FLAR

Alliance

Bioversity International

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

CGIAR

Building bridges for rice sustainability in Latin America and The Caribbean

Eduardo Graterol, Executive Director FLAR

What is Rice in Latin America and The Caribbean (LAC)?

1° Most consumed plant-derived food

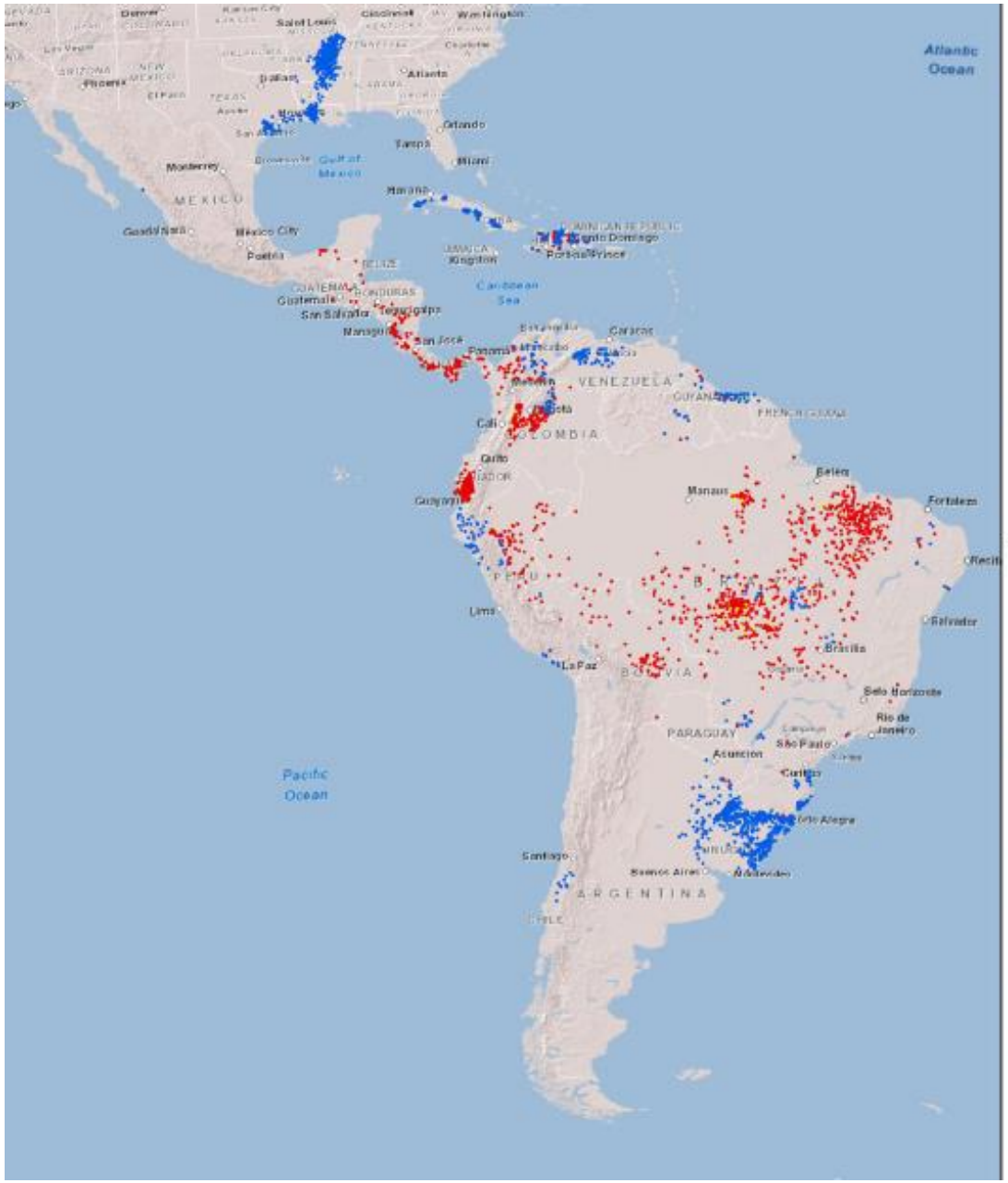
Average national per capita consumption (2017): **75.2 kg**

Rice supplies, in average, **13.2 %** of total calories, on a daily basis

Assuming an average size of 3.5 people per household and a retail price of **USD 1.2 per kg** of white rice (2017), the average daily expense (*per capita*) in rice in LAC was **USD 0.2**.

