



Sowing  
INNOVATION  
to  
Harvest  
PROSPERITY

## Sustainable Agriculture: on-going activities in the hemisphere and plans for the Caribbean

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Technological Innovation

*Regional Consultation on Sustainable Crop  
Production Intensification in the Caribbean*

**Barbados, 4-5 October, 2012**

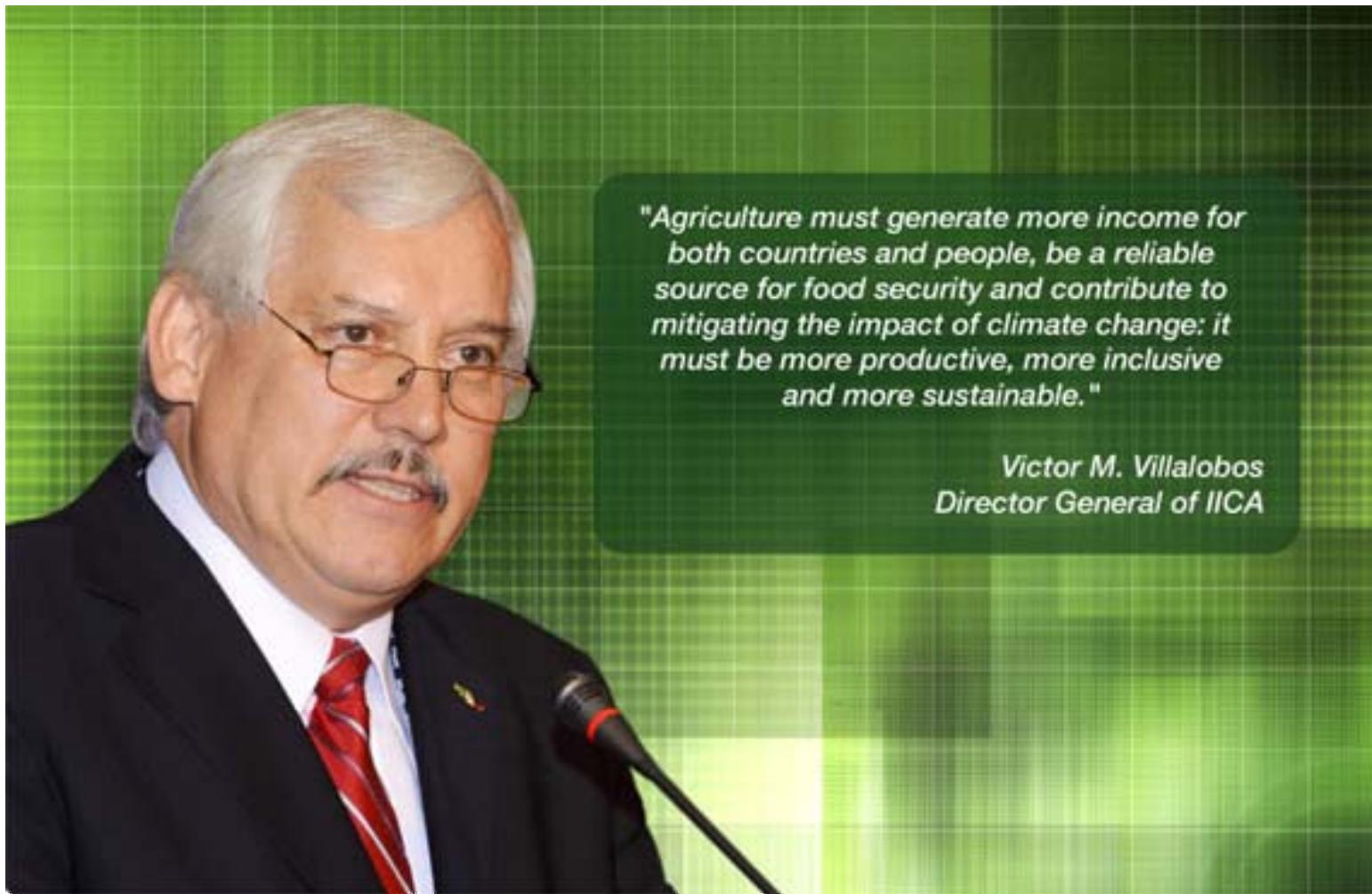


# What is IICA?

- International Organization of the Inter-American system of nations specialized in agriculture
- Created by the American countries in 1942
- Presided by the Ministers of Agriculture which define the agenda of activities
- Governing structure:
  - The Inter-American Board of Agriculture: 34 Ministers
  - Executive Committee: 12 Ministers
- Not a funding agency



# Víctor Villalobos



*"Agriculture must generate more income for both countries and people, be a reliable source for food security and contribute to mitigating the impact of climate change: it must be more productive, more inclusive and more sustainable."*

*Victor M. Villalobos  
Director General of IICA*



# Main areas of activity

## Programmes

- Management of Rural Territories
- Innovation for Productivity and Competitiveness
- Agricultural Health and Food Safety
- Agribusiness and Commercialization

