

Global Rice Science Partnership



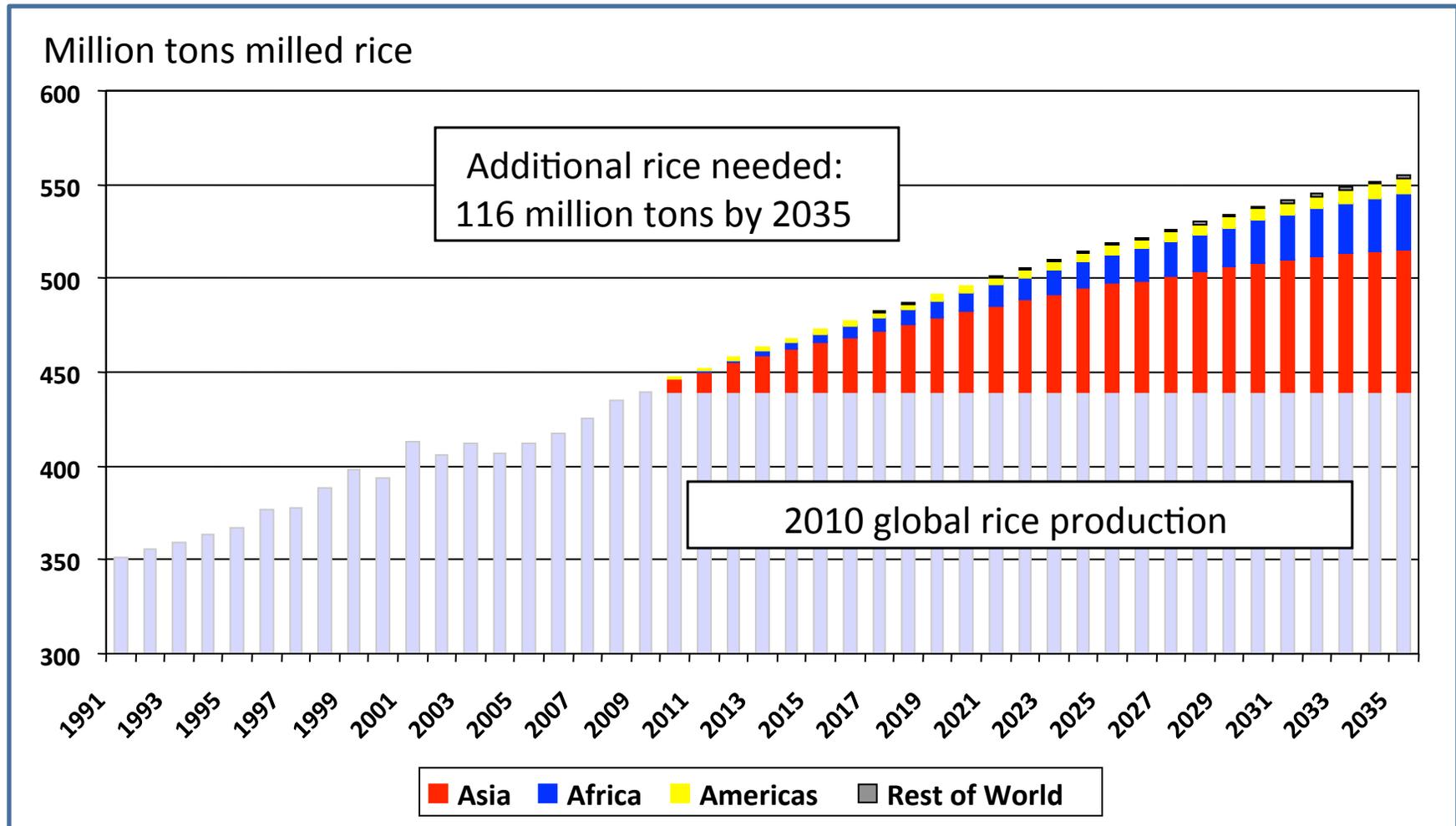
Research
Program
on Rice

CGIAR is a global research partnership for a food secure future

**From 3000 Genomes to 3
Billion People**

Matthew Morell

Global rice demand to 2035



Source: IRRI Global Rice Model

First Phase of the Green Revolution in Rice

Key Imperative – Meet the Urgent Food Security Challenge

GR 1.0 Increased Yield In Irrigated Rice Semi-dwarf fertilizer responsive varieties

