAL RELATIONSHIPS

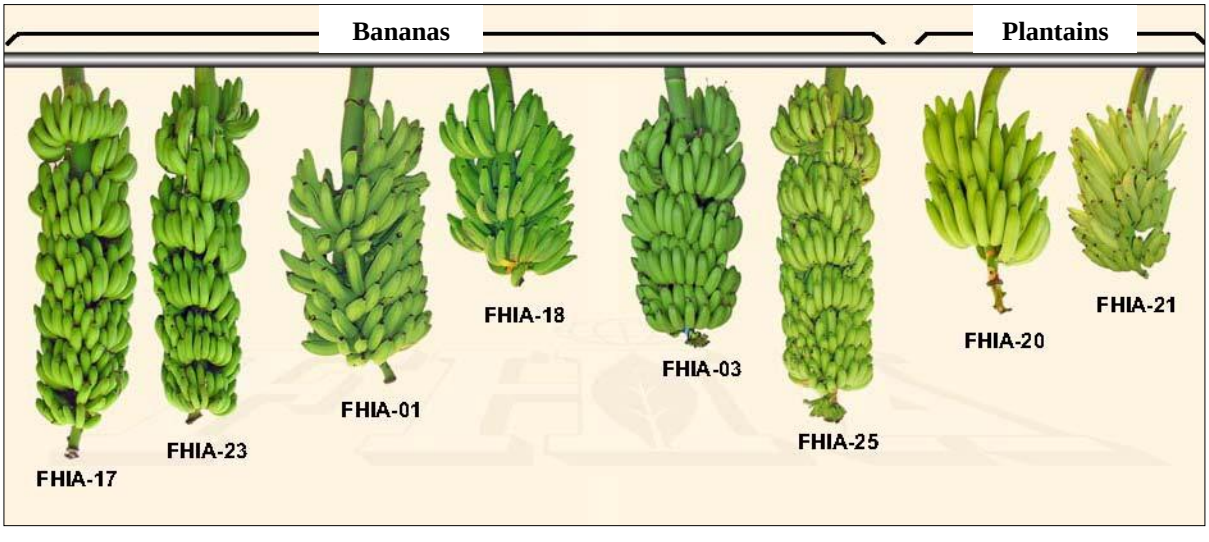
FHIA maintains close relationships with a variety of institutions linked to the agricultural sector, especially with the Ministry of Agriculture and Livestock. For this reason, the Foundation's work is aligned with the strategic rural development plans established by the Honduran government. The President of the Board of Directors is the Minister of Agriculture and Livestock, and the Programs Committee includes a representative of the Secretary of Agriculture and Livestock, who aids in preparing and reviewing the Foundation's annual operative plans.

The Foundation has the authority to sign agreements and pacts with local national and international companies and institutions to carry out research projects and technology transfer. FHIA has ample experience cooperating with institutions like: USAID; OIM and GTZ from Germany; KUL from Belgium; JICA from Japan; DGIS and PAH from Holland; IAEA from Switzerland; CIRAD/FLHOR and IPGRI/INIBAP from France; CORBANA from Costa Rica; IDRC, CESO y CIDA from Canada; BID; World Bank; Common Fund for Commodities (CFC); FAO; IICA; CATIE; World Wildlife Fund (WWF); as well as local universities UNA, EAP, USPS, UPNFM, UTH y CURLA, and with producer associations in the country.

The Foundation has agreements with many other similar institutions carrying out agricultural research, privately owned companies, and biotechnology laboratories in different countries that perform research and transfer agricultural technology.

## J. MOST RELEVANT ACHIEVEMENTS RESULTING FROM THE RESEARCH PROGRAMS

**Banana and Plantain Program.** Due to the resistance of the varieties of bananas and plantains developed by FHIA to diseases like Black Sigatoka and Panama disease, FHIA continues to be the most advanced international center for traditional banana genetic improvement in the world. FHIA-01 variety, also known as Goldfinger, is produced in small quantities in many countries, especially Cuba, Bolivia, South Africa, and Australia. The variety known as FHIA-03 has also shown excellent results in many parts of the world and is an excellent cooking banana for domestic use especially in Africa. Around 14,000 hectares of FHIA-18, FHIA-21 y FHIA-23 are grown in Cuba for consumption as dessert bananas. In Brazil, the production of different hybrids developed by FHIA, especially FHIA-18 and SH-3640 is continuing to expand. There are 2,000 hectares of FHIA-21 planted in the Dominican Republic which are used primarily in the processing industry. These hybrids are also distributed across Honduras in small farms that use them for their own household consumption.




**Plantain and banana hybrids developed by FHIA.**

The annual benefits for producers resulting from higher yields and decreased chemicals use are estimated to be close to $18 million. Thousands of small producers in Africa, Asia, Oceania, and Latin America have successfully grown FHIA hybrids for domestic consumption.

**The Cocoa and Agro-forestry Program** has identified cultural practices that increase the production and productivity of cocoa. Cacao yields have doubled from the beginning of the program until 1998. After 22 years of intense research, agro-forestry systems associated with the use of certain species of fine and hardwood timber trees have been developed for cocoa production. These higher-value systems are an alternative to traditional production systems with low-value shade trees and have significantly increased producer incomes.