## Cross-cutting

- Natural Resources and Climate Change
- Food Security



# Innovation for Productivity and Competitiveness

1. Management of Innovation, **Hemisphere**
2. **Regional** Innovation Systems
3. Agro-Biotechnology and Biosafety
4. Organic Agriculture
5. Clean Energy
6. Knowledge Management and Information + Communication Technologies



# IICA + FAO

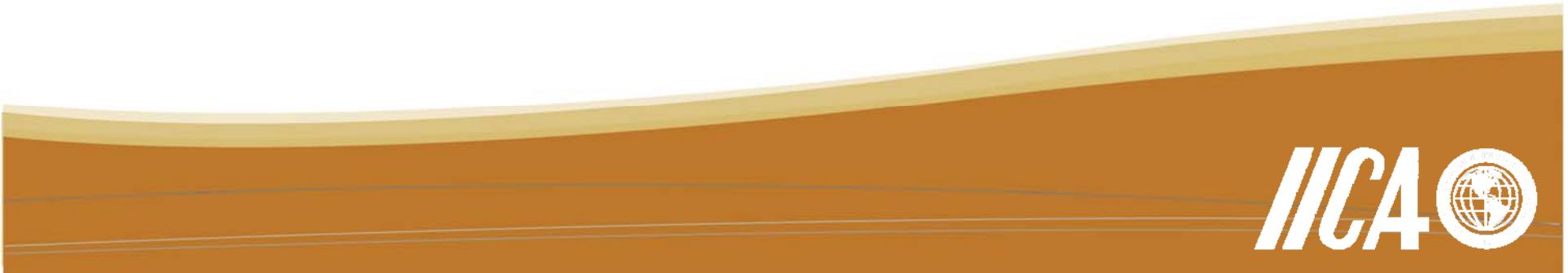
Both organizations are now **working in a coordinated manner**, starting with the Caribbean

Multiplicative effects



# 1. Management of Innovation

- **Strengthens** national innovation systems
- Improves management of the **entire system** by providing of **relevant** and **efficient** services



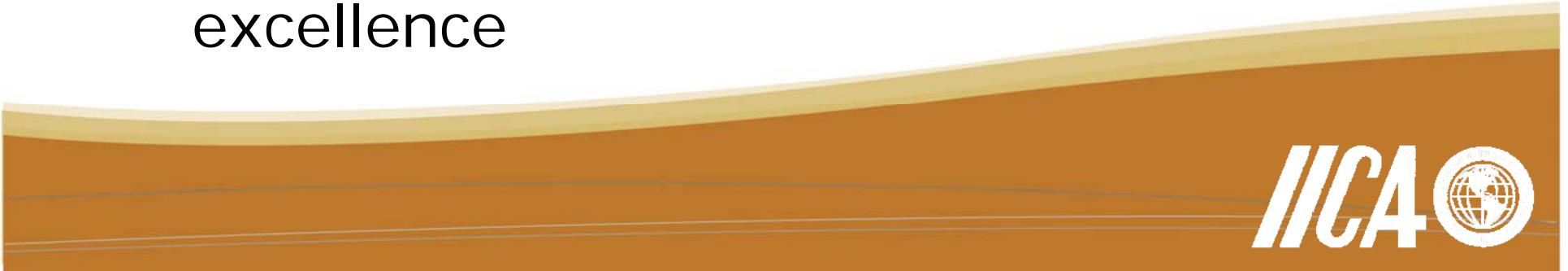
# How it works

- *Participatory analysis* of national research organizations
- *Diagnosis* of national innovation systems
- *Enhancement/Upgrading* of extension services
- *Management* of Intellectual Property



## 2. Regional Innovation System

- Improve the effectiveness and efficiency of national **agricultural research, extension and innovation**
- with support from **hemispheric** cooperation and **international** institutions of technical and scientific excellence



# Hemispheric initiatives

- **FORAGRO** (1997)
  - Forum for the Americas on Agricultural Research and Technology Development
- **FONTAGRO** (2000)
  - Regional Fund for Agricultural Technology
  - In the Caribbean, Dominican Rep. joined

Why not the rest?

