

# CGIAR evolving role in generating and transferring technologies related to PGRFA

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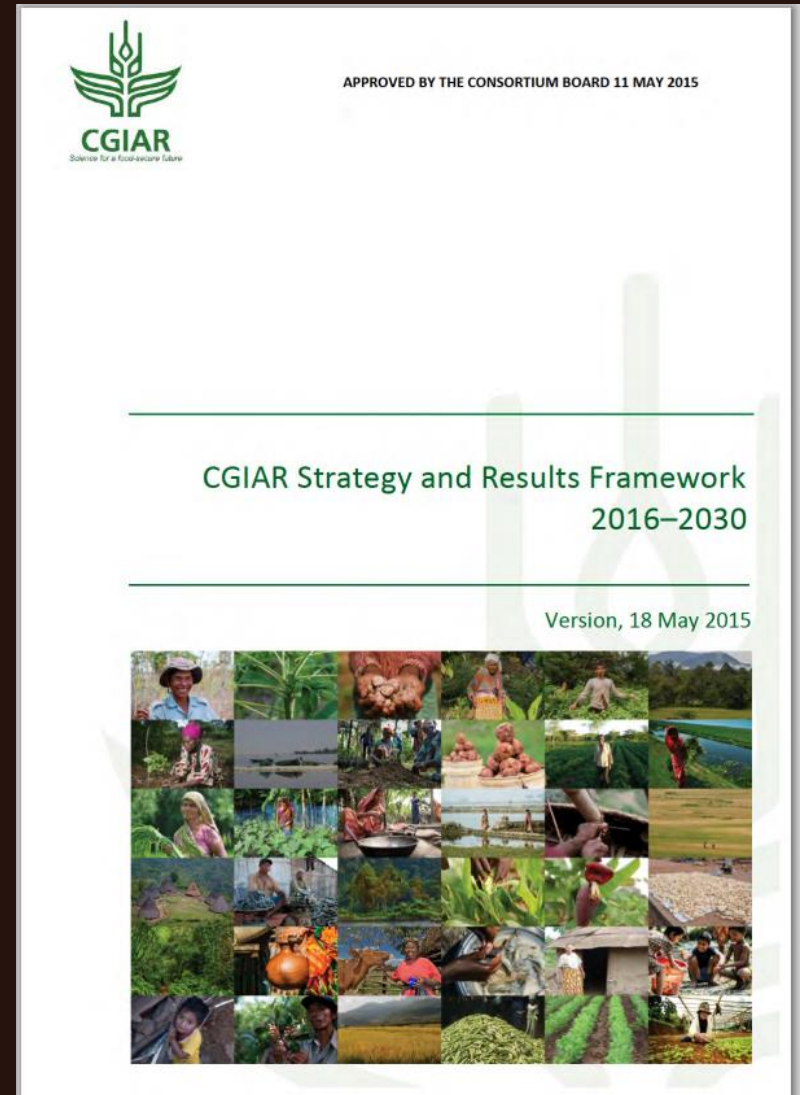
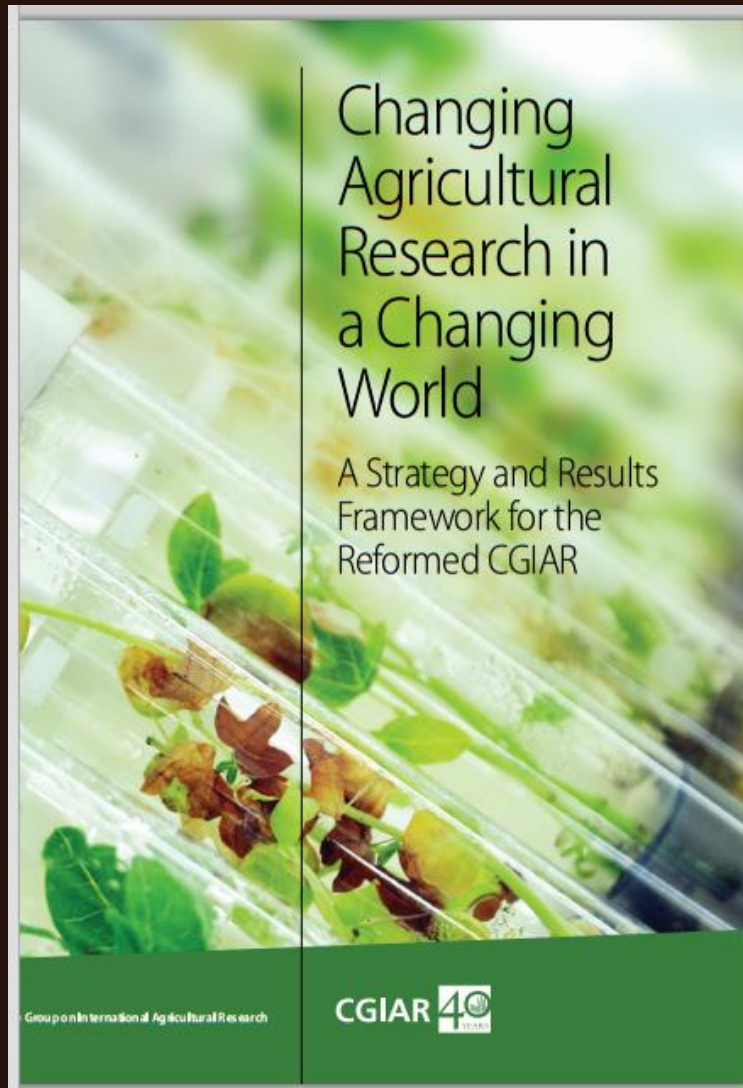
INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES  
FOR FOOD AND AGRICULTURE  
Platform for the co-development and transfer of technologies  
THIRD MEETING  
Rome, Italy, 7 September 2015