	% of varieties grown that include IRRI germplasm
Philippines	70%
Indonesia	89%
India	58%
China	12%

Second Phase of the Rice Green Revolution

Key Imperative – Reduce Productivity & Livelihood Risk

GR2.0	Stress Resistant Rice for Rainfed Environments	Submergence, Drought, Salinity
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Flooding
Drought
Salinity

Sub1 Example

Targeting the Needs of the Poorest of the Poor in Unfavorable Environments

Flood affected (10 day) rice fields of Arun Kumar Singh at village Khuruhuja, District Chandoli, UP, India





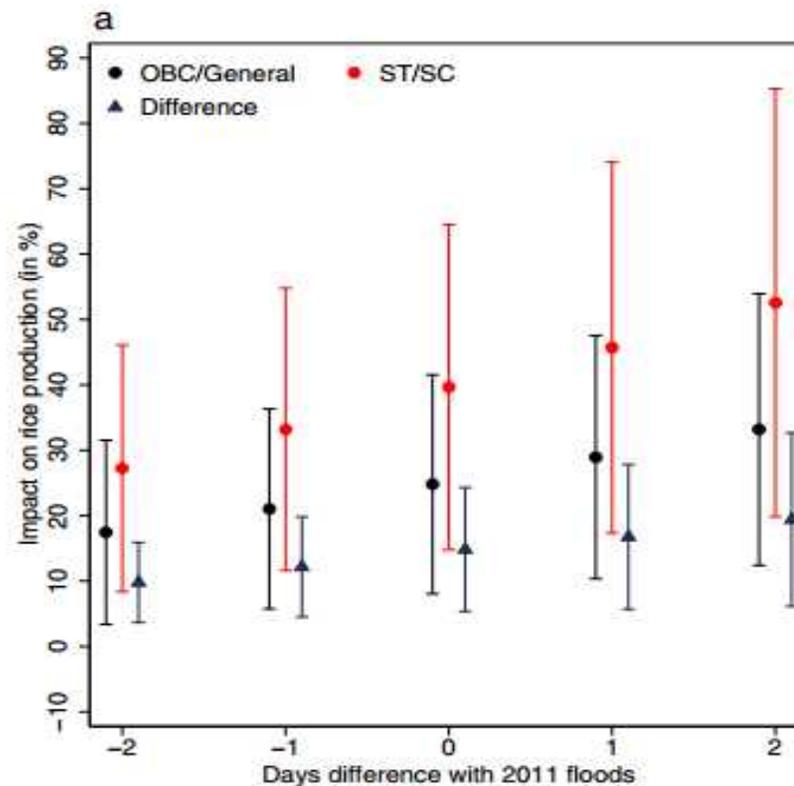
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SUBJECT AREAS:
FIELD TRIALS
AGRICULTURAL GENETICS

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7 August 2013
Accepted

Flood-tolerant rice reduces yield variability and raises expected yield, differentially benefitting socially disadvantaged groups

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Sub1 significantly increases yields in farmer fields Subjected to flooding

Bottlenecks

1. Time taken to discover & “tame” new traits
2. Combining traits & genetic diversity to move past the “mega-varieties”
3. Seed systems and policies

Solutions – The Third Phase of the Green Revolution in Rice

Key Imperatives – Food Security, Livelihoods, Nutrition, Sustainability

GR3.0
Traits &
Genetic
Diversity

GR3.0
Policies &
Partnership

(GIGA)ⁿ
SCIENCE

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Data Note

Highly accessed

Open Access

The 3,000 rice genomes project

The 3,000 rice genomes project[†]