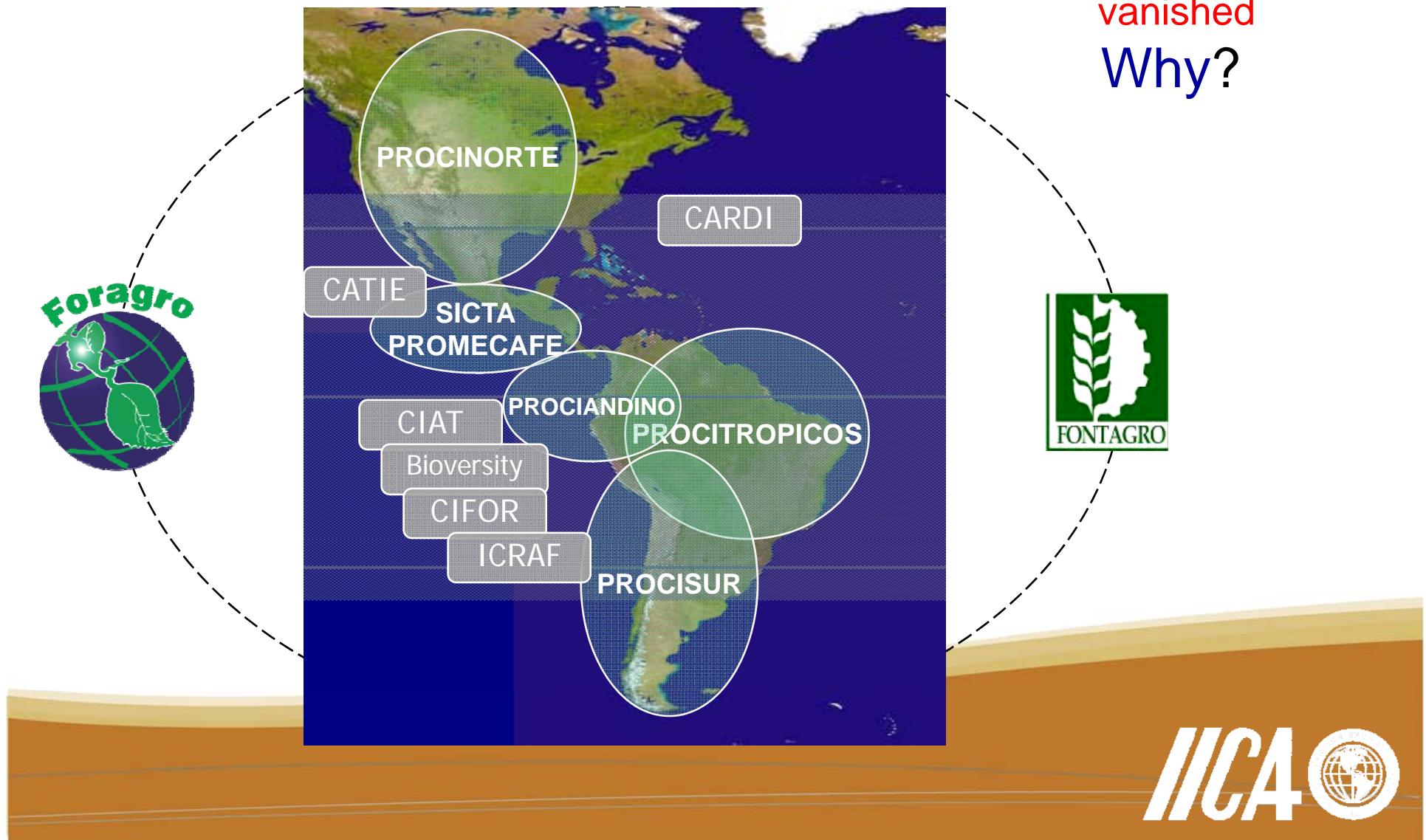
# What does FORAGRO do?

- Seeks to **consolidate** the AgriFood system
- Facilitates **dialogue** and coordination
- Establishes **strategic partnerships** among the stakeholders
- Includes **national, regional** and **international** research and development systems

# What does FONTAGRO do?

- a. It is a **competitive** and **transparent** mechanism
- b. that allocates funding to **research** and **innovation** projects
- c. submitted by consortia between research partners of **two or more** countries