Fuentes de datos:

- **FAO. (2019).** Base de Datos FAOSTAT. Organización de Las Naciones Unidas Para La Agricultura. http://www.fao.org/faostat/en/#data/EL
- **FAO. (2020).** Herramienta de Seguimiento y Análisis de los Precios Alimentarios (FPMA). Sistema Mundial de Información y Alerta Sobre La Alimentación y La Agricultura (SMIA). http://www.fao.org/giews/food-prices/tool/public/#/home
- **Naciones Unidas. (2019).** Base de datos de tamaño y composición de hogares. Departamento de Las Naciones Unidas Sobre Asuntos Económicos y Sociales, División de Población. https://population.un.org/Household/index.html#/countries/840



Harvested Rice Area

5.5M ha in 2014 in Latin America and the Caribbean.

One dot = 2,500 ha

- Irrigated
- Rainfed

Source: Rice Almanac, 4th Edition. Global databases need continuous collaboration across GRiSP partners to ensure that they accurately depict evolving and dynamic rice systems.

Temperate rice in LAC

- High-yielding prone (irrigated) environments in the southern cone (Uruguay, southern Brazil, Argentina, and Paraguay)
- Diversified rice system (pastures, livestock, soybean, corn, and others)
- Medium to large-scale farmers in most regions.
- Small-holders in Chile and some regions in Argentina

Typical rice field scenery in Peru

- Irrigated rice
- Small-holders using transplanting
- High-yielding prone environments in the coast
- Medium to high-yielding prone environments in the “selva” region

Photo: Adriana Varón, CIAT

Rainfed-rice areas in most of Central America, and the “Llanos” and the “Cerrado” (savanna) regions in Colombia and Brazil, respectively

- Pregerminated and dry-seeded sowing
- Low to medium yielding environments
- Monocropping or diversified systems in rotation with other crops and pastures
- One rice-crop harvest per year