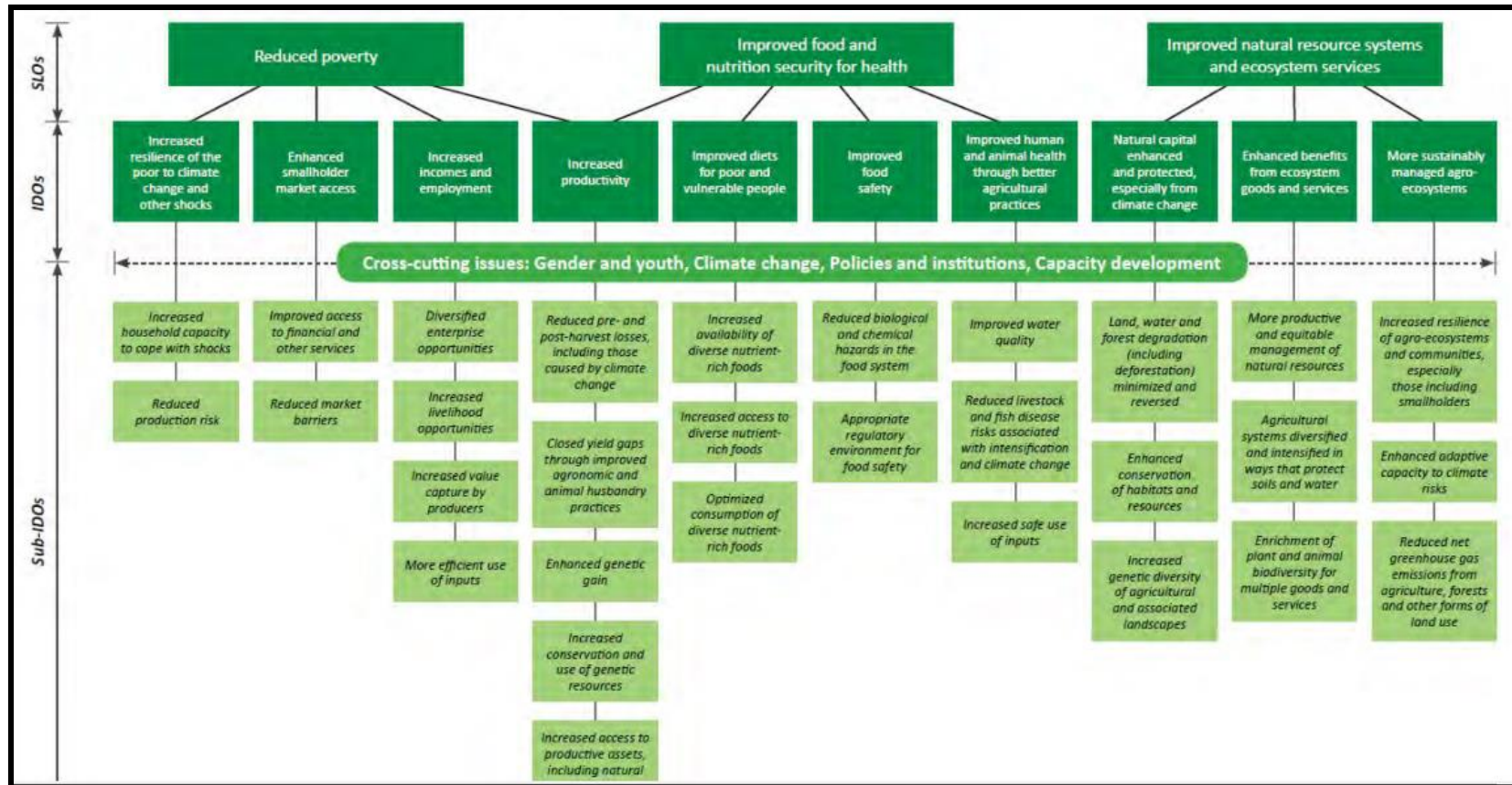
# Content of this presentation

1. The CGIAR Strategy and Resource Framework
2. Highlights of recent technology generation and transfer efforts
  1. Information and tools for assessment of local needs
  2. Innovation platforms
  3. Pre-breeding technologies and data
