



International Center for Tropical Agriculture  
Since 1967 *Science to cultivate change*

# Increasing Impact in Agricultural Research for Development

**CAAS-CIAT Research Planning Workshop**  
4 July 2018

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Director General



CIAT is a CGIAR Research Center

# CIAT's Vision and Mission

## OUR VISION

Building a sustainable food future

## OUR MISSION

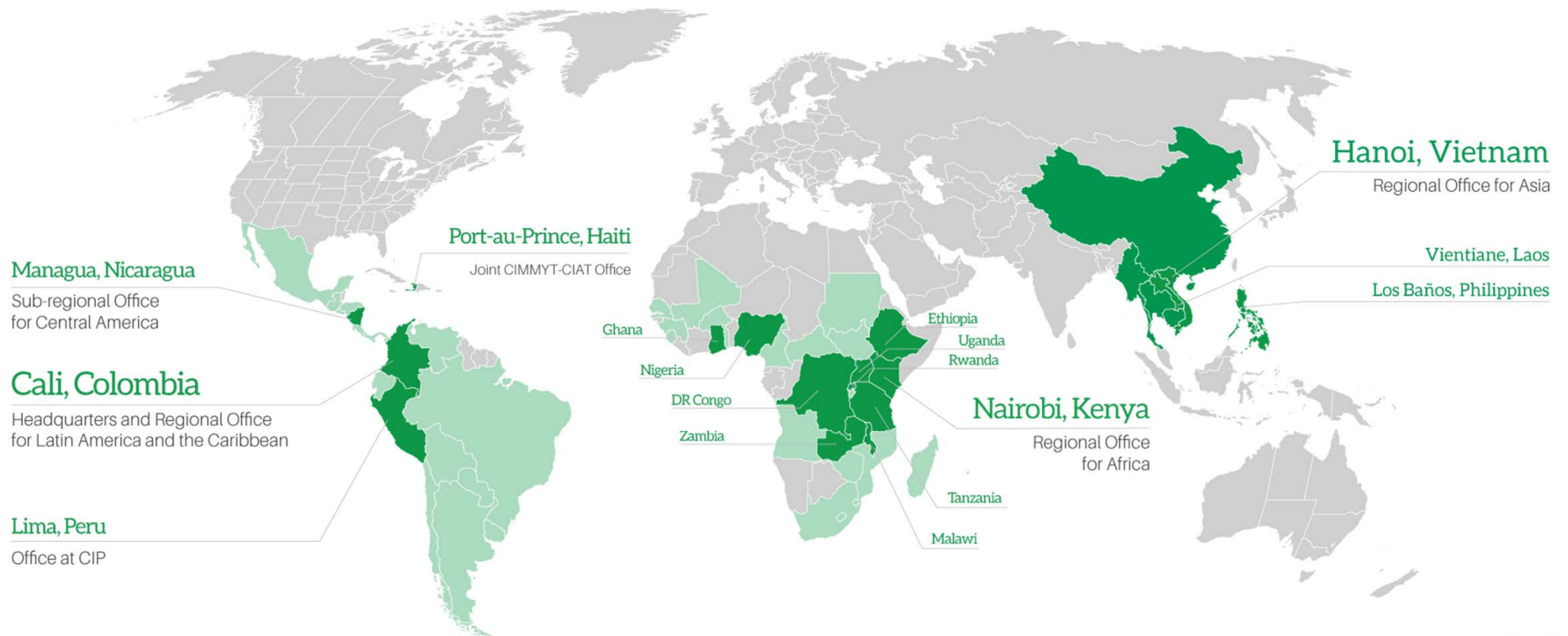
Reduce hunger and poverty, and improve human nutrition in the tropics through research aimed at increasing the eco-efficiency of agriculture

## HOW?

- 1 Food security and nutrition
- 2 A better deal for farmers and consumers
- 3 Building resilience
- 4 Global partnerships for impact

