# CGIAR Research Program on Rice

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RESEARCH PROGRAM ON Rice

# Global Importance of Rice

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**Grown by**
**144 million**
Farm families (25% of world farmers)

**Feeds**
**4 billion**
People (56% of world population)

**Home to**
**400 million**
Rural poor (40% of world poor)

**Annual value of**
**206 billion**
Dollars (13% of world crop value)

**Harvested from**
**157 million**
Hectares (8% of world crop land)

**Yearly uses**
**25 million tons**
Fertilizers (15% of world total)

**Yearly receives**
**880 km$^3$**
Irrigation water (35% of world total)

# Program Objectives

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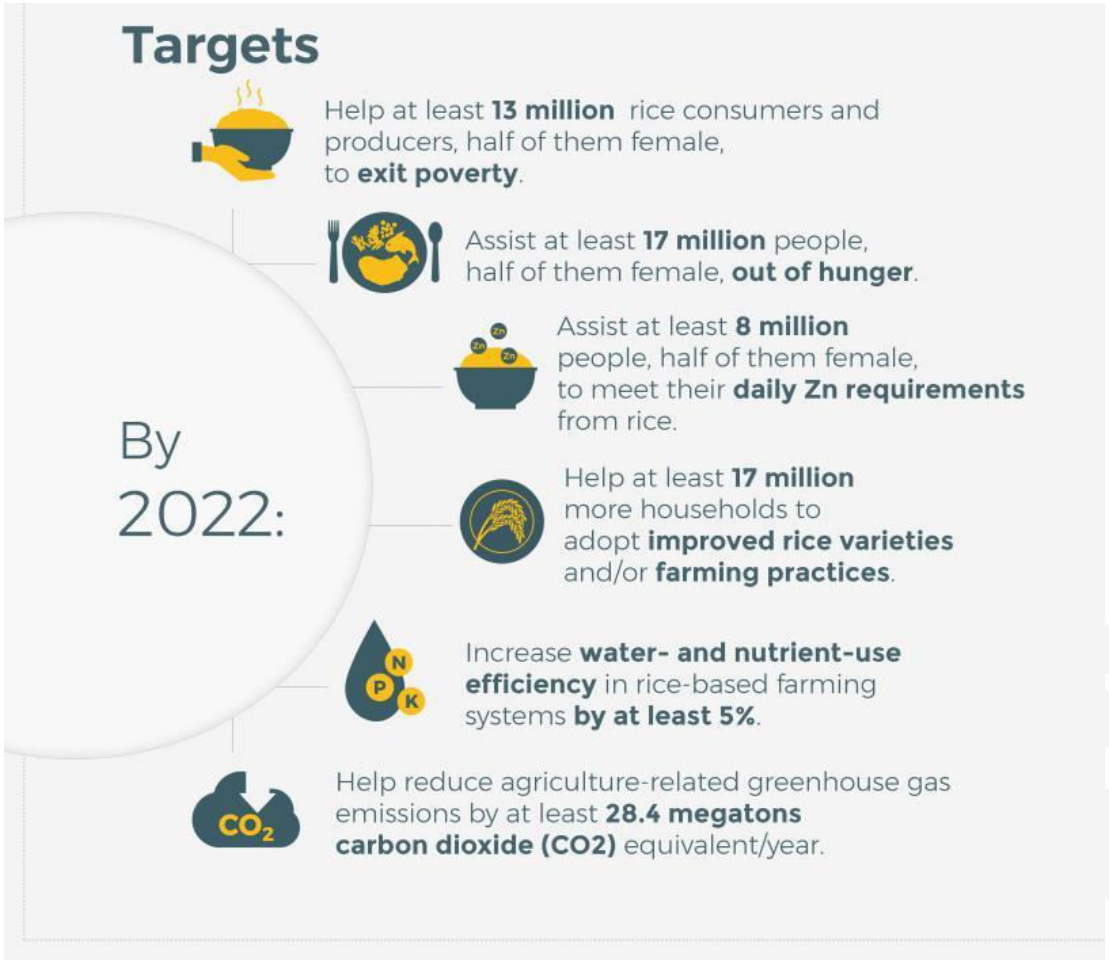


RICE is a forward-looking, holistic, global partnership that focuses on the win-win proposition of the social, economic, and environmental sustainability aspects of rice agrifood systems.

