Development and Implementation of OneRice Breeding Strategy

IRRI case study
• Lack of a unified breeding strategy
• No formal market segments and product concept
• Heavy project dependence
• Pre-breeding- not centralized
• Uneven breeding cycles lengths - variable genetic gains
• No routine regional testing of new breeding cohorts
• Uneven application of technologies
• Reduced communication and collaboration
• End to end product delivery was missing
Vision/Outlook:

• Reducing the breeding cycle length- increased rates of genetic gains

• Programmatic alignment on OneRice program (IRRI, AR, CIAT)

• Centralization and standardization for quality outputs of IRS

• Joint progress with NARES breeding networks
Barriers to implementation

- Changing mindset of people
  - Partnership vs service provision
  - Support from institute
  - Silos - parallel work streams
- Building capacity
  - planning and resources
  - seed storage/warehousing
- Unusual circumstances - COVID
How did we deal with the barriers??

- Reinforcing the partnership - pooled resources
- Joint ownership between breeding and shared services
- Demand and supply planning
- Various cross-functional task force initiatives
- Periodic joint reviews
- Joint proposals
Timeline... 

2018
- Creation of Integrative Research Support (IRS) platform
- Development of OneRice Breeding Strategy and Framework

2019
- OneRice launched
- Seed-to-seed or line development workflow established
- Market segmentation and product pipeline established

2020
- Activity consolidation
- Complete centralization
- Consolidated planning
- NARS breeding network expansion

2021
- Programmatic alignment
- Complete breeding program alignment to pipelines
- Total unification of operation demand and supply

2022

Note: The process of modernization of breeding programs began as early as 2014
OneRice: what is different?

Key features:
1. End-end product delivery framework
2. Market driven product concepts
3. Elite x Elite breeding
4. Rapid generation advance
5. Genomic selection
6. Centralized pre-breeding
7. Integrated shared services
8. Seed systems focus
9. Establishing CG-NARS breeding network

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NARES engagement: Regional breeding hub and spokes model

Effective NARES management and approach
Centralized breeding operations and shared services

- Breeders can focus on the science, leaving the operations logistics to the shared services
- Economies of scale – lower cost
  - Better utilization of the available capacity
- Improved efficiency - More work with less people
- Standardization – quality output, quality management
- A system of planning and forecasting
- Professionalization of service operations
One Global CG Rice Breeding Program - moving forward together

Focus Areas for breeding program alignment:
- Market research and breeding pipelines
- Centralized prebreeding
- Breeding programme management
- Centralized service and mechanization
- NARS Breeding networks and capacity building
- Seed systems

Joint needs assessment and priority setting as one program

OneRice Development team:
- Sankalp Bhosale
- Jauhar Ali
- Damien Platten
- Baboucarr Manneh
- Joshua Cobb

Scientists and Experts from across:
- IRRI
- AfricaRice
- EiB
- CIAT

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Lessons learned…..fundamentals for building a robust organization

- Organizational structure, vision and mission
  - One CGIAR: Alignment and teamwork
  - Core business, resources and capabilities
  - Clear KPIs and roles
  - Transparency and accountability

- Change management
  - clear communication
  - engagement and buy-in

- Planning and execution
  - Road mapping
  - Unified operational demand and supply planning system
  - Milestones and progress monitoring