  4. Genetic improvement
  5. Methods and technologies for variety selection and seed production
3. CGIAR participation in projects of the BSF

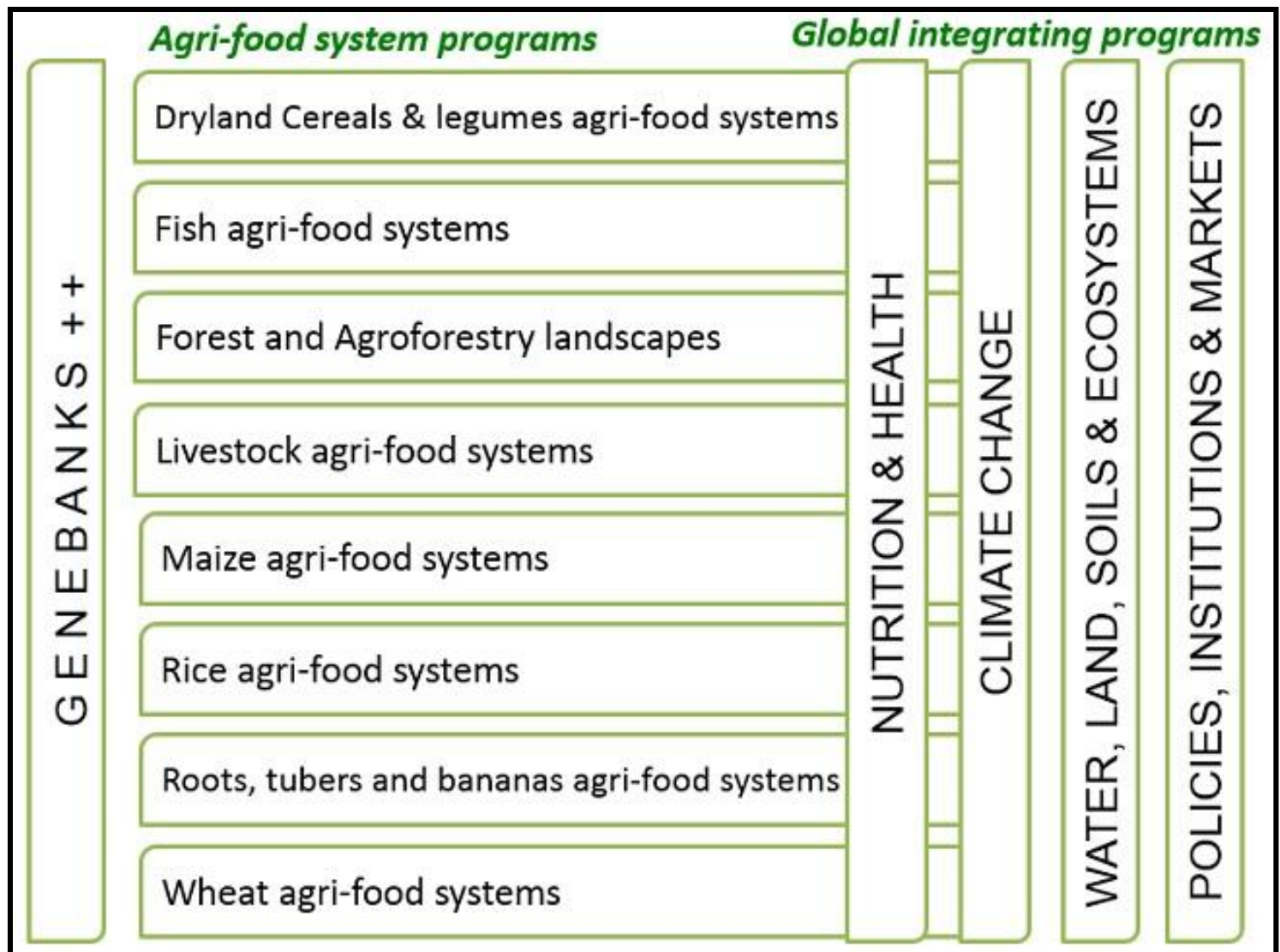
# I. Redefining how CGIAR does business to 2030: The CGIAR strategy and results framework