# CIAT Around the World

We work in 73 countries from 21 offices



# Current Research Agenda

## Agrobiodiversity



- Bean
- Tropical Forages
- Cassava
- Rice
- Genetic Resources

## Agroecosystems & Landscapes



- Restoring Degraded Land
- Soil Fertility & Health
- Ecosystem Services

## Decision & Policy Analysis



- Climate Change
- Sustainable Food Systems
- Digital Agriculture



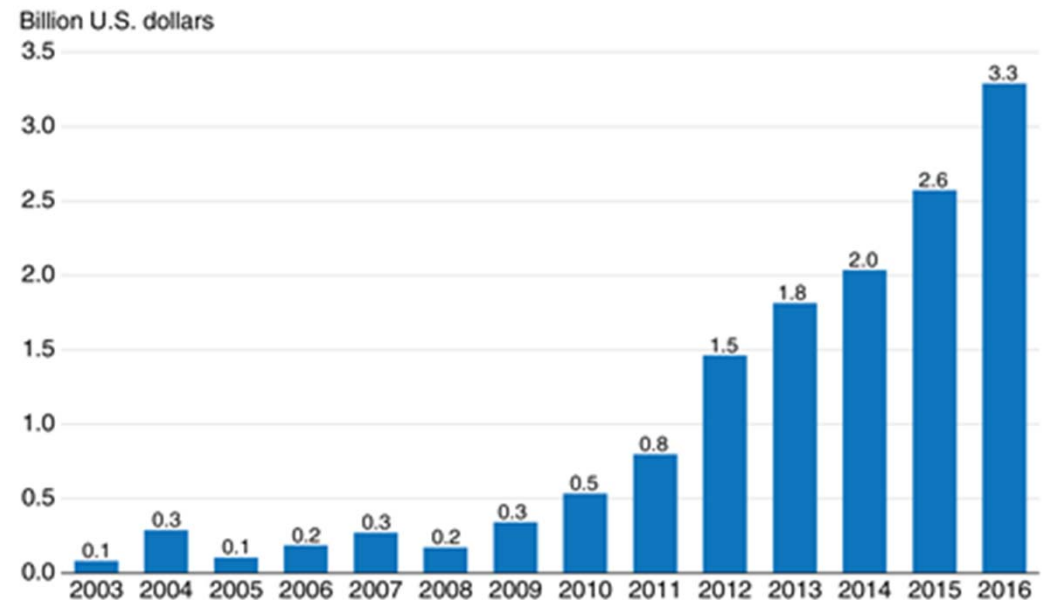
A man wearing a blue bucket hat and a dark blue long-sleeved shirt is bent over, harvesting rice in a vast, lush green field. He is holding a bundle of rice stalks in his hands. The background shows a clear blue sky and distant trees. The text "China **Leading** Agriculture for Development" is overlaid on the image.

# China **Leading** Agriculture for Development

# China's Growing Global Influence

- According to China's Ministry of Agriculture, over 1,300 Chinese enterprises had overseas investments in agriculture, forestry, and fisheries valued at \$26 billion in 2015.
- Investments include crop and livestock farming, fishing, processing, farm machinery, inputs, seeds, and logistics in over 100 countries.
- China's National Bureau of Statistics reports that foreign investment in farming, forestry, and fishing grew fivefold from 2010 to 2016, reaching almost \$3.3 billion.

China direct overseas investment in agriculture, forestry, and fishing grew more than tenfold during 2009-16



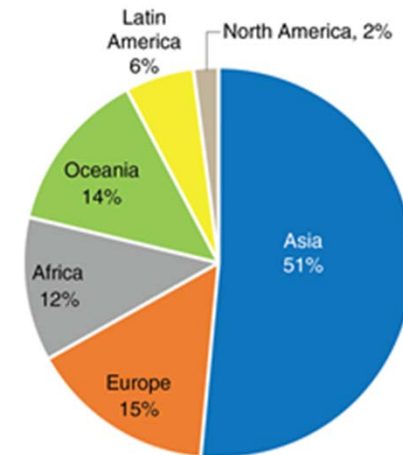
Source: USDA, Economic Research Service analysis of data from China National Bureau of Statistics.

# China Plays a Leading Role in South-South Cooperation

## Belt and Road initiative

- China has a long agricultural history, and agricultural exchanges and trade were an important part of the ancient Silk Road.
- Today agriculture still accounts for 25% or more of the GDP in many Belt and Road countries, yet the greatest concentration of poverty is generally found in rural areas.
- Agricultural cooperation provides the best opportunity to fight hunger, eradicate poverty, and achieve food and nutrition security.
- A revitalized agricultural sector also creates opportunities for youth employment and rural entrepreneurship.

Half of China's overseas agricultural investment went to Asia in 2014.



Source: USDA, Economic Research Service analysis of data from China National Bureau of Statistics.

# Opportunities for Agricultural Cooperation under the Belt and Road Initiative:

- ✓ Promoting sustainable food production and inclusive value chain development
- ✓ Bringing innovation to the field through e-agriculture and ICT
- ✓ Science and technology for agri-food innovation to combat climate change
- ✓ Control of transboundary animal and plant diseases through a One Health approach for sustainable agriculture and trade
- ✓ "South-South Cooperation" knowledge and information sharing



An aerial photograph of a lush green landscape. A winding river flows through the center, bordered by a straight road. The surrounding fields are marked with intricate, wavy patterns, possibly from irrigation or natural terrain. The text "Research Collaborations" is centered over the image in a white, sans-serif font.