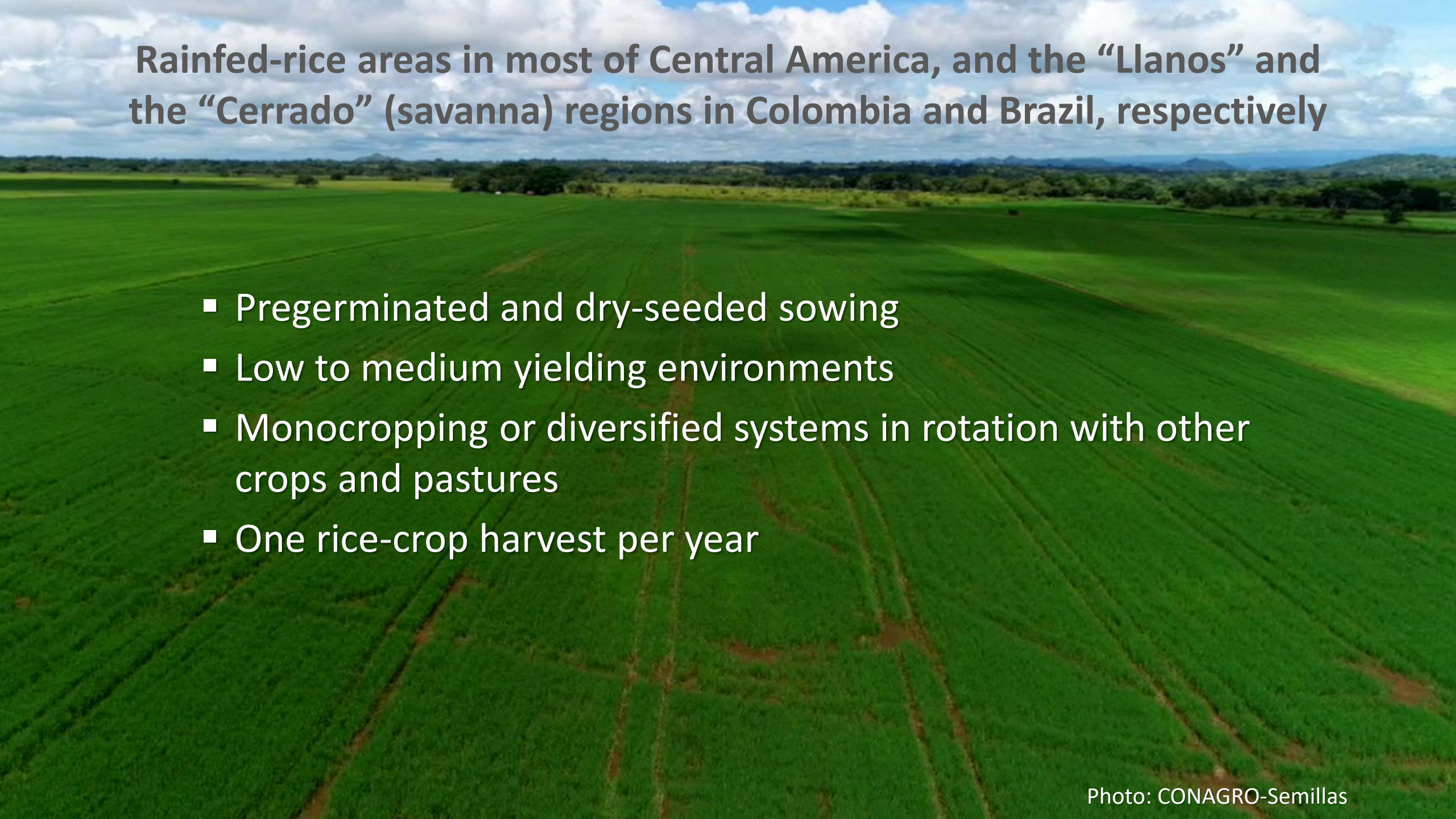
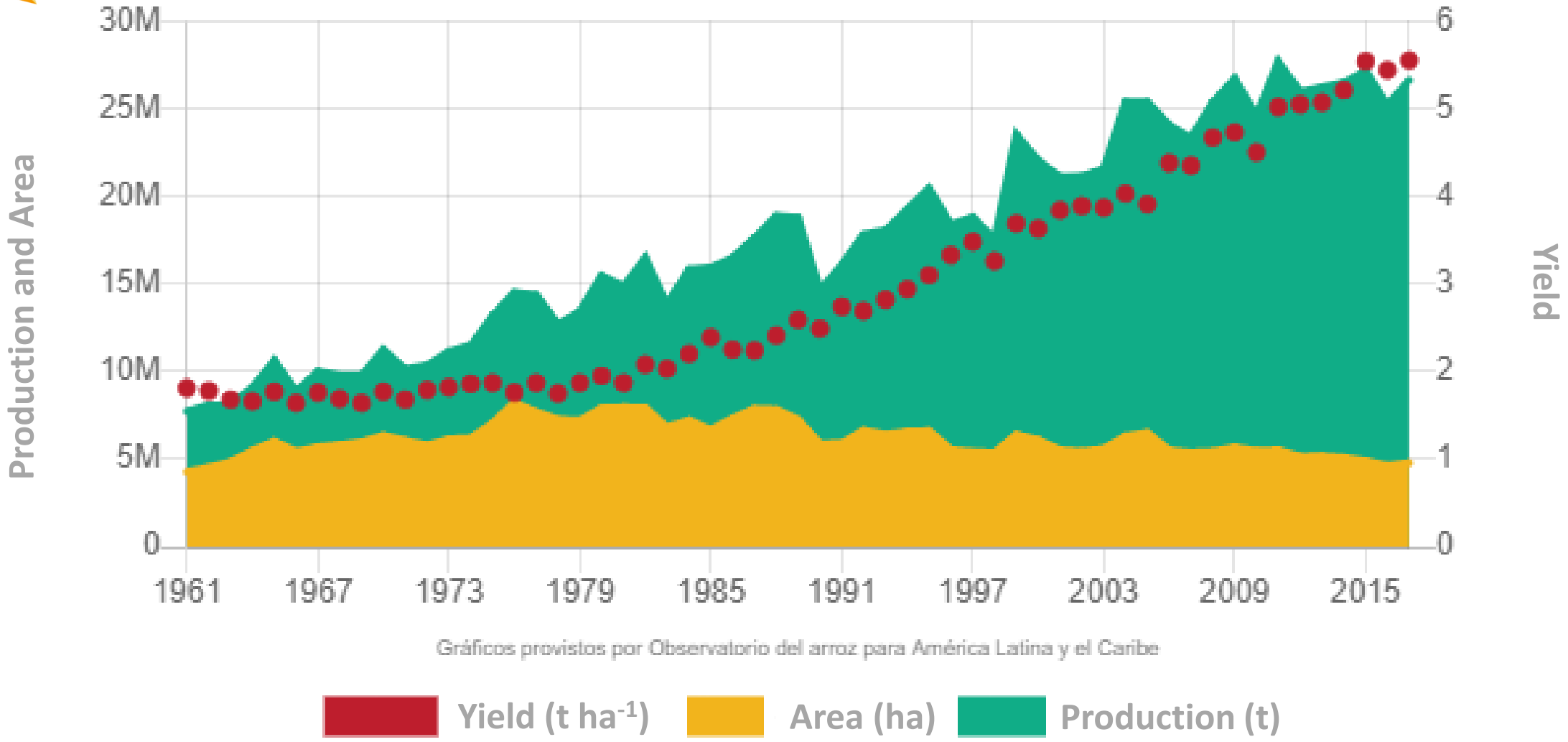