# CGIAR results framework




# New portfolio of CGIAR research programmes





# Relevant aspects of the new CGIAR strategy in relation to technology development and transfer

- Exploring and exploiting opportunities offered by **new technologies**
- Widening **partnerships and coalitions**, including private-public partnerships
- Putting more emphasis on **PGRFA conservation and use**



# CGIAR traditional roles in tech development and transfer that will continue to be strengthened under the new framework

- Developing research capacities
- Generating global public technologies and making data publicly available
- Convening partners, brokering research, mobilizing expertise
- Informing global debates on sustainable food systems, climate smart agriculture and genetic resources

## 2. Highlights of recent technology generation and transfer efforts





# Assessment of local needs

- Improving analytical capabilities for defining research and development priorities at local and national levels
- Making available models and data sets for informing decision making




# Innovation platforms

- Engaging local communities and research and development partners
- Strengthening innovative and adaptive capacities of local communities



# Pre-breeding

- Enhancing phenotypic characterization
- Genome sequencing
- Mining plant genetic resource collections

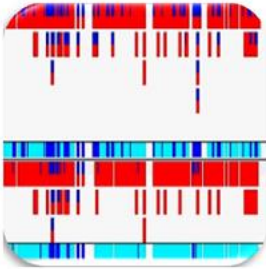


## Rice SNP-Seek Database


[Home](#) [Search](#) [Browse](#) [My Lists](#) [Download](#) [Help](#)

This site provides Genotype, Phenotype, and Variety Information for rice (*Oryza sativa* L.). SNP genotyping data (called against Nipponbare reference *Oryza sativa* Nipponbare-Reference-IRGSP-1.0) came from 3,000 Rice Genomes Project. Phenotype and passport data for the 3,000 rice varieties came from the International Rice Information System (IRIS). We are a part of an ongoing effort by the International Rice Informatics Consortium (IRIC) to centralize information access to rice research data and provide computational tools to facilitate rice improvement via discovery of new gene-trait associations and accelerated breeding.

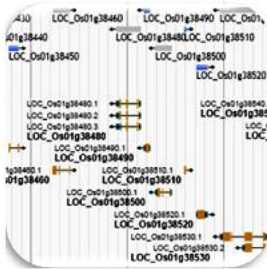
To cite this resource: Alexandrov, et al. SNP-Seek database of SNPs derived from 3000 rice genomes. *Nucl. Acids Res.* 2015;43(D1):D1023-D1027