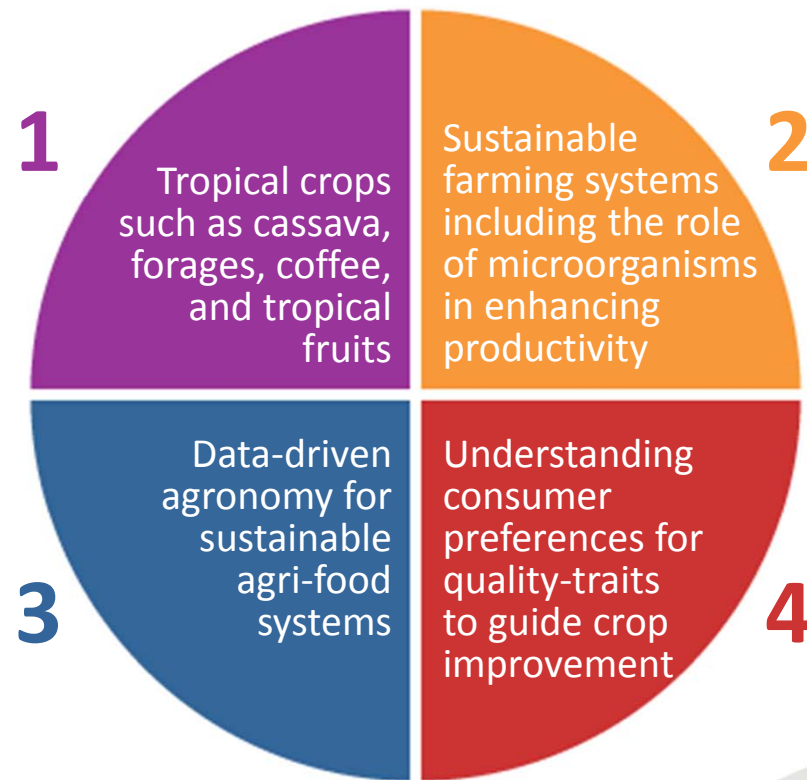
# Research Collaborations



# Agriculture Across Borders: Research Collaborations

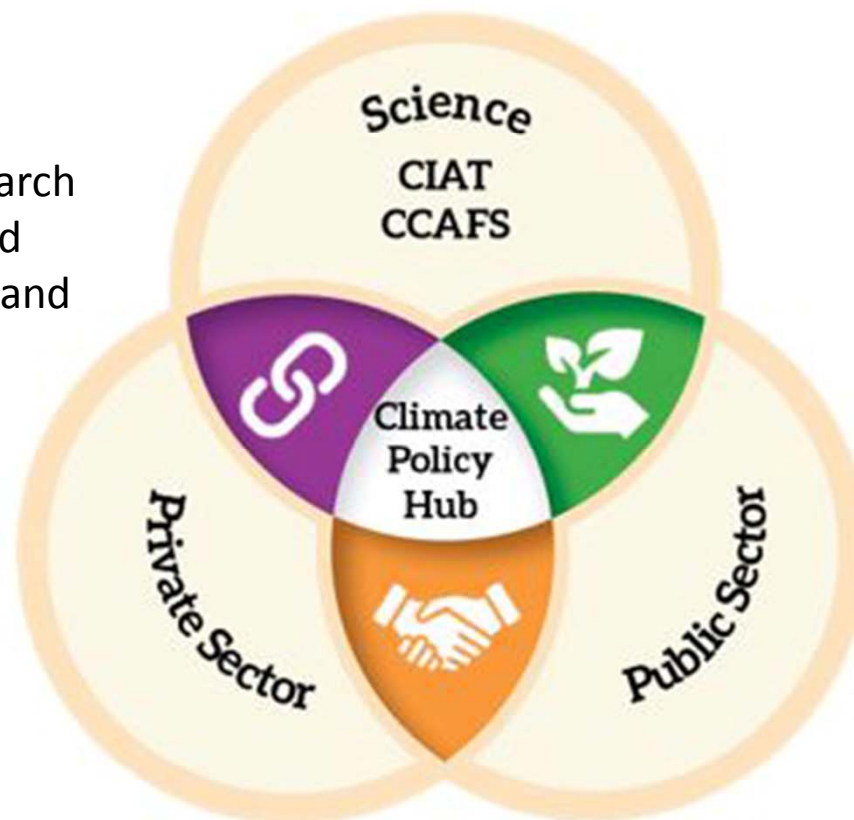
CIAT and CATAS are working together to generate knowledge that will bring solutions to the key challenges on this region's agricultural sector.