Photo: CONAGRO-Semillas

Typical upland rice field scenery in Bolivia, and some other regions

Photo: Neil Palmer, CIAT

Rice evolution in LAC



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Source: https://riceobservatory.org/

Premium quality rice exported from South America

El Paso 144, Uruguay

INTA Puita, Argentina

IRGA 424, Brazil

INIA-Olimar, Uruguay

Ongoing public-private alliance established in 1995

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- **Focus**: knowledge, technologies, and innovations for rice sustainability in LAC
- **Agenda**: breeding, agronomy, capacity building, and knowledge sharing
- **Governance**: CIAT-facilitated under the administration of a FLAR committee that oversees the fund's management

Ongoing public-private alliance established in 1995

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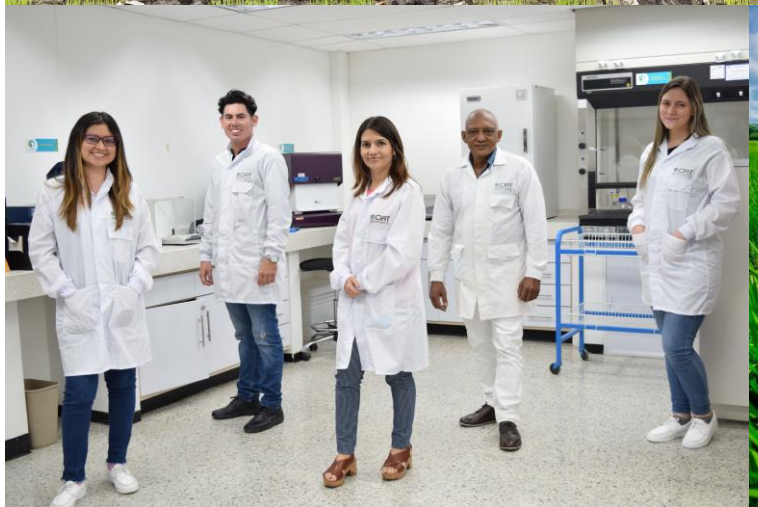
- **Evolution**: From three countries in 1995 to 17 countries in 2022, plus CIAT (rice program) which is founder member

- **Funding:** Core funding from NARS, farmers associations, and private seed and milling industries. Complementary resources from multilateral organizations through projects



FLAR network of 98 experimental sites in 17 LAC countries, supported by FLAR members

