

IRRI

INTERNATIONAL RICE RESEARCH INSTITUTE

Looking Ahead: Megatrends in the Global Rice Sector

Achim Dobermann

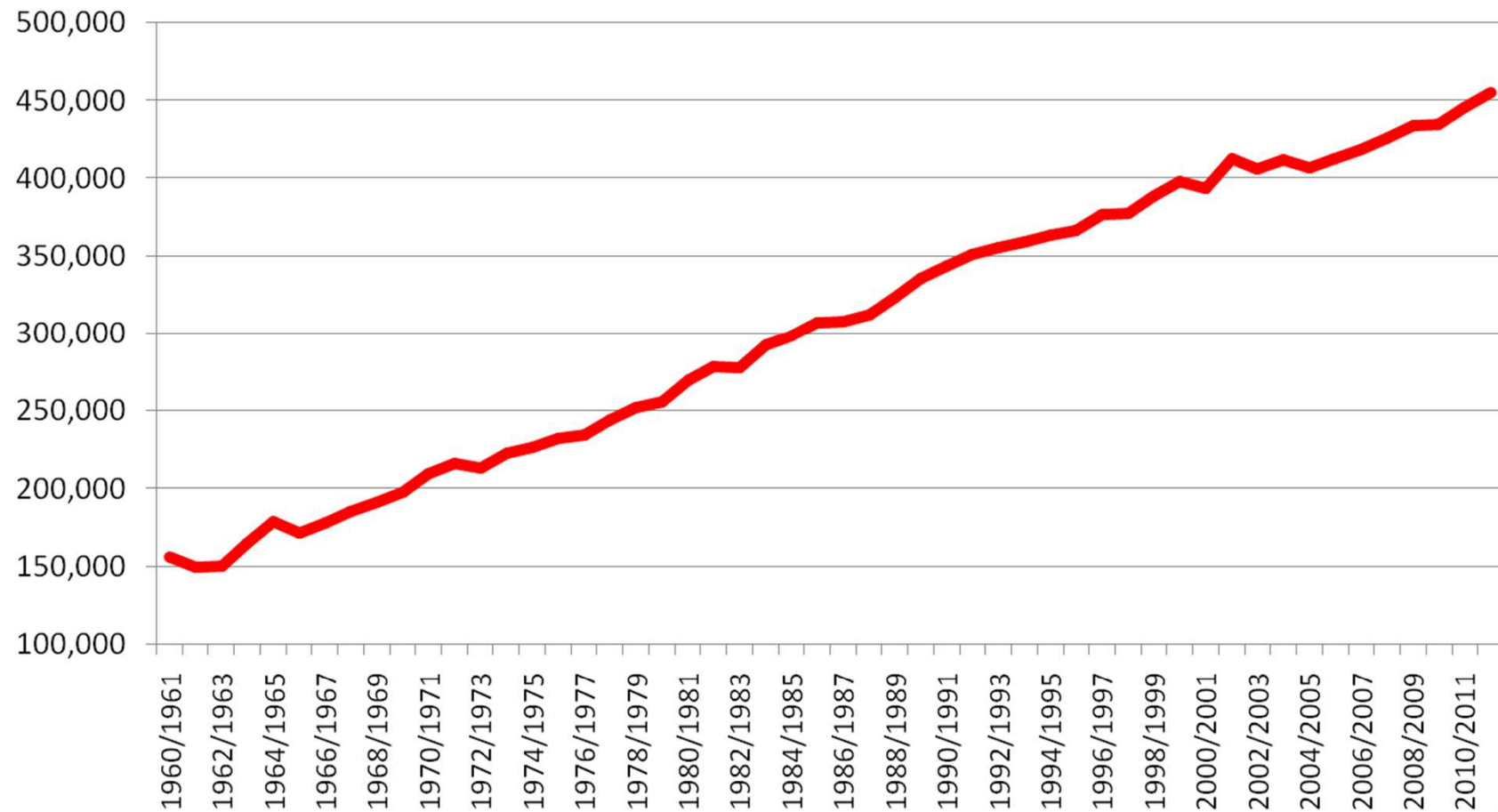
Tropentag, Goettingen, Germany, Sep 19-21, 2012