The new CATAS–CIAT cooperation portfolio includes proposed projects on a number of topics, including:



# Climate Policy Hub in Asia

**LINK** between research and application, and between scientists and policymakers



Ensures that decision-support tools and knowledge are in **SYNC** with the needs of organizations and institutions

A center for economic and policy analysis to **THINK** about the challenges and solutions towards effective climate action





# New Challenges: Food, Climate, Environment, Nutrition, and Trade



# Data-driven Climate Adaptation could Revive Rice Yields in Latin America and the World

By applying Big Data analytics to agricultural and weather records, Colombia could potentially boost yields by 1 to 3 tons per hectare.

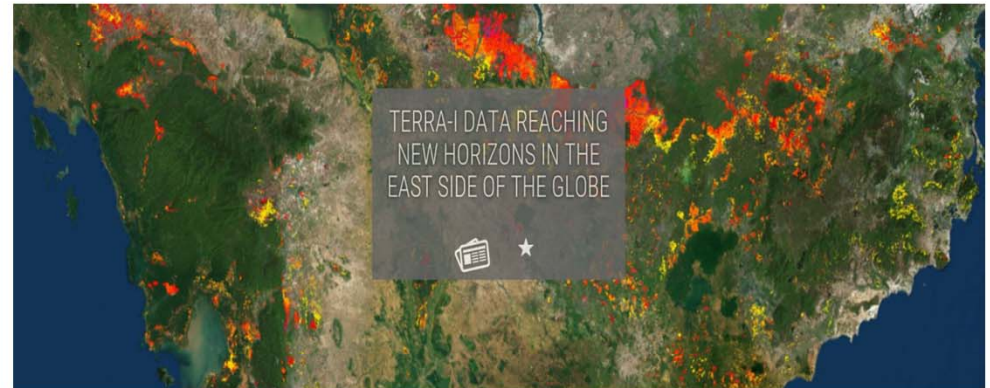
The tools work wherever data is available, and are now being scaled up through other countries in South America.



# Monitoring Deforestation to Inform Decision Making

From observation to action:  
Terra-i's near-real time  
monitoring of forest cover loss is  
supporting conservation efforts  
in Southeast Asia

CIAT is helping FAO to develop  
Cambodia's National Forest  
Monitoring System (NFMS)  
and monitoring data to  
support REDD+ decision making  
processes.





# Climate-Smart Villages: The Future of farming

## THE CLIMATE-SMART VILLAGE APPROACH IN SOUTH EAST ASIA

### Rice terrace farming as a conservation practice:

The CSVs in Vietnam serve as platforms to evaluate the CSA benefits of farmers' indigenous practices and new technologies. Rice terrace farming is one such practice that conserves water and increases productivity.

LEO SEBASTIAN (CCAFS)

### Capacity strengthening programs:

In the CSVs in the drought prone lowlands of Savannakhet, Laos, on-site trainings are helping in dissemination of knowledge on stress tolerant crops, water conservation and climate information services from trainers to farmers and scaled to neighbourhoods through field visits.

JEROME VILLANUEVA (CISO INTERNATIONAL)

## Vietnam



## Laos



## Cambodia



## Philippines



### Stress tolerant rice varieties:

Seasonal flooding in many areas of South East Asia forces farmers to grow either crops that are flood-tolerant but low-yielding or those that can escape flood periods. Recently developed submergence tolerant varieties have come to the rescue.

ISAGANI SERRANO (IRRI)

### Alternate Wetting and Drying (AWD) technique:

Climate change induced uncertainties worsen the productivity of rainfed rice. CSVs are promoting AWD technique, developed by the International Rice Research Institute (IRRI). "AWD reduces water use by 30% and methane emissions by 48% without impacting yield," states Leocadio Sebastian of CCAFS/IRRI.

ISAGANI SERRANO (IRRI)

# Helping Build Sustainably Productive Farming Systems through the Work of the Asian Cassava Breeders Network (ABC-Net)

ACB-Net is a regional community of practice that brings together cassava breeders and other interested stakeholders for a systematic collaboration on cassava genetic enhancement and crop improvement. Established in 2015, the network includes classical breeding programs and molecular breeding laboratories, as well as public and civil society organizations interested in evaluating cassava varieties. Currently, some 28 organizations from the research, public, and private sectors, in 10 Asian countries, form membership of the network.





# Thank you!



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*Since 1967 Science to cultivate change*

WE'RE PROUD TO  
HAVE CELEBRATED 50 YEARS  
OF AGRICULTURAL RESEARCH  
FOR DEVELOPMENT

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