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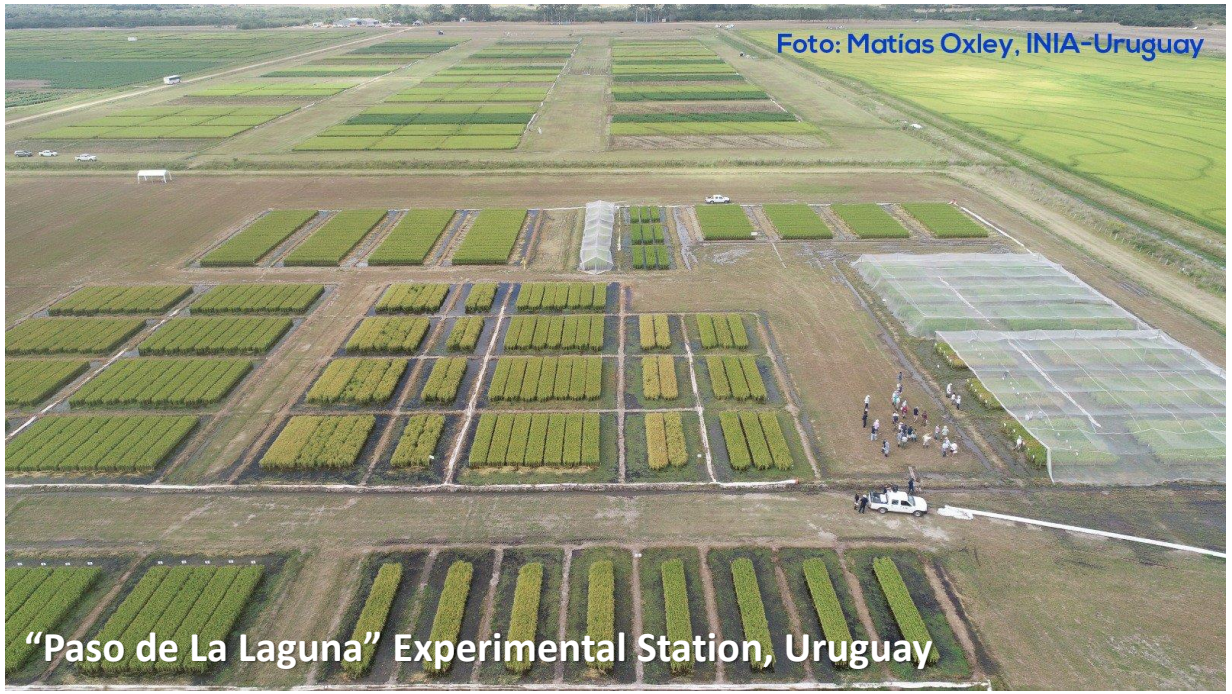
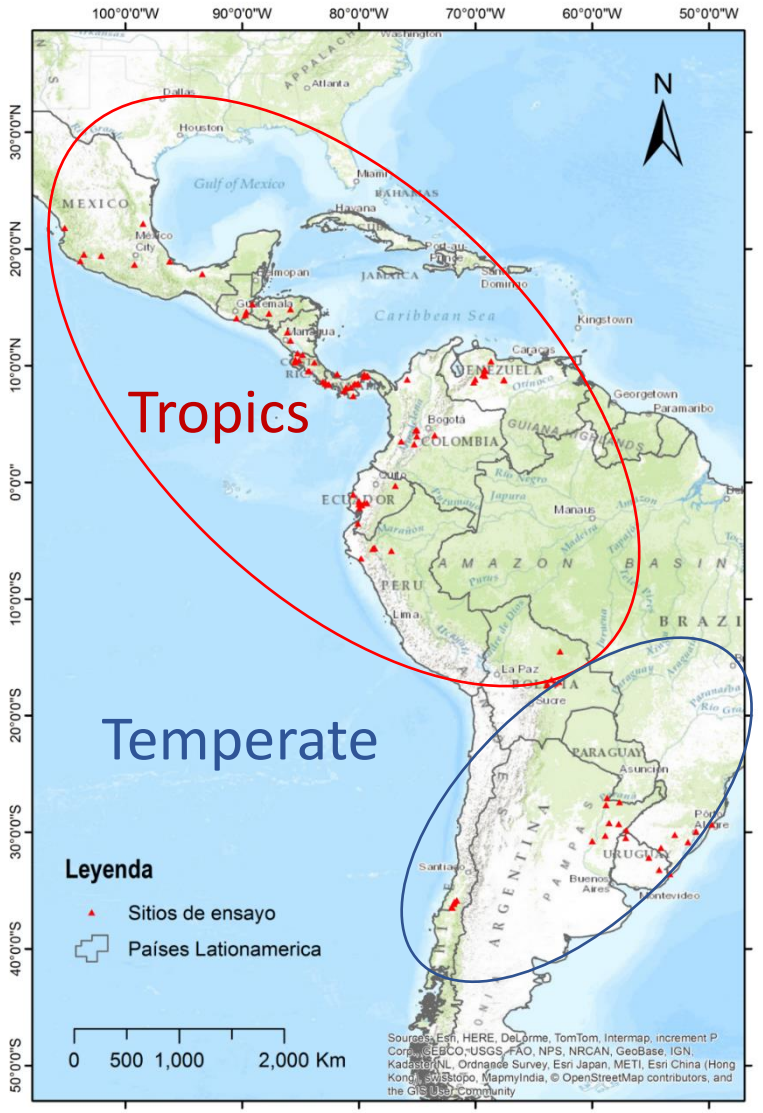
CIAT – HQ, Palmira, Colombia