# Program Impact

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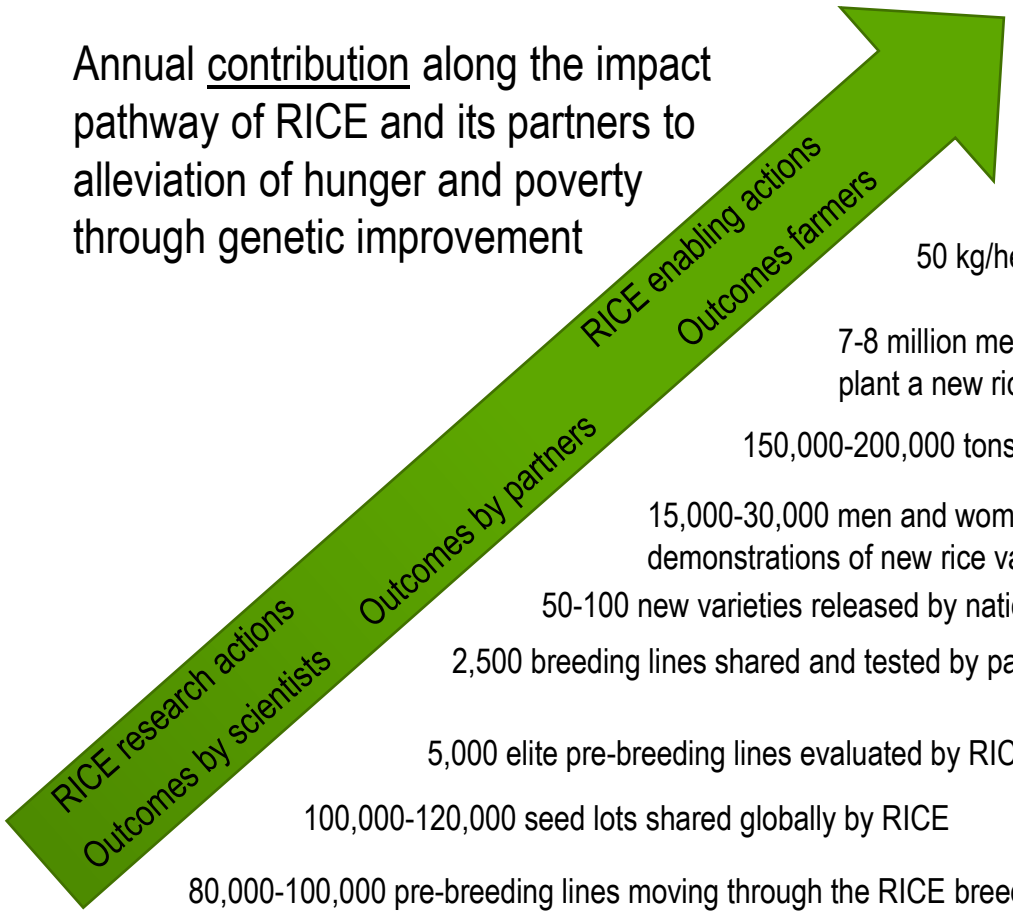
Annual contribution along the impact pathway of RICE and its partners to alleviation of hunger and poverty through genetic improvement




**2-3 million poor people out of hunger**

9 million tons additional global paddy rice produced

50 kg/hectare global-average paddy rice yield increase

7-8 million men and women farmers worldwide plant a new rice variety with RICE pedigree

150,000-200,000 tons of new rice seeds made available by partners

15,000-30,000 men and women farmers in trainings and field demonstrations of new rice varieties, organized by partners

50-100 new varieties released by national systems

2,500 breeding lines shared and tested by partners

5,000 elite pre-breeding lines evaluated by RICE breeders

100,000-120,000 seed lots shared globally by RICE

80,000-100,000 pre-breeding lines moving through the RICE breeding pipeline

20 million differences in DNA building blocks on the rice genome described

More than research alone!