Rice
Science
for a Better
World

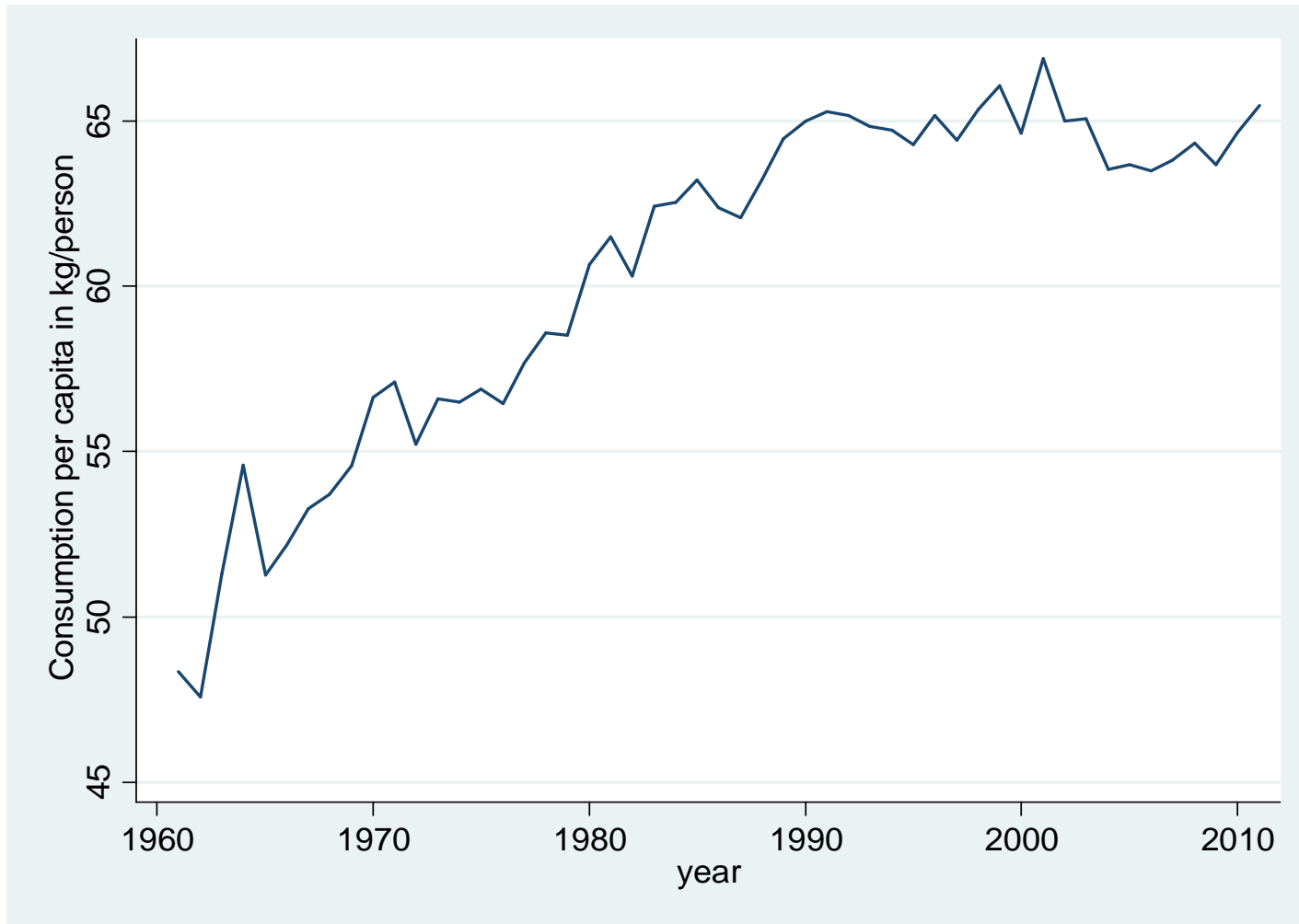


No slowdown in global rice consumption

MMT



Average per capita rice consumption has not yet decreased



**Who will be the ones
growing that rice?**

How?