Santa Rosa Experimental Station, Colombia



"Paso de La Laguna" Experimental Station, Uruguay



FLAR in a nutshell

17
Countries of Latin America and the Caribbean as a FLAR members

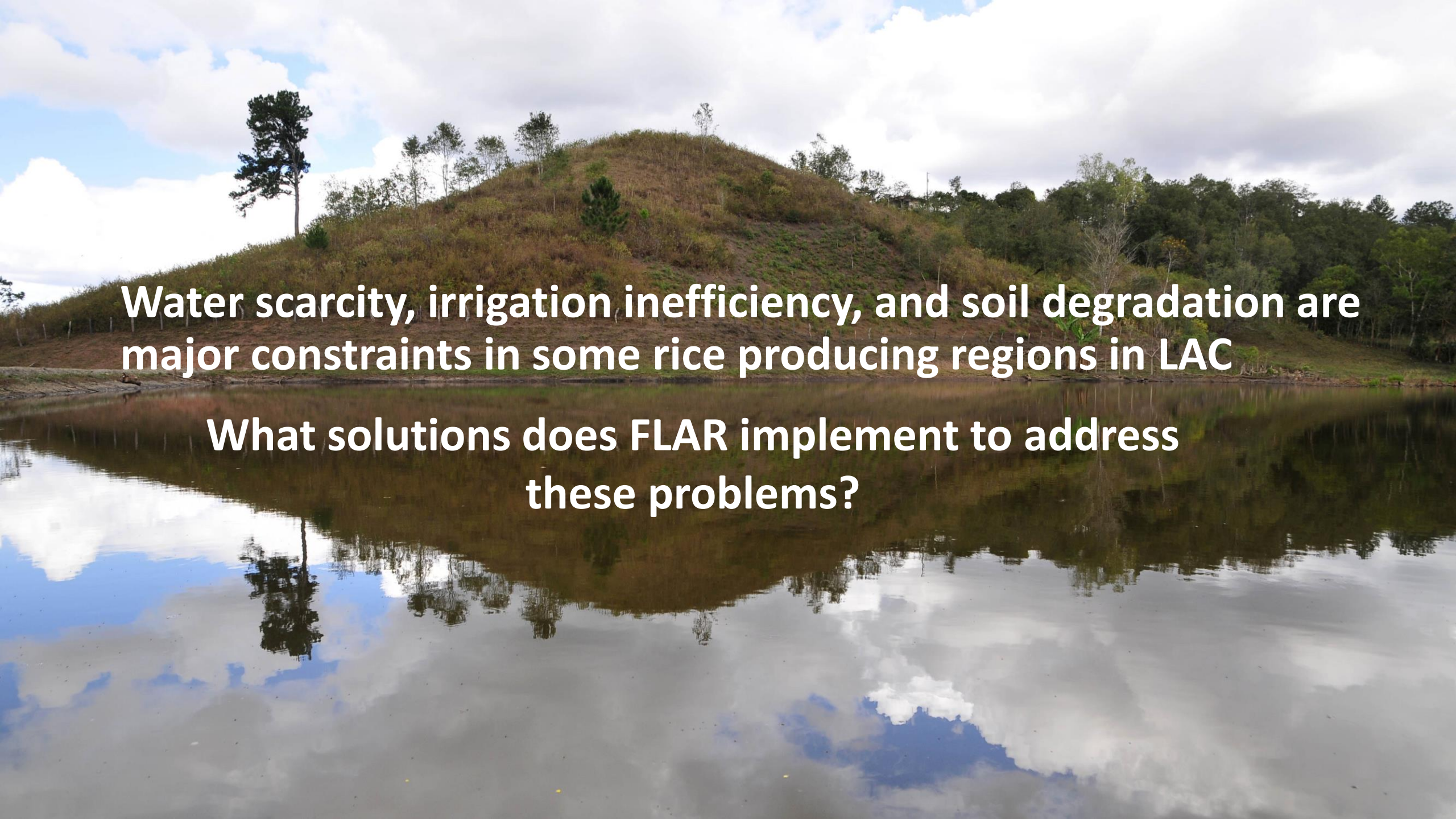
31
Institutions* and the Alliance of Bioversity International and CIAT as a strategic partner

97
FL Varieties released in 14 countries

40 %
of the rice area of LAC sown with FL varieties

Co creation with partners from the rice sector in LAC

*NARS, seed companies, farmers associations and milling industries


Water scarcity, irrigation inefficiency, and soil degradation are major constraints in some rice producing regions in LAC
What solutions does FLAR implement to address these problems?