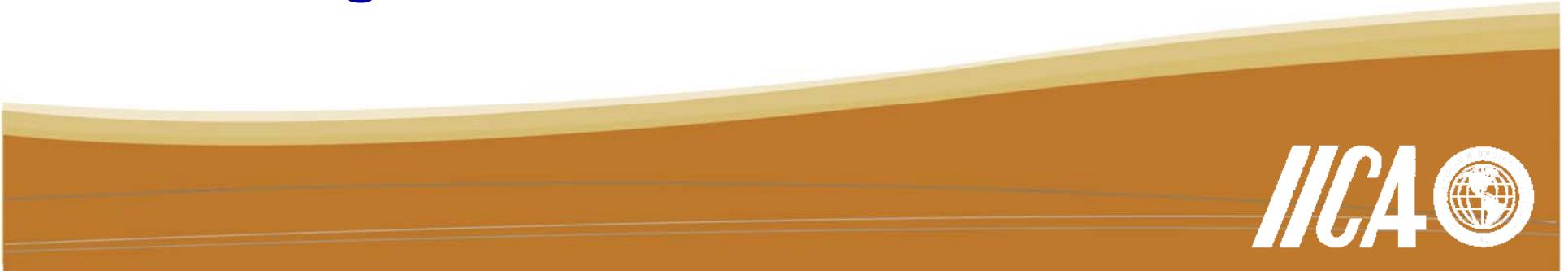
# Hemispheric network

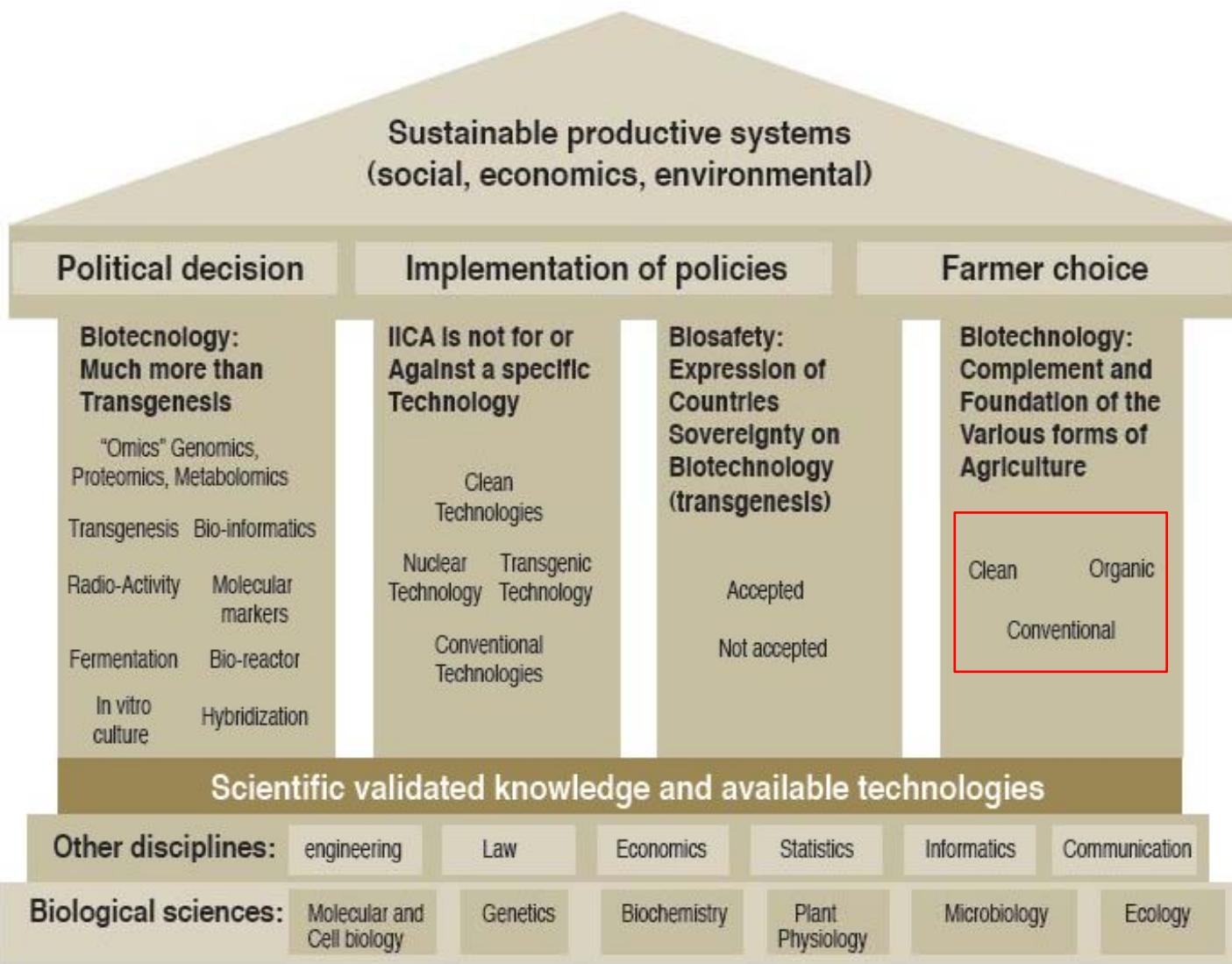


### 3. Agro-biotechnology and biosafety

Strengthens the development and use of  
**agro-biotechnologies**

To improve the **productivity** and  
**competitiveness** and the **sustainable**  
use of **genetic resources**