Correspondence: The 3,000 rice genomes project

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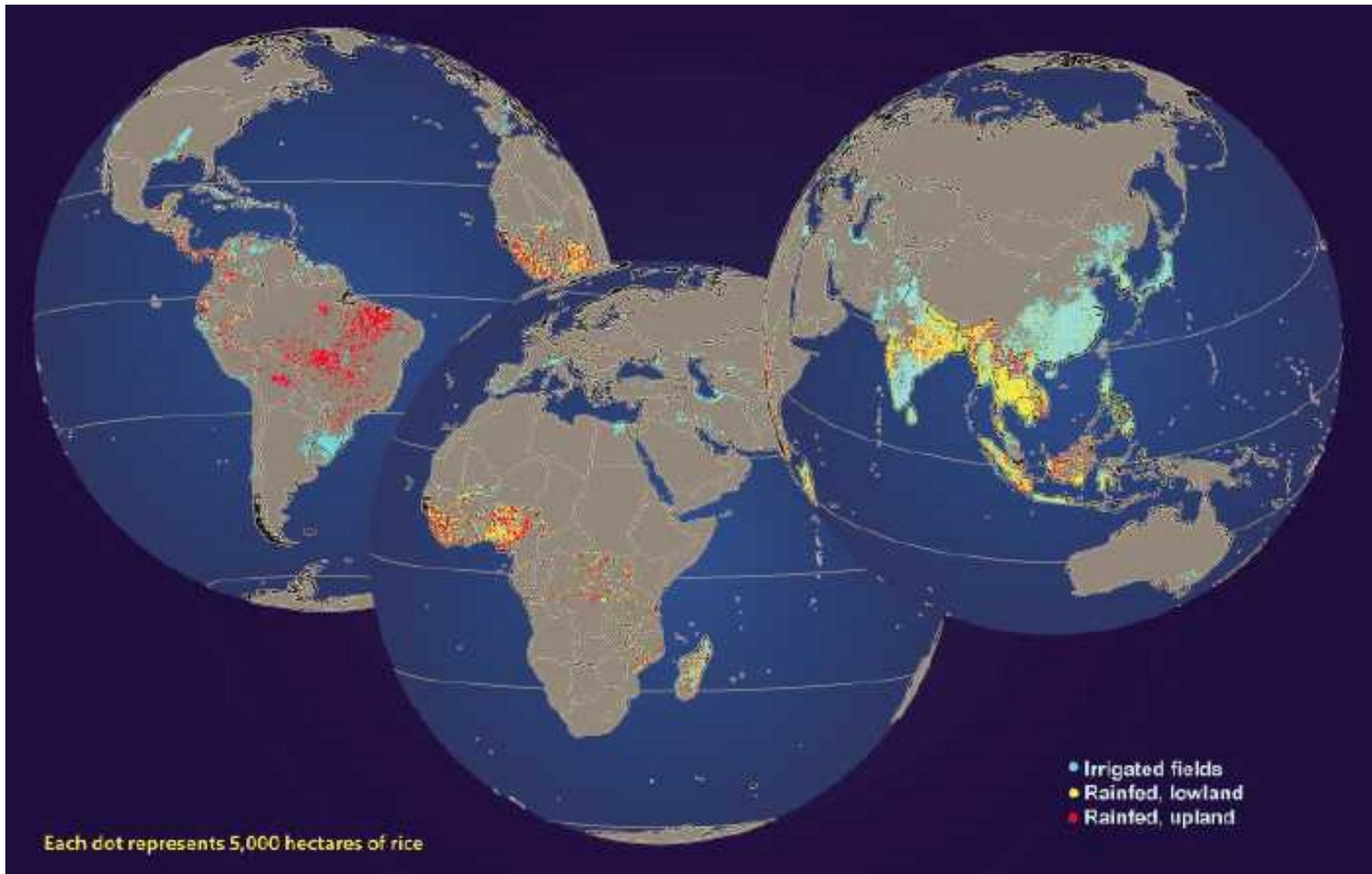
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