# Research Excellence

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**1- Overarching challenge: research for development (not just research per se)**

- **Setting priorities**
- **Developing impact pathways and theories of change**
- **Selection and role of partners (international to local)**
- **Role of capacity development and training**
- **Role of communication**
- **Scaling up and scaling out**
- **Monitoring, evaluation, and learning**

# Research Excellence

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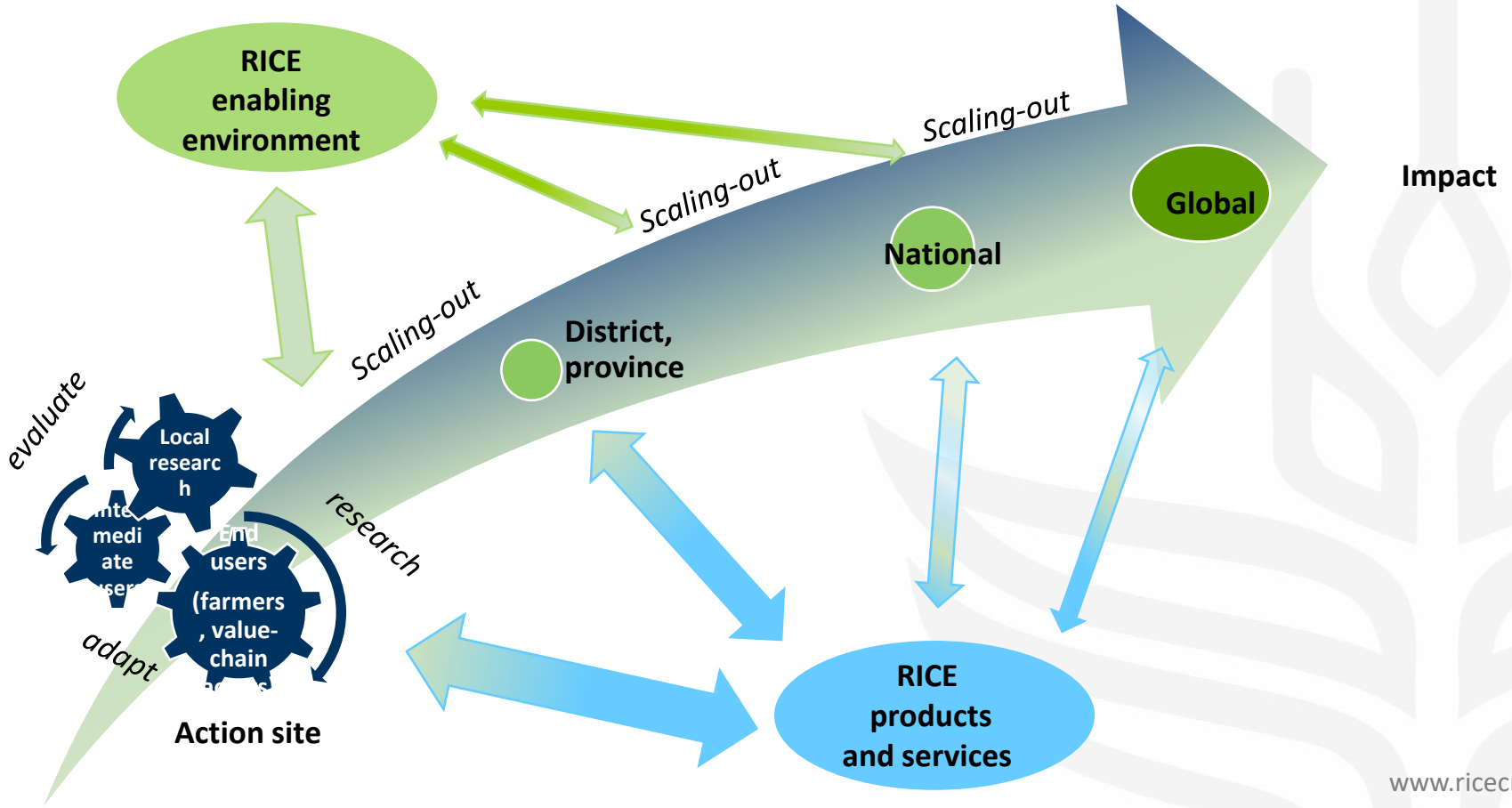
## 2- Solutions: developing products and a scaling model