Purposes

Institutional Interaction

Pillars'  
IICA on  
biotechnology

Technological innovation

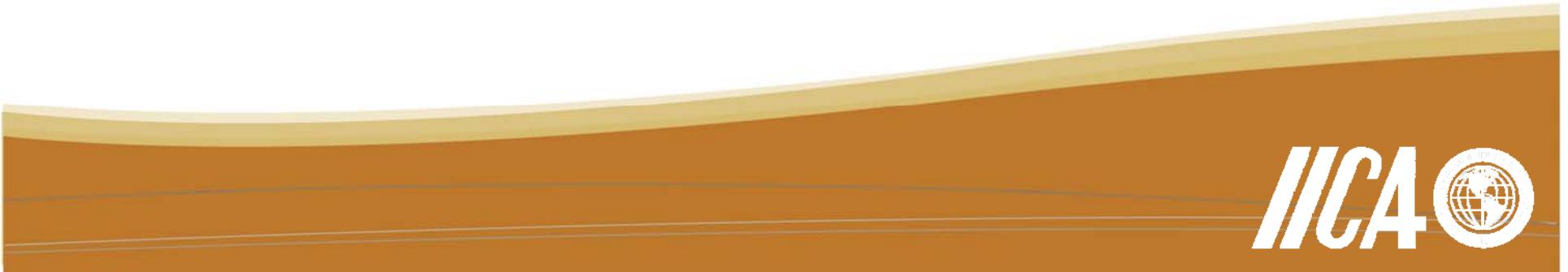
Scientific and technical basis



## 4. Organic agriculture

Promote **new** methods to practice agriculture

in a **sustainable** way, **compatible** with food security

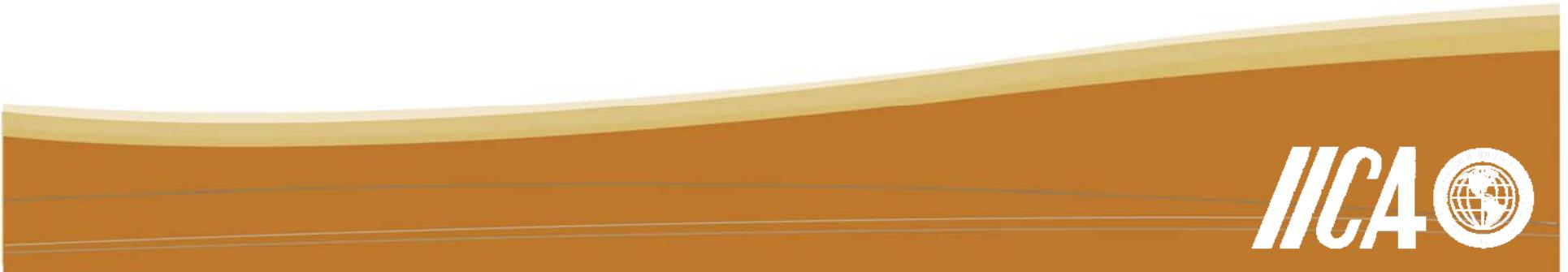


# How does OA operates

- Strategies, policies, programmes and projects
- Norms and regulations
- Institutional strengthening for the **promotion, control** and **trade** of organics
- **Knowledge** management

## 5. Clean Energy

Promotes the use of **cleaner energy sources** that are **compatible** with food security and with a **sustainable** agriculture



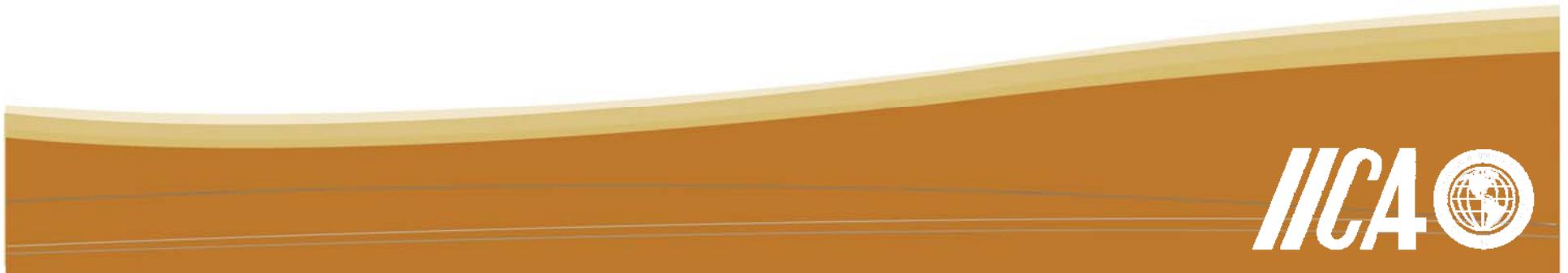
# How does CE operates

- Advance the development of 2nd and 3rd generation of energy technologies based in **lignocellulose** materials
- Develop models that **integrate small scale agriculture** and energy production
- **Merge** the **new schemes** with the strategies for **local development**



## 6. Knowledge management and Inf. + Comm. Tech.

Develop processes and capacities for the  
**management, sharing** and **enhanced  
access** to information with ICT tools



## Acerca de...

El IICA mantiene este sitio web como un instrumento de apoyo al bienestar de la agricultura de los países y a quienes accedan a él (los Usuarios). La información que aquí se presenta es para fines informativos únicamente. El IICA siente gran satisfacción en permitir que los Usuarios visiten el Sitio web para obtener información útil y útil.

21.000 subscribers  
10+ years of operation



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Agronegocios



## Biotecnología



MIOTEQ



Sanidad e Inocuidad



SICTA



Red SICTA



# At the national level

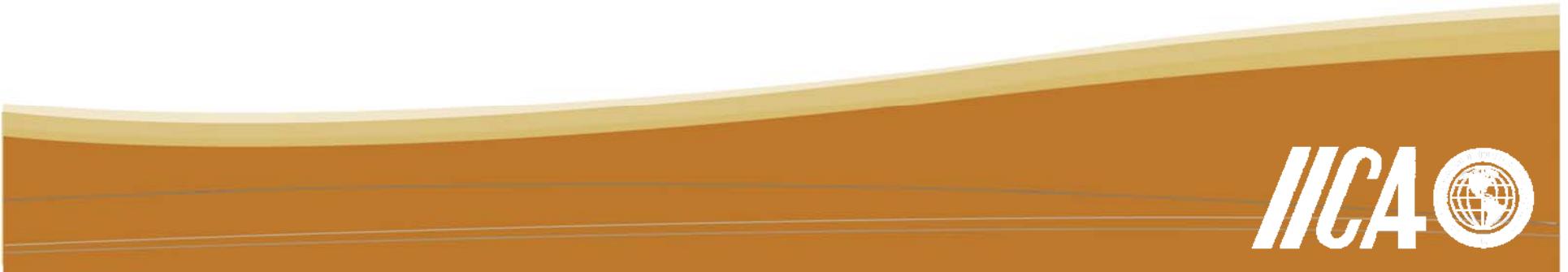
IICA supports national organizations to cover their needs in *many ways*