Since 1997, there has been a broad research program at CADETH focused on agro-forestry systems on hillsides in humid tropics. The information that is generated from this research is then transferred through specific projects to hundreds of small producers located on hillsides throughout the Atlantic region of the country. These projects are oriented toward promoting the

integral and rational use of natural resources to improve the farmers' incomes and living conditions, while at the same time improving the environment. The work at CADETH includes technology transfer activities in agro-forestry systems, higher-value timber varieties on hillsides and in pure stands, tilapia production, basic improvements in homes, and generation of energy via hydroelectric power for small communities located in buffer zones and / or in important watersheds and protected areas.

Since 2001 the intensive study of Moniliasis, caused by the fungus *Moniliophthora roreri*, has been a priority for the Cocoa and Agro-forestry Program. In coordination with the Ministry of Agriculture and Livestock, research has been conducted validating appropriate technologies that greatly reduce the damages caused by this disease. As a result of this research, new agronomic management practices were put into use that greatly reduce the incidence of the disease and genetic materials have also been identified with resistance to the fungus. This genetic material is being reproduced and distributed among producers and the new agronomic practices are allowing for the reestablishing of cocoa production on farms where producers have adopted FHIA's technical recommendations.

The **Diversification Program** has identified and promoted alternative crops for export including fruit, spices, roots and tubers. Initially, the program placed emphasis on the mango crop, artificially inducing the blooming period in order to produce the fruit during a more profitable time of the year – a practice which is still used in the area of Comayagua.

In the past few years, rambutan has become the diversification crop with the largest expansion in the country thanks to FHIA's efforts. There are currently around 600 hectares in production, 200 of which are planted with export quality materials introduced into the country by FHIA.

For many years, the Plant Protection Department carried out field research trials and laboratory experiments demonstrating and documenting that rambutan was not a host for fruit flies. This discovery was fundamental to obtaining admissibility for this product into the North American market as of June 2003. FHIA has promoted producers organizations and provided training and technical assistance. This has increased national production which represents annual income of close to 35 million Lempiras ($1.8 million). Exports to North America, which began in 2003, have increased every year, providing an excellent income for these producers.

A broad research program has been developed to improve the agronomic management of black pepper. New varieties have been introduced and evaluated and gradually introduced to farmers.

Significant advances have also been made in promoting the production of roots and tubers, specifically with ginger. The technology developed is currently used by small producers in the community of Combas, Victoria, Yoro, and it annually generates more than 20 containers for export to the North American market.

Since 2000, FHIA has been involved with the Wafaluma network with public and private organizations in an effort to re-establish coconut plantations that were wiped out by Coconut Lethal Yellowing Disease along the Atlantic coast of the country. FHIA has imported Dwarf Yellow Malayan and hybrid Maypan coconut seeds from Jamaica and distributed them in different Garifuna communities within the affected area. A mother orchard of the same Dwarf Yellow Malayan variety was established at La Lima as well and began seed production in 2003.

Around 60,000 plants from this orchard have been distributed within the Garifuna communities, producers' farms, and tourist areas along the Atlantic coast in the past three years.

The Diversification Program also manages a tropical fruit orchard that includes a collection of 30 varieties of citrus fruits, 40 varieties of avocadoes, 58 varieties of mango and different varieties of other fruit, like soursop, starfruit, cashew, lychee, and loganberry. These are sought after by projects and institutions that promote family orchards in different parts of the country, by independent entrepreneurs wishing to set up commercial orchards, and by individuals for domestic consumption. In the past two years, more than 58,000 plants have been distributed, and planted in an area equivalent to 210 hectares.

The **Horticulture Program** has identified vegetables varieties that are adapted for local production and for export, i.e., cucumbers, tomatoes, peppers, onions, pumpkins, squashes, watermelons, blackberries, raspberries. The program has also generated technological innovations for the production and export of oriental vegetables. Through this program's activities, warm climate vegetable production has improved significantly for the local and foreign market.

In addition to generating information regarding planting density, pest and diseases control, and postharvest handling, FHIA has perfected the technique for grafting chinese eggplant. This has created a demand for the production of more than 500,000 grafted plants in the past 3 years to partially satisfy producers' demand.

The **La Esperanza Agricultural Demonstration Project** operated from 1992 until 2007 and promoted the production of vegetables and fruit in the mild climate of the high plains in Intibucá. During this time, technology was generated, validated, and transferred for more than 22 vegetable crops and five species of high altitude fruit crops. This has contributed to the agricultural diversification in this part of the country that traditionally produced corn and potatoes. FHIA's contribution has been fundamental for the production of vegetables and fruit in the region, which generates more than 20 million Lempiras ($1 million) a year and increases the incomes of hundreds of small producers in the area.

The **Center for Agricultural Communication** has been an active participant in the training process of thousands of national and foreign professionals and producers. Annually, a broad range of training events is developed focusing on crop production, postharvest management of fruit and fresh vegetables, the safe use of pesticides, marketing and sale of products, agro-forestry, management of agricultural enterprises, and the use and conservation of natural resources. This center has played an important role in the process of disseminating technical-scientific information generated by the organization in the form of manuals, guides, pamphlets, posters, videos, and other media. This material is used in FHIA's agricultural outreach activities. In recent years, new Information and Communication Technologies (ICTs) are being used to spread information in the country and abroad.

The Foundation's technical-scientific staff and its logistical structure are fully capable and willing to continue providing quality technical assistance to Honduran and foreign producers in order to strengthen their modernization process and competitiveness.

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