Adoption of technologies in crop management based on minimum and zero tillage

FLAR and its members have transformed about 1.5 million hectares from soil puddling (meaning sowing after mixing soil and water) to minimum and zero tillage






Crop rotation and cover crops

- Rotation with legumes (Fabaceae): Nitrogen aerobic fixation incorporated into the soil
- Other species: Maize, pastures, and others
- Rice’s pest life cycle disruption due to the rotation
- Farmers' income diversification

Transforming agricultural systems through water harvesting

Introduction and scaling up of the water-harvesting technology in Central America

Capacity building of rice producers and extensionists

Partnerships for sustainable rice production: FONTAGRO, Paddy Rice Research Group of the Global Research Alliance (PRRG), Sustainable Rice Platform (SRP), and others

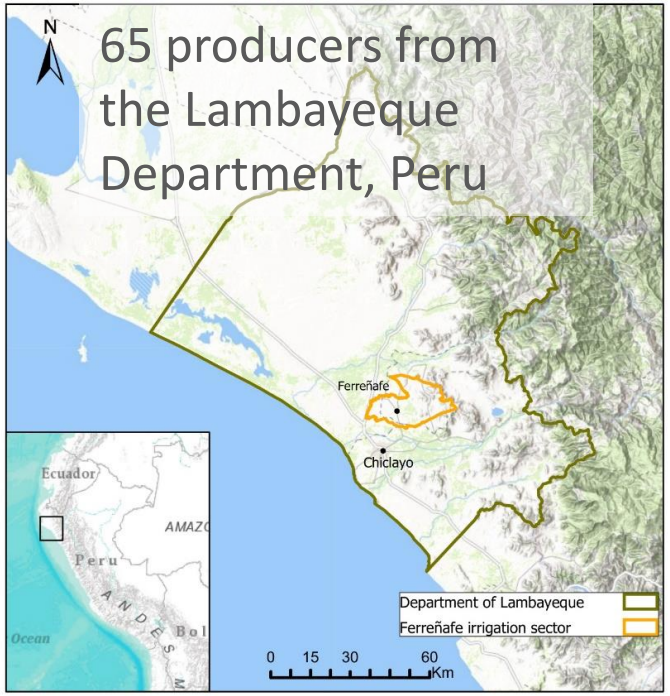
Project: Producing more rice with less water-use and less GHG emissions in Colombia, Chile, and Peru

Project “More productive and sustainable rice production in LAC”: implementing SRI System for reducing water use and greenhouse gas emissions in Chile, Argentina, and Panama

Balancing economic and environmental performance for small-scale rice farmers in Peru

Marshal White[1*], Elizabeth Heros[2], Eduardo Graterol[3], Ngonidzashe Chirinda[4], Cameron M. Pittelkow[1, 5]

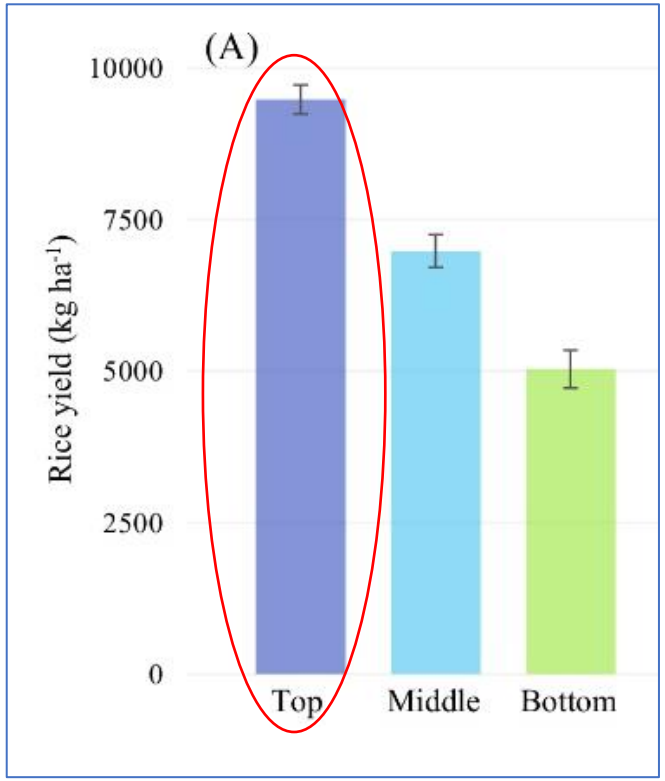
[1]Department of Crop Sciences, College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign, United States, [2]National Agrarian University, Peru, [3]Latin American Fund for Irrigated Rice (FLAR), Colombia, [4]International Center for Tropical Agriculture (CIAT), Colombia, [5]Department of Plant Sciences, University of California, Davis, United States