- Capacity building
- Enhancing value of commodities
- Networking and connecting the right partners
- Transferring technological innovations from elsewhere
- Mobilizing resources: technical, genetic, financial...
- Etc ...



# Our national partners

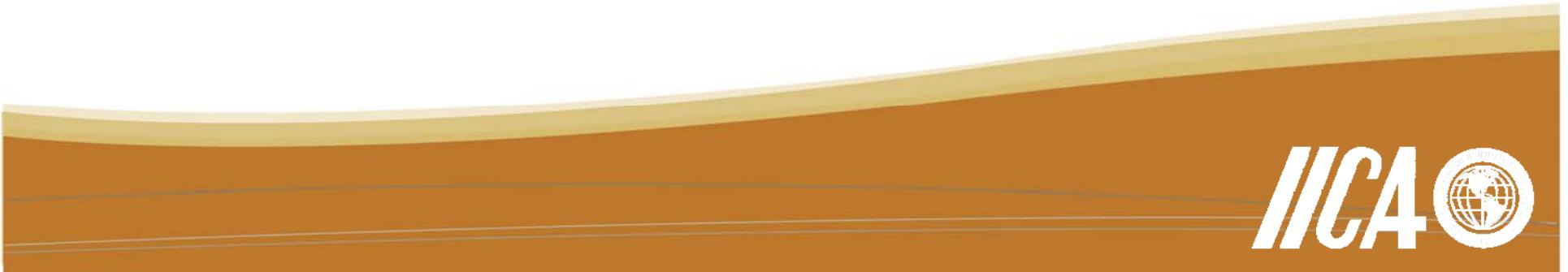
- Ministries
- Research organizations
- Universities
- Farmers associations
- National entities
- Private sector
- Reps. of int. organizations



# Actions in T&T

## Food security

1. Enhance production
2. Raise human capacity and fill gaps
3. Lower environmental impact of farming
4. Improve value-added processes
5. Address phytopathological challenges
6. Build relations of local organizations with centres of excellence elsewhere



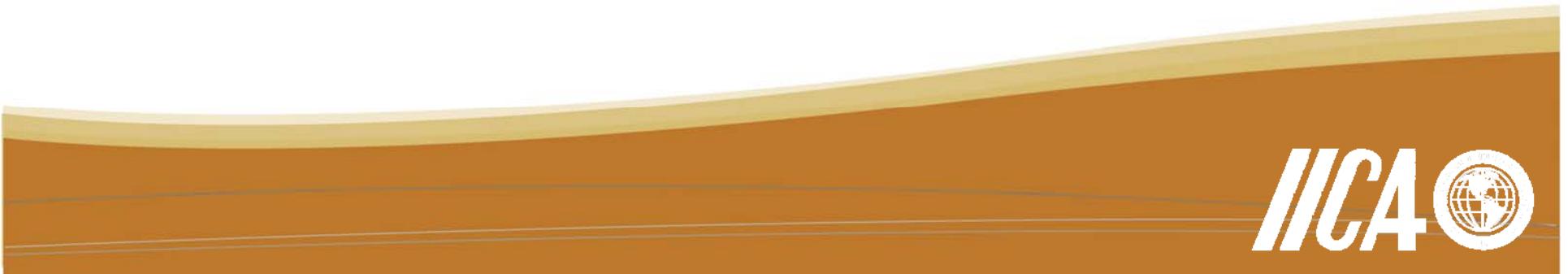
# Implementation:

## October 9th

Time	Commodity Group
9:00- 9:30 am	Cocoa
9:30- 10:00 am	Root Crops
10:00-10:30 am	Vegetables
10:30-11:00 am	Livestock
11:00-11:30 am	Legumes
11:30 am-12:00 pm	Fruits
1:00- 1:30 pm	Aquaculture
1:30- 2:00pm	Honey

# Spearheading to the Caribbean

- Organization of farmers for self-reliance
- Germplasm: *Musa*, roots, rice, goat, etc...
- Payments for **Environmental Services**
- Communities of practice
  - By research subjects
  - By commodity
  - ...



