This presentation was made at the IPI-OUAT-IPNI International Symposium, 5-7 November 2009, OUAT, Bhubaneswar, Orissa, India. The Role and Benefits of Potassium in Improving Nutrient Management for Food Production, Quality and Reduced Environmental Damage.

Over the Next 15 minutes......

- The Context
- About CSISA
- The Approach –Scale and Scope
- Hub and Spoke model of outreach
- Role of Partnerships
The Big Challenges

- Food security
- Rural and urban poverty & malnutrition
- Natural resources: land and water
- Farm sizes and labor
- Energy
- Climate extremes and climate change
- Financial crisis

“Cereals System Initiative for South Asia”

- Donors:
  - Bill and Melinda Gates Foundation
  - USAID
  - World Bank

- Scientific R&D
  - IRRI, Philippines
  - CIMMYT, Mexico
  - IPFRI, USA
  - ILRI, Kenya
“Cereals System Initiative for South Asia”

Key Objectives

• Reverse the decline in annual cereal yield growth
• Reduce hunger and malnutrition
• Increase Food and Income Security

Geographic Spread of CSISA
Pakistan, India, Nepal and Bangladesh

Phase 1: 2009-2011
BMGF: USAID: WB, RWC: CGIAR:IRRI, CIMMYT, IFPRI, ILRI
NARES
Private sector NGOs ARI
Universities Societies (ASA)

Each dot represents 2500 ha (land area)
- Rice - Wheat
- Rice - Rice
- Rice and others
- Cotton - Wheat

Hubs
Focus Areas

Intensive cereal-based systems in South Asia that provide the bulk of cereals for human consumption and other uses

- Irrigated or partially irrigated systems, particularly R-R, R-W, R-R-R, R-R-legumes, and others
- Emerging multiple/relay cropping systems involving R, W or M, particularly R-M, M-W,
- Favorable rainfed R areas with potential for intensification/diversification

Scope

- Integrated solutions for ecological intensification and diversification at high levels of productivity: new production systems
- Strategic germplasm improvement for selected traits
- Public-private sector partnerships for development and delivery
- Policy analyses
- Business Models
The Key Themes of CSISA

Key Themes:
1. Delivery of new technologies through public-private partnerships
2. Future cereal-based systems
3. Rice breeding for current and future systems
4. Wheat breeding for current and future systems
5. Maize breeding for current and future systems
6. Technology targeting and improved policies
7. Capacity building: scientists and professional agronomists
8. Project management, communication and impact assessment

Theme 1: Delivery of production and Post Harvest technologies
1. Local synthesis of cereal farming knowledge for greater impact
2. Design and implement pilot schemes for improved delivery of seeds and modern technologies in 9 hubs in South Asia
3. Design business models and outscaling strategies for large scale roll-out of technologies through public and private sector channels
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**CSISA – Hubs across South Asia**

**Year 1-3:**
8-12 hubs
+$300/yr for 60,000 farm households in 1500 villages–
India - 5
Nepal - 1
B’desh - 2
Pakistan -1

**Year 4-10:**
Upscaling through project-related investments to +400 hubs
+$350/yr for 6 million farm households in 90,000 villages

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**Customized Management Solutions**

- Seeds
- Laser land leveling to save water and facilitate direct sowing
- Zero till crops after rice
- Raised bed systems
- Direct-seeded rice (wet or dry)
- Alternate wetting and drying in rice cultivation
- Site-specific nutrient management (R, W, M)
- Integrated weed and pest management in cropping systems
- Postharvest solutions (drying, storage, ....)
- Information systems (hub communication platform)
- Business Models and Market Linkages
The Rationale of the TWGs .... Grassroot Partnerships

In a “Hub and Spoke Model”

- A group of like minded experts who believe and deliver new CSISA and other “bundled” technologies to the farming community.

- Have the “reach” and wherewithal to outscale
- Have to “ability” to convince farmer groups
- Have the “systems” to train, motivate, and assess impact.
- Have the “credibility” to influence policy over time

Composition of TWG

- Typically Cross section of Experts from
  - Govt Agri Institutions / SAUs
  - District Agri Officer
  - NGO representatives (MMSRF, Forward, RDRS, Barwale etc)
  - Farmer Associations/ Cooperatives
  - Private Sector –Bayer, ACI, ITC-echoupal, Syngenta, Haryali etc
  - Input Suppliers (seeds, equipment, agri biz)
  - Media
  - Local extension experts / agencies
  - CSISA Hub Manager

More of an “Action group” with complimentary objectives to synergize mutual efforts
TWG -- Key Activities

- Synthesize Local Knowledge for design of Regional CKBs. Creation of "quality "Knowledge Banks"
- Build Local Capacity to access CKB / HCP
- Define "consensus" technology for local applications
- Support development of quality extension material
- Support and draw from local experimentation in farmer fields and adaptive trials
- Identify training needs & support in building local capacity
- Disseminate technical recommendations
- Become "Ambassadors " for change
- Meet monthly / bi-monthly to review and plan scale

Catchment:
20-25 km radius
15-20,000 farms
30-40,000 ha
Gross ag income
~$40 million

3-4 acre campus
4 Agronomists

Regional service centers
**Theme 2: Management practices for future cereal-based systems**

- Participatory adaptation of new crop and resource management technologies for CA systems
- Experimental platforms: new generation of resource-efficient, high-yielding cereal systems
- Operating in Objective 1 hubs and selected other areas
- Interactions with breeding programs

**Theme 6: Technology targeting and improved policies**

- Public-private partnerships for maximizing development and adoption of improved seeds
- Understand micro-level constraints to rapid productivity growth and adoption of resource conserving technologies
- Assess policies and institutional issues at national level
- Interactions with Objectives 1-5
**Theme 7: New generation of scientists and professional agronomists**

- New generation of agricultural scientists for South Asia:
  - Training courses for young scientists
  - Global Cereal Science Scholarships (6 PhD)
  - Field internships for college graduates

- Certified Crop Advisor (CCA) program for professional agronomists (with ASA)

**Associated R&D projects**

- National programs
- RWC (Rice Wheat Consortuim)
- Rice-maize systems Bangladesh (ACIAR)
- Global rust initiative (BMGF)
- Stress tolerant rice for Africa and S. Asia (STRASRA - BMGF)
- Village level dynamics in S. Asia (BMGF)
- IRRC (SDC)
- Challenge Programs: CPWF, CCCP
- Climate change ( USAID )
- Others
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**Rice and wheat yield growth in South Asia**

- **Short-term**:
  - Delivery (1)
    - Seeds
    - Agronomy
    - Postharvest
  - Ext. capacity (7)

- **Medium-term**:
  - Improved varieties (3, 4, 5):
    - drought & heat tolerant
    - resistant to key biotic stresses
    - adapted to new systems
  - Improved cropping systems (2)
  - Science capacity (7)

- **Long-term**:
  - Improved varieties (3, 4, 5):
    - yield potential (R, W)
    - biotech (drought, NUE, salinity)
  - Improved cropping systems (2)
  - Science capacity (7)

**Target range**
- Do nothing: <1%/yr
- 1%/yr
- 1.2-1.5%/yr
- >1.5%/yr

**Recent yield growth in R, W**

**Targeting and Policies (6)**

**THANK YOU!**