



# Cereal Systems Initiative for South Asia

Photo: Nabakishore Parida/CIMMYT



*Aims to reach two million farm families in the next two years with new agricultural, livestock and aquaculture technologies, cereal varieties, improved policies and market linkages*

## Sustainably improve cereal productivity, food security and increase farmers' income in South Asia

### Growing Demand for Staple Food in South Asia

Intensive cereal cropping systems that include rice, wheat and/or maize are widespread throughout South Asia. Often, these cropping systems also integrate livestock or aquaculture. These systems constitute the main economic activity in many rural areas and provide staple food for millions of people. The decrease in the rate of growth of cereal production, for both grain and residue, in South Asia is therefore of great concern. The slowdown in yield growth has mainly affected wheat and rice crops, with annual growth rates falling below 1 percent in recent years and staying well below the annual population growth for the past decade or more. Simultaneously, issues of resource degradation, declining labor availability and climate variability pose steep challenges for achieving the goals of improving food security and rural livelihoods.

### CSISA...

- Is an umbrella initiative that integrates disciplines and organizations to promote durable change at scale in South Asia's cereal-based cropping systems.
- Works with farmers to ensure that they have access and the knowledge to use the new technologies.
- Complements regional and national efforts and partners with public, civil society and private sector organizations to improve cereal production growth.
- Operates in rural 'innovation hubs' and 'research platforms' across Bangladesh, India and Nepal.
- Is implemented jointly by five CGIAR centers – the International Maize and Wheat Improvement Center (CIMMYT), the International Food Policy Research Institute (IFPRI), the International Livestock Research Institute (ILRI), the International Rice Research Institute (IRRI) and World Fish (in Bangladesh).

Funded by:



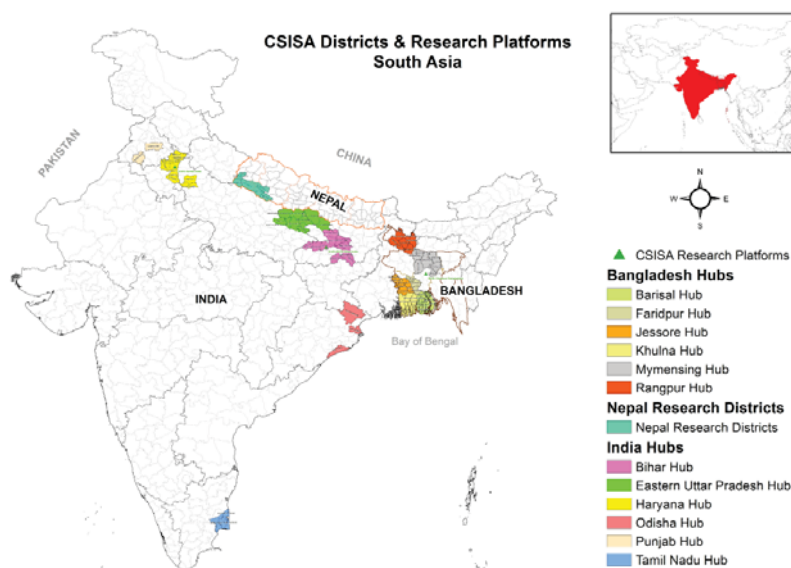
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## CSISA: A Regional Initiative

- Focuses on South Asia's Indo-Gangetic Plains, home to the region's most important grain baskets.
- Through its innovation hubs across Bangladesh, India and Nepal, CSISA aims to catalyze the widespread dissemination of production and post-harvest technologies to increase cereal, livestock or aquaculture productivity, resource use efficiency and income.

## CSISA Develops and Disseminates...

- Resource-conserving practices, technologies and services that increase yield with less water, labor and input costs.
- High yielding, heat-, water- and stress-tolerant cereal varieties to withstand the impacts of climatic change in South Asia.
- New information on cropping management practices, livestock feeding and aquaculture management from future-oriented research.
- Improved access to market information and enterprise development.



- Strengthened policy analysis to remove constraints to the adoption of new technologies.
- Strategic partnerships and capacity to help sustain and enhance the scale of benefits of improved cereal growth.

## Technologies and Services

CSISA develops and disseminates a diverse set of technologies and management practices to boost yield depending on local conditions, local demand, resource availability, existing change agents and support structures.

### Resource Conservation



- Laser land levelling
- Direct-seeded rice
- Bed planting
- Machine transplanting of rice
- Avoid puddling
- Residue management

### Labor and Cost Saving



- Zero tillage technology
- Mechanical transplanting
- Mechanical threshing
- Axial flow pumps for efficient irrigation
- Fodder chopping services
- New agriculture machines
- Community nursery

### Crop, Livestock and Aquaculture Management



- Early wheat sowing
- Early maturing rice varieties
- Hybrid rice and maize
- Sustainable crop intensification
- Crop substitution
- Integrated weed management
- Intercropping
- Stress-tolerant and saline soil-tolerant rice varieties
- Long duration and high-yielding wheat varieties
- Improved livestock feeding practices
- Introduction of vitamin A-rich indigenous fish farming
- Superior dual-purpose cultivars for food and fodder

### Nutrient Management



- ICT-based precision agriculture tools
- Site-specific nutrient management through "Nutrient Manager"
- Nitrogen-use efficient rice hybrids

### Policy, Partnerships and Capacity Building



- Creation of service providers
- Public-private partnerships
- Capacity building of women farmers
- Market studies and value chain analyses
- Monitoring of local market prices, such as fish markets
- Business models for mechanized services
- Training of extension officers

## Partners



csisa.org