# Enhance production

- Sourcing sources of **improved germplasm** from centres of excellence for **introduction** in the **Caribbean**
  - Fruits, roots and tubers, grains, vegetables
  - High performance dairy goat and bovine
  - ...
- Deploying **better** production **technology**
  - **Precision** is the common **denominator**



# Raise human capacity and fill gaps

- Germplasm reception expertise
- Germplasm bank management
- Hi Tec field evaluation
- Data curating, integrating varied types and sources
  - Inter-relational, GIS, molecular, climate, soil, pest and disease incidence, financial performance ...
- Breeding new varieties

# Lower environmental impact of farming

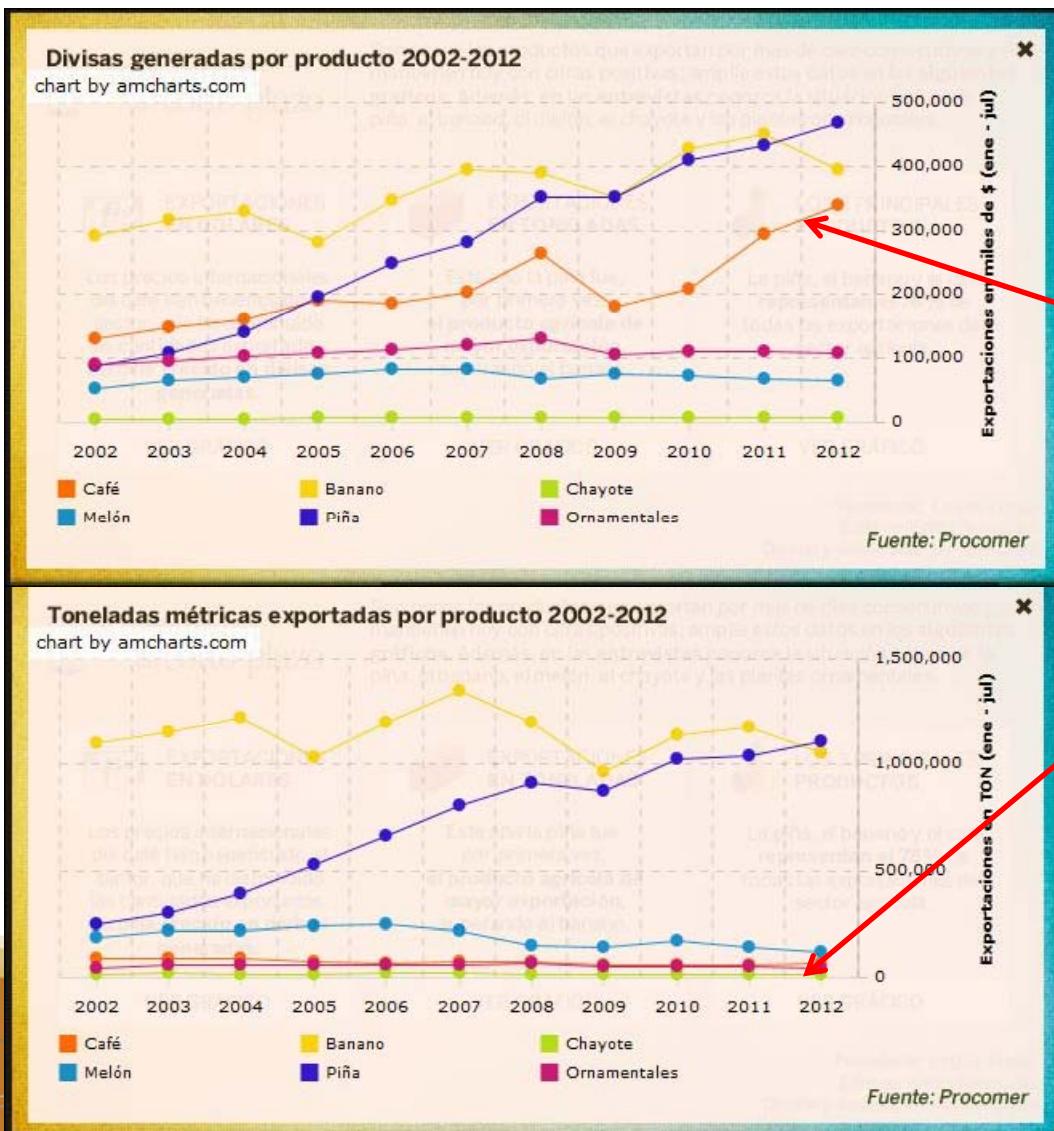
## Precision Integrated pest management

- Soil improvement (chemical and physical)
- Management of water in the soil (drainage/irrigation)
- Monitoring of the climate (high density)
- Intercropping instead of monoculture + (rotation and fallow)
- Knowledge of pests and diseases
- Praedial Larceny

# Improve value-added processes

- Farming with improved varieties with tolerance to pests + IMP = higher quality and yields
- Better harvest methods + post-harvest handling = lower losses
- Enhanced knowledge to:
  - match consumer preferences
  - manage price fluctuations
  - Etc...

