INNOVATE
CATALYZE
TRANSFORM

IRRI’s Global Research Agenda

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A World of Change

- Feeding a world of nine billion
- Increasing global rice consumption
- Water scarcity and contestability
- Climate change
- Urbanization
- Roles of the public and private sectors
- Disruptive technologies
Rice

- Grown by 144 million Farm families (25% of world farmers)
- Feeds 4 billion People (56% of world population)
- Harvested from 166 million hectares (10% of world crop land)
- Home to 400 million Rural poor (40% of world poor)
- Yearly uses 25 million tons Fertilizers (15% of world total)
- Yearly receives 880 km³ irrigation water (35% of world total)
- Annual value of $206 billion (13% of world crop value)
Global Rice Demand

2010 global rice production

Additional rice needed: 116m tons by 2035

Source: IRRI Global Rice Model
March 1996: CORRA established with ten members as a joint initiative to strengthen partnerships among rice research systems in Asia

1997: 12 members (Laos and Pakistan);
2000: 14 members (Japan and Cambodia)
2001: 16 members (Nepal and Sri Lanka)

CORRA had endorsed and supported eco-regional research and training initiatives, IRRI’s IPR policies and transgenic rice protocol

CORRA is a collegial forum that has been consulted, and informed, on current developments in rice research for development at IRRI and by others
What is Our Role?

Need For Research for Development Grows As The Agri-food Sector Develops in Volume and Sophistication

The need for IRRI’s input continues but the balance of topics shifts

The need for capacity building remains but the topics evolve

National institutions expand their capacity over time
What is Our Role?

Desired research for development level for rice agri-food systems

Gap

What are IRRI’s Differential Roles and Comparative Advantage?

Countries

Private Sector
Advanced Research Institutes
International Organizations
IRRI
National Institutions
Overcoming poverty and hunger demands that rice be part of the solution.
IRRI aims to:
• improve livelihoods
• contribute to abolishing poverty, hunger and malnutrition
• protect the health of rice farmers and consumers, and the environmental sustainability of rice farming
• promote the empowerment of women
• support opportunities for youth
Two Purposes

Strategic Plan 2017-2025

• Transforming lives
• Research for development
Innovation leadership for the global rice sector
Be the linchpin of scientific innovation and thought leadership solving complex problems with deep research

Catalyze impact at scale for people and planet
Create and support catalytic networks driving widespread adoption of high-impact innovations and technologies

Transform rice-based agri-food systems
Establish a track record of successful policy interventions and institutional capacity building programs that underpin the development of an equitable rice sector
Four Pillars

- Innovation custodian
- Trusted advisor
- Global reach
- Strong partnerships
An Evolving Research Agenda

- Climate change
- Gender
- Youth
- Nutrition
- Big data
- Policy
- Partnership
- Capacity development
Gender and Youth

- Empowering women and youth
- Access to productive resources, assets, services, social networks; decision-making
- Robust ‘Theory of Change’
- Integrate gender into research design
- Encouraging youth participation in agriculture
- Partnerships and capacity
Big data

Deriving benefit from data – not only curation

Examples
• Revealing crop diversity
• Supporting molecular breeding
• Crop management and crop insurance

Guiding national policies

Data management, analytical capacity, data security
Reinventing genetic resources

- Genebank:
  127,000 accessions of cultivated rice and wild relatives
- Traditional germplasm collections
- New generation low-cost sequencing technology
- Complete sequence catalog of international germplasm collections
- Gene editing for elite lines with specific traits
- Public and private partnerships in breeding
Accelerating Rice Genetic Gains

Restructured Breeding Pipelines

Accelerating Outcomes

• Varietal Replacement Strategy
• Product Profiles
• Increasing Genetic Diversity
• Shorter Breeding Cycles
• Mechanization
• Multi-Environment Testing in Region

Excellence in Breeding Platform
Biofortification

- Linking agriculture to nutrition
- Bridging nutrition and micronutrient gaps
- Stewardship of new rice varieties to meet international standards and national needs
- Reducing malnutrition in vulnerable populations
Global expertise; embedded locally

Build on our **regional partnerships**

Strengthen our **regional presence**

Extend our **science leadership**
IRRI South Asia Regional Centre: Varanasi Hub

- Rice value addition
- South Asia rice systems resilience program
- Learning and development
IRRI Education

• Moving beyond training
• Rice sector development
• Working with the private sector
• Leadership development
Guiding Principles

• Aligned with IRRI’s Mission
• Designed to accelerate impact
• Engages private sector channels to market
• Fully leveraging the potential of IRRI’s International Public Goods

Potential Opportunities

• Research and development partnerships
• Commercialization for impact and reinvestment
• Building upon national priorities

Public Private Partnerships
Seeds Without Borders:
Regional Seed Sharing Agreement of Cooperation
To underpin the future of the rice sector in Asia

- Co-development and co-investment in key regional rice resources
- A partnership from inception to implementation
- Advances a multi-lateral agenda while respecting national interests
- Regional cooperation and self determination
- Invests in rice breeding and people as key risk management mitigation steps for ASEAN, Asia and global food security

ASEAN+3 Proposal