# Research Excellence

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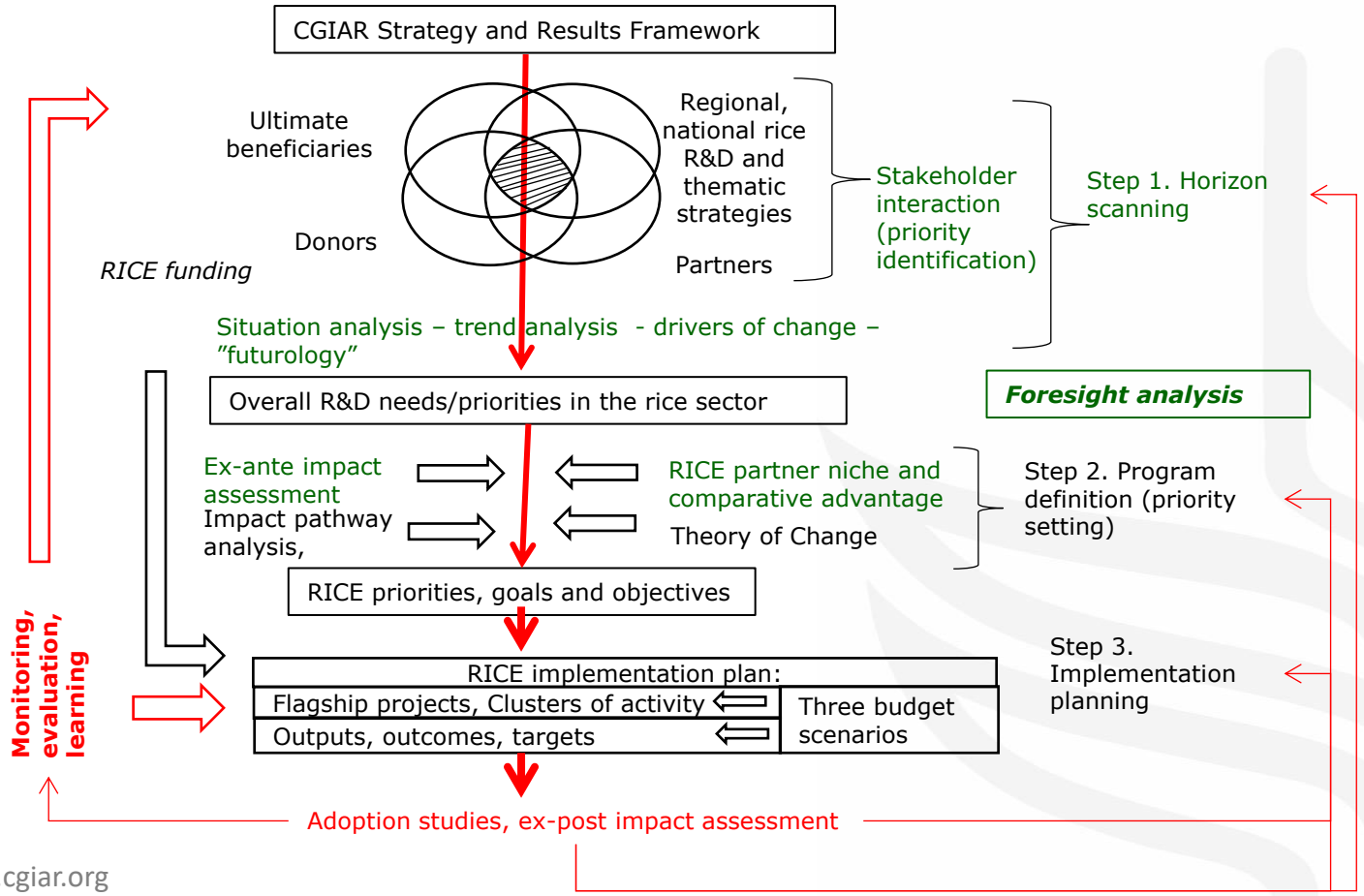
## 2- Solutions: a dynamic prioritization and M&E framework