**Genotypes**  
Query for SNPs from the 3000 genome project



**Varieties**  
Query for Variety passport and phenotypes



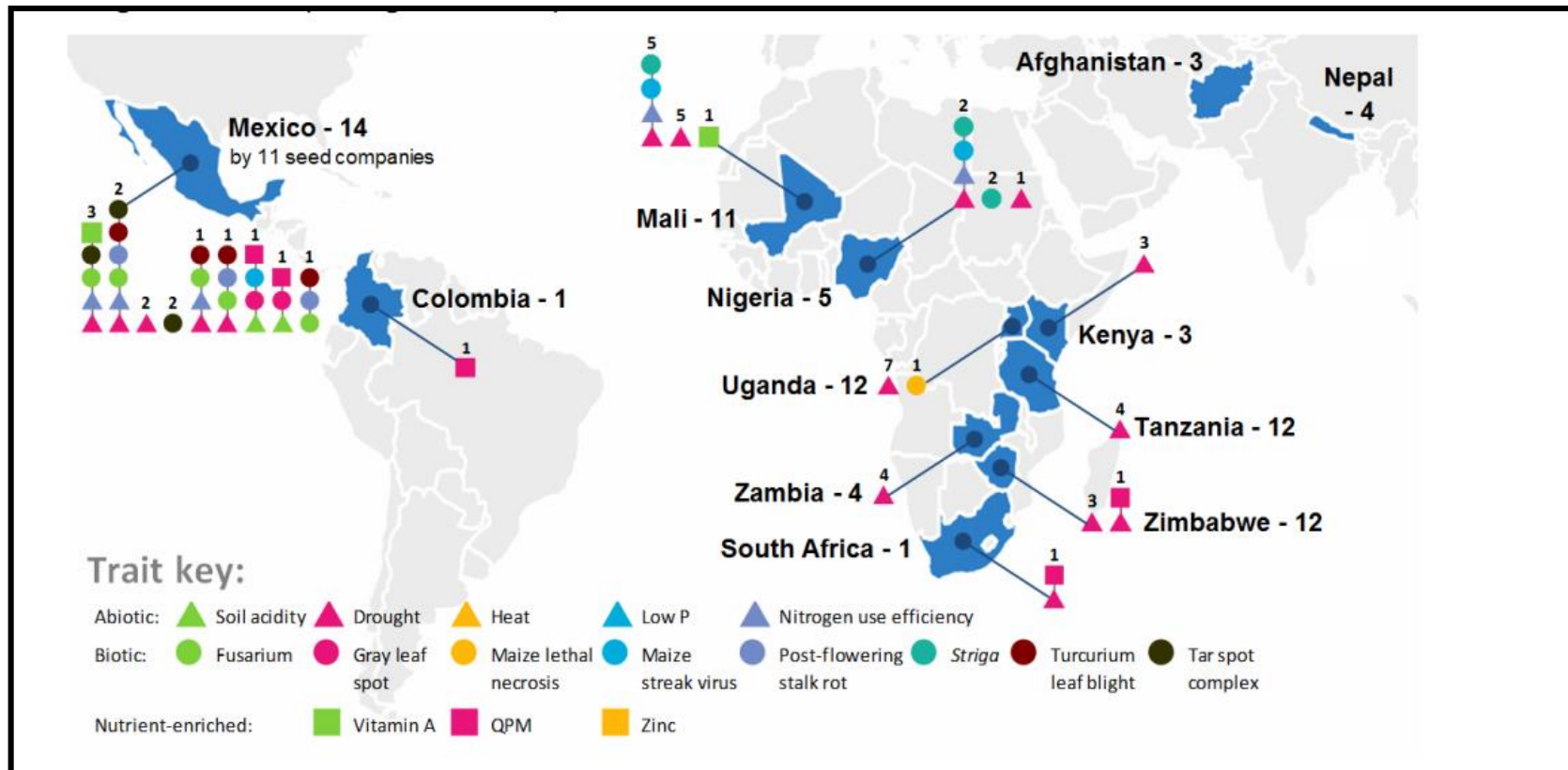
**JBrowse**  
Rice Genome Browser



**Help**  
Help and documentation

# Plant genetic improvement

- Selecting, testing, helping release improved lines
- Building breeding capacities



Source: MAIZE programme annual report, 2014

# Variety selection and seed production

- Citizen science for climate change adaptation
- Training on seed production
- Promotion of community-level initiatives for seed availability



### 3. CGIAR participation in the projects funded by the Treaty Benefit Sharing Fund



<b>Funding Round / Window</b>	<b>Centre / Role</b>	<b>Project title</b>	<b>Countries involved and target crops</b>
<b>Round 3 W2: Immediate action projects</b>	CIP (Coordinator)	Exchanging and developing biodiverse potato varieties in Peru, Nepal and Bhutan	Peru, Nepal, Bhutan Potato
	CIMMYT (Coordinator)	Improving food security by enhancing wheat production and its resilience to climate change through maintaining the diversity of currently grown landraces	Turkey, Afghanistan, Islamic Republic of Iran Wheat
<b>Round 3 W3: Co-development and transfer of technologies</b>	ICARDA (Coordinator)	An Integrated Approach to Identify and Characterize Climate Resilient Wheat for the West Asia and North Africa Region	Jordan, Egypt, Ethiopia and Sudan Wheat
	CIMMYT (Coordinator)	Addressing the challenges of climate change for sustainable food security through the creation and dissemination of an international database to promote the use of wheat genetic resources and increase genetic gains	Turkey, Iran and Morocco Wheat and wild relatives
	ICARDA (Coordinator)	In vitro culture and genomics-assisted fast track improvement of local landraces of wheat and barley for enhancing food security and adaptation to climate change	Morocco, Tunisia and Algeria Wheat and barley
	IRRI (Collaborator)	Co-Development and transfer of Rice Technologies	Indonesia, Malaysia, Lao PDR, Philippines Rice