# How value added looks like?

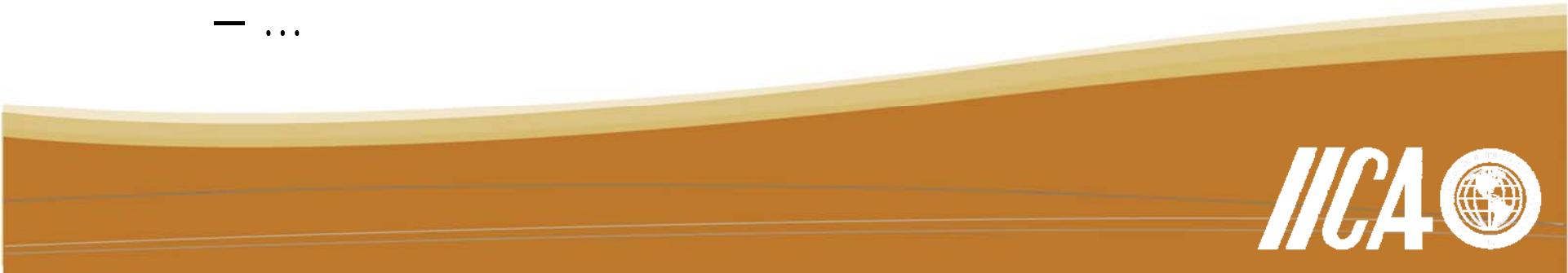


From  
<http://www.elfinancierocr.com/>

# Vanishing crops

Why we let them go?

- Coffee
- Cocoa
- Coconut
- Sugar Cane
- Citrus
- Banana, **is it the next one to go?**
- ...

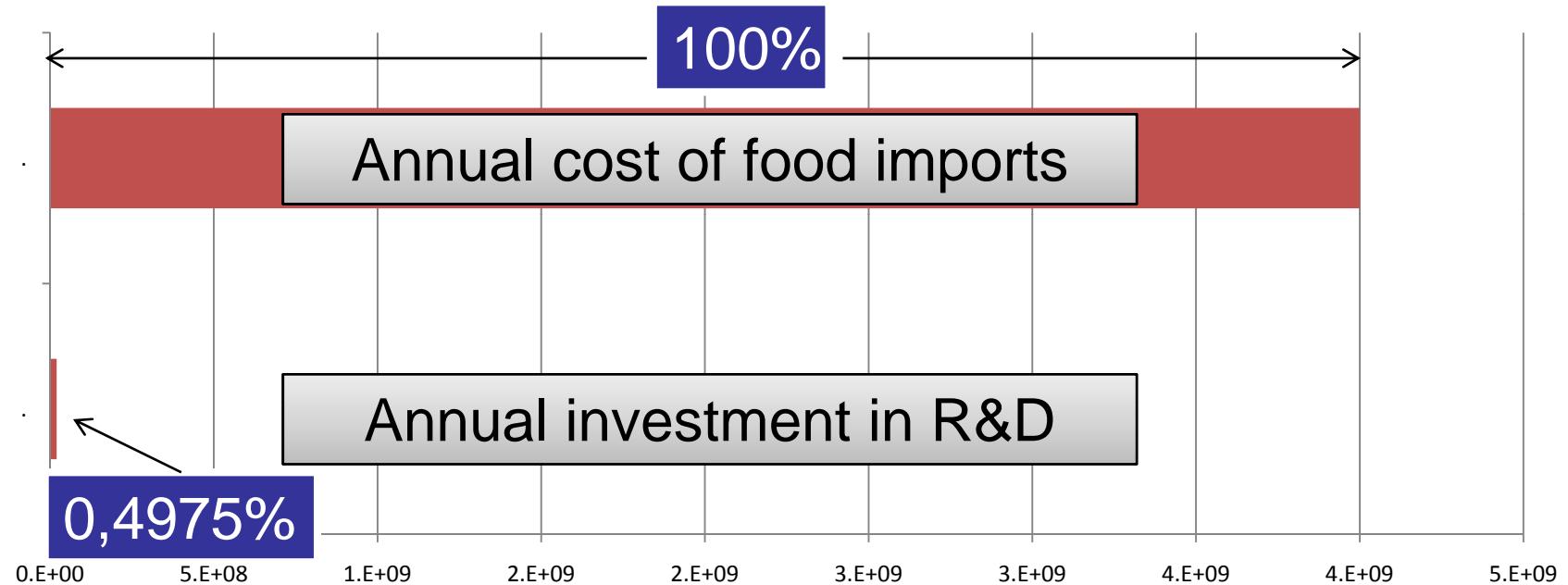


# Address phytopathological challenges

Pests and diseases are omnipresent

- New pests and pathogens exists and sooner or later will reach us
- Black Sigatoka (rebuilding of industry)
- Root rots and viruses in cassava
- Prevention and readiness are key in:
  - Diagnosis
  - Genetic tolerance/resistance
  - Constant capacity building

# Where is the **MONEY** going?



# **Liaise local organizations with centres of excellence**

- EMBRAPA (Brazil)
- INIFAP (México)
- CIRAD (France)
- CGIAR (world)
- Cassava breeding programmes in Africa
- CLAYUCA (Colombia)
- INIA (across Latin America)
- Etc...



# To meditate ...

- For effectiveness the actions must be market driven, **do we have a real market?**
- Successful farming systems satisfy consumers needs and expectations **more than just producing food**
- What should we do first:
  - Fixing the food system
  - Increasing food production
- The indicated plans as of now are **nothing** but wishful thinking, unless we get backup