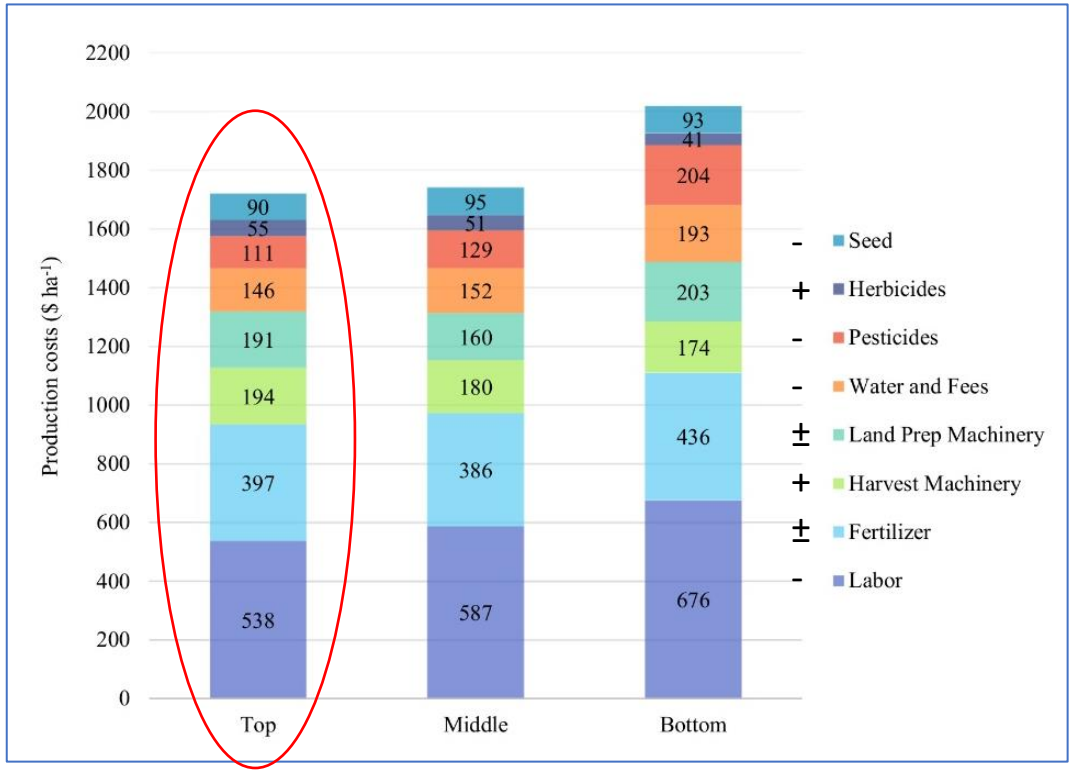


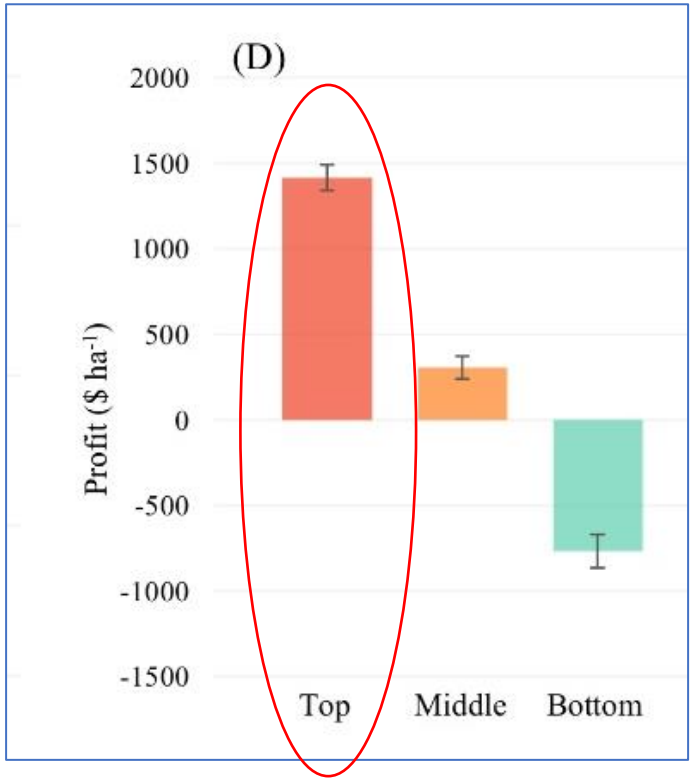
White M, Heros E, Graterol E, Chirinda N and Pittelkow CM (2020) Front. Sustain. Food Syst. 4:564418.

Alianza

Rice productivity and profitability can be improved without adversely influencing the environmental footprint







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https://riceobservatory.org/

*" **Rice Observatory** is an open data platform at the service of the **rice sector in Latin America and the world** "*

17
Countries

16
Databases

270
Grain quality profiles of rice varieties

+850
Collected studies

+471,870
Data Inputs


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