



**CGIAR**

Science for a food-secure future



Photo: T. Krupnik/CIAT

## The United States and CGIAR: Five "WINS" from collaboration

The United States investment in CGIAR research is a win-win proposition for the US *and* developing countries.

### Global Impact from US Research

**In an era of constrained public spending, more global research collaboration is required.** CGIAR's in-country presence and local knowledge helps US land-grant and other universities, government agencies and private sector companies to leverage their research dollars and carry out programs with partners around the globe.



Photo: W. Plamer/CIAT

- ▶ **US universities collaborate with CGIAR Research Centers** on research carried out by Feed the Future Innovation Labs and on other research of mutual strategic interest, in cooperation with USAID and USDA.
- ▶ **US-CGIAR partnerships build the capacity** of food and nutrition systems scientists with global expertise through joint research projects and other special assignments.
- ▶ **US companies' partnerships with CGIAR** address both private sector and CGIAR strategic goals. Dole, for example, works with CGIAR to enhance banana disease resistance.

### Safe, Healthy Diets Around the Globe

**In the US and other nations, many people eat too little, too much, or the wrong types of food.** Poor diets are the number one cause of ill health globally. The safety of food for human consumption is another major issue, due to increased cross-border trade, travel, and changing dietary preferences.



Photo: G. Smith/CIAT

- ▶ **World-wide, diets deficient in micro-nutrients cause irreparable damage**, particularly in the first 1,000 days of a child's life. CGIAR-developed high yielding and more nutritious biofortified varieties of food are targeted to reach **100 million** people by 2020.
- ▶ **Approximately 600 million people around the world fall ill after eating contaminated food and 420,000 die each year.** CGIAR scientists improve food safety and quality for local and regional consumption and for export.

#### What is CGIAR?

CGIAR is the only global partnership addressing agricultural research for development – contributing to the global effort to tackle poverty, hunger and nutrition, and environmental degradation. With hundreds of partners, CGIAR research is carried out by 15 Research Centers across the globe.

#### CGIAR research is at the center of humanity's most important challenges:

**Growing demand for food:** yield increases of staple crops have flatlined, and with the population projected to reach **10 billion** by 2050 – **one billion** or more may face starvation.

**Health and nutrition:** globally, more than **800 million** people remain acutely or chronically undernourished. **Two billion** people suffer from micronutrient deficiencies, and another **two billion** are overweight or obese.

**Jobs and equity:** there is tremendous worldwide potential for agriculture-led economic growth. 78% of the world's poor rely on agriculture for food and livelihood. Women comprise 43% of the developing country workforce in agriculture, but lack access to resources.

**Environment and sustainability:** agriculture is the main driver behind the loss of the world's forests and land degradation, and plays a major role in water pollution. 28% of the world's farmland produces food that is never consumed.

**Conflict and migration:** there is a strong link between drought, famine, food prices and conflict. Youth unemployment in rural areas drives unplanned urbanization and political instability.

## Improving US and Global Production Systems

CGIAR research helps farmers across the developing world - and also delivers bottom-line benefits to US producers across a wide range of food products: staples like rice, wheat, maize, and high value crops such as apples, walnuts and apricots.



Photo: A. Yaqub/CIMMYT

- ▶ Approximately 60% of the wheat area in the USA is sown with CGIAR-developed varieties.<sup>1</sup>
- ▶ Using CGIAR breeding lines, scientists saved the world wheat crop by stopping the spread of Ug99 - a virulent wheat stem rust that threatened 80% of the global wheat supply, including the US crop.
- ▶ CGIAR research on disease resistance is critical to global production: the annual global value of genetic resistance to diseases is about USD 2 billion, including the value to US producers.

## Creating Jobs in the US and Overseas

Agriculture is the world's single largest employer, providing livelihoods for 40% of the population. In the US, 21 million full- and part-time jobs were related to the agricultural and food sectors in 2015.

- ▶ US universities and CGIAR partner to combat youth unemployment by helping youth find jobs in the agri-food system.



Photo: N. Palmer/CGIAR

- ▶ The coffee industry is responsible for 1.7 million jobs in the US and USD 28 billion in US tax revenue.<sup>2</sup> CGIAR and US partners support coffee farmers who supply coffee beans to American companies.
- ▶ CGIAR works to ensure sustainable sourcing from cacao farmers to the US market, and promotes cacao as a replacement for illicit crops.
- ▶ CGIAR research on sustainable fish production contributes to the health of the US commercial seafood sector, which supports 1.2 million jobs.

## Contributing to US and Global Security

Regional and global food insecurity create instability in low income countries and threaten US security. CGIAR and US scientists work to reduce risk, help fragile nations make progress on social and economic growth, and help agriculture recover in conflict- and famine-affected countries.



Photo: IFPRI

- ▶ CGIAR led a USAID-funded Emergency Rice Initiative to help four African countries severely hit by soaring prices. The initiative provided quality seed and knowledge to more than 50,000 vulnerable farmers.
- ▶ USAID and CGIAR are working together to strengthen post-Ebola Liberia's capacity to produce good quality rice seed to re-establish its rice farming system.
- ▶ A USAID/CGIAR partnership helped rebuild agriculture in Afghanistan by shipping 53 tons of seed (wheat, barley, lentil, chickpea and vetch) to Afghanistan to kick-start the release of new varieties.

## US Strategic Engagement with CGIAR

- ▶ The US government, along with the Ford and Rockefeller Foundations, helped found CGIAR and has been a valued partner for over 50 years.
- ▶ For every dollar that the US has provided to CGIAR over its lifetime, the return on investment is valued at \$17.<sup>3</sup>
- ▶ The US works with CGIAR on science dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources and ecosystem services.

## CGIAR Research Impact

By 2030, the actions of CGIAR and its partners will result in 150 million fewer hungry people, 100 million fewer poor people - at least 50% of whom are women, and 190 million hectares of less degraded land. This will be accomplished through:

**Seven global Agri-Food Systems CGIAR Research Programs:** Fish; Forests, Trees and Agroforestry; Livestock; Maize; Rice; Roots, Tubers and Bananas; and Wheat.

**Four cross-cutting Global Integrating Programs:** Agriculture for Nutrition and Health; Climate Change, Agriculture and Food Security; Policies, Institutions, and Markets; and Water, Land and Ecosystems.

**Three innovation Platforms which underpin the research of the system:** Platform for Big Data in Agriculture; Excellence in Breeding Platform; and the Genebank Platform

CGIAR genebanks manage the largest and most important collections of crop and forage diversity in the world. Germplasm is made available to US research institutions and private companies.



CGIAR

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There is no alternative worldwide platform: CGIAR is an indispensable US partner in global food and agricultural research.

<sup>1</sup><http://on.cgiar.org/2vSSg7w>

<sup>2</sup><http://bit.ly/2uZxhyu>

<sup>3</sup><http://on.cgiar.org/2tDJsWi>