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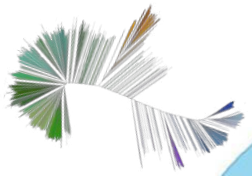
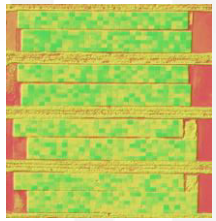
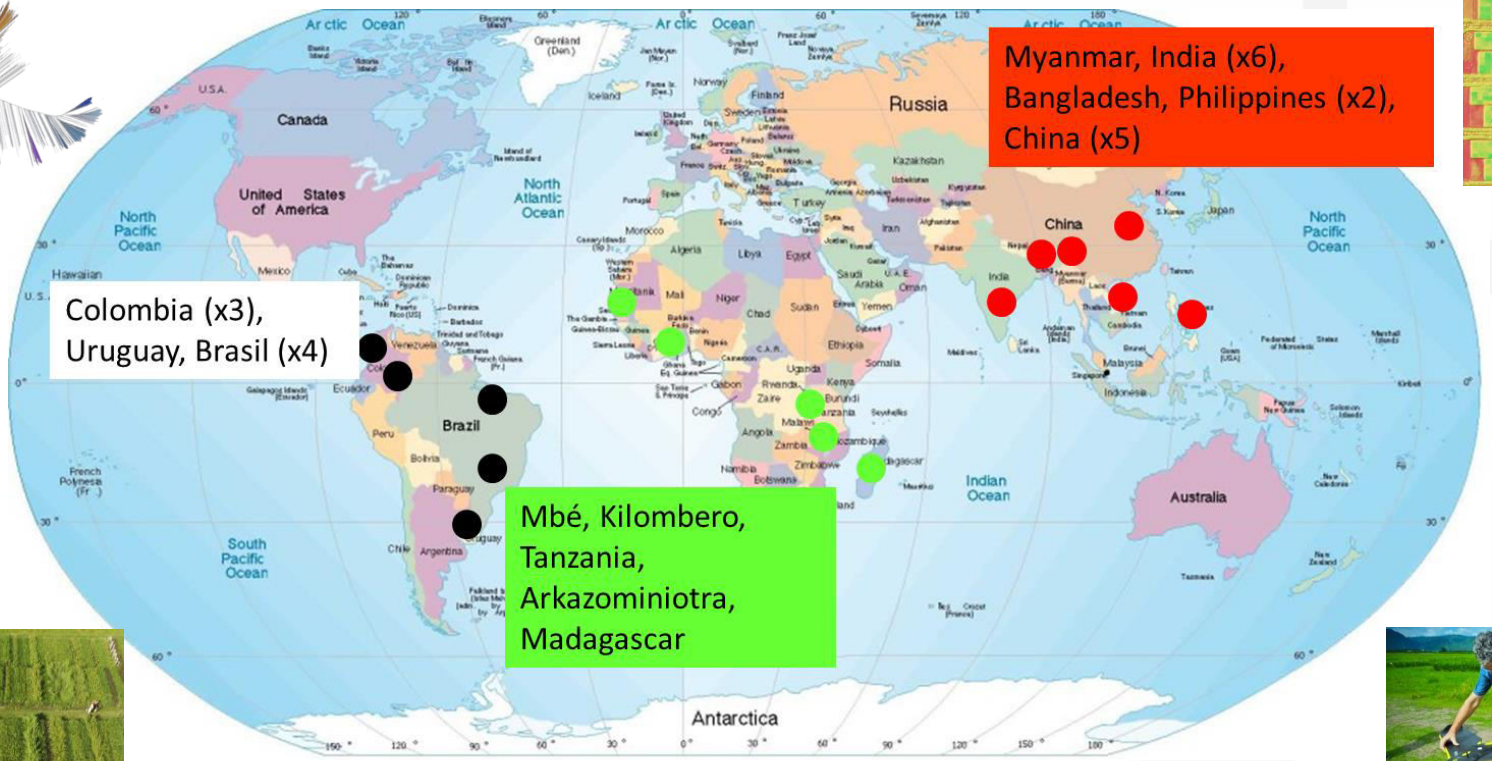
# Research Excellence

**3- Future outlook and innovations:** A Global Rice Array to observe climate change through the eyes of rice, to find new genes, and to target development of new varieties








# Rice and China

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DIVERSIFIED FARMING SYSTEMS


GLOBAL RICE ARRAY


NEW RICE VARIETIES

**200,000 Farmers in China already reached**

- Nutrient management
- Water management + GHG reduction
- Non-point source water pollution; promotion of biodiversity; air pollution (straw burning)
- Crop intensification incl. ratoon cropping
- Herbicide resistance; weedy rice
- Fertility control of rodent pests

**3,000 Rice Genome Sequenced**

- Global array sites in Guangdong
- New 10K sequencing programme
- Trait/gene discovery - drought, salinity, heat & cold tolerance and phenotyping
- Digital resource containing the genome variants and analyses results.

**New Rice Varieties Developed**

- 55 GSR varieties released in Asia and Africa
- C4 rice development
- Pest and Disease tolerance
- Abiotic Stress Tolerance
- Hybrid development

Joint Labs in Ch

中国农业科学院深圳农业基因组研究所 AGIS-CAAS

中国农业科学院生物技术研究所 BRI Biotechnology Research Institute, CAAS

JAAS 江苏省农业科学院

CGIAR
Science for a food-secure future

# Thank you

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## Xiè xiè dà jiā de guān zhù