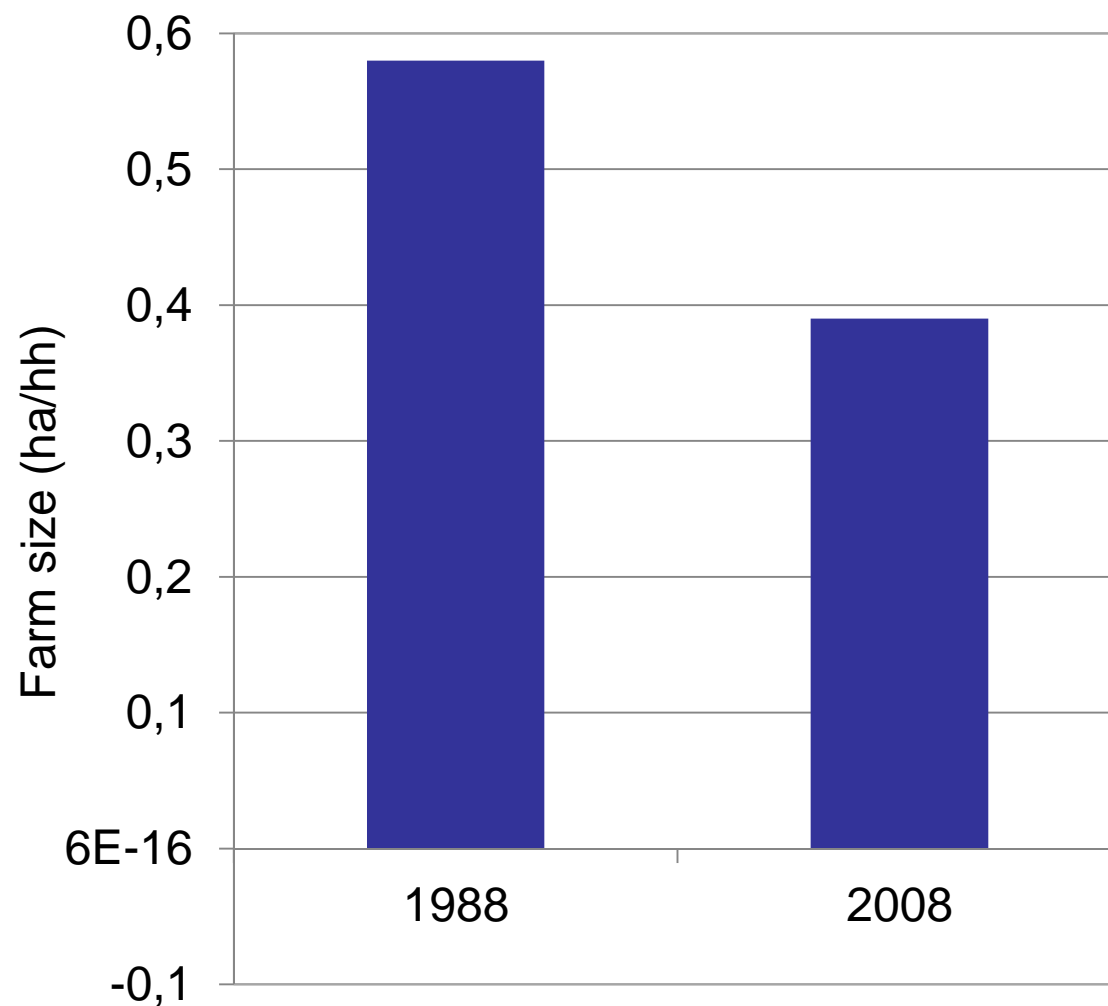


Farmers Leave for the City, China Looks to Neighbors for Rice

Oryza News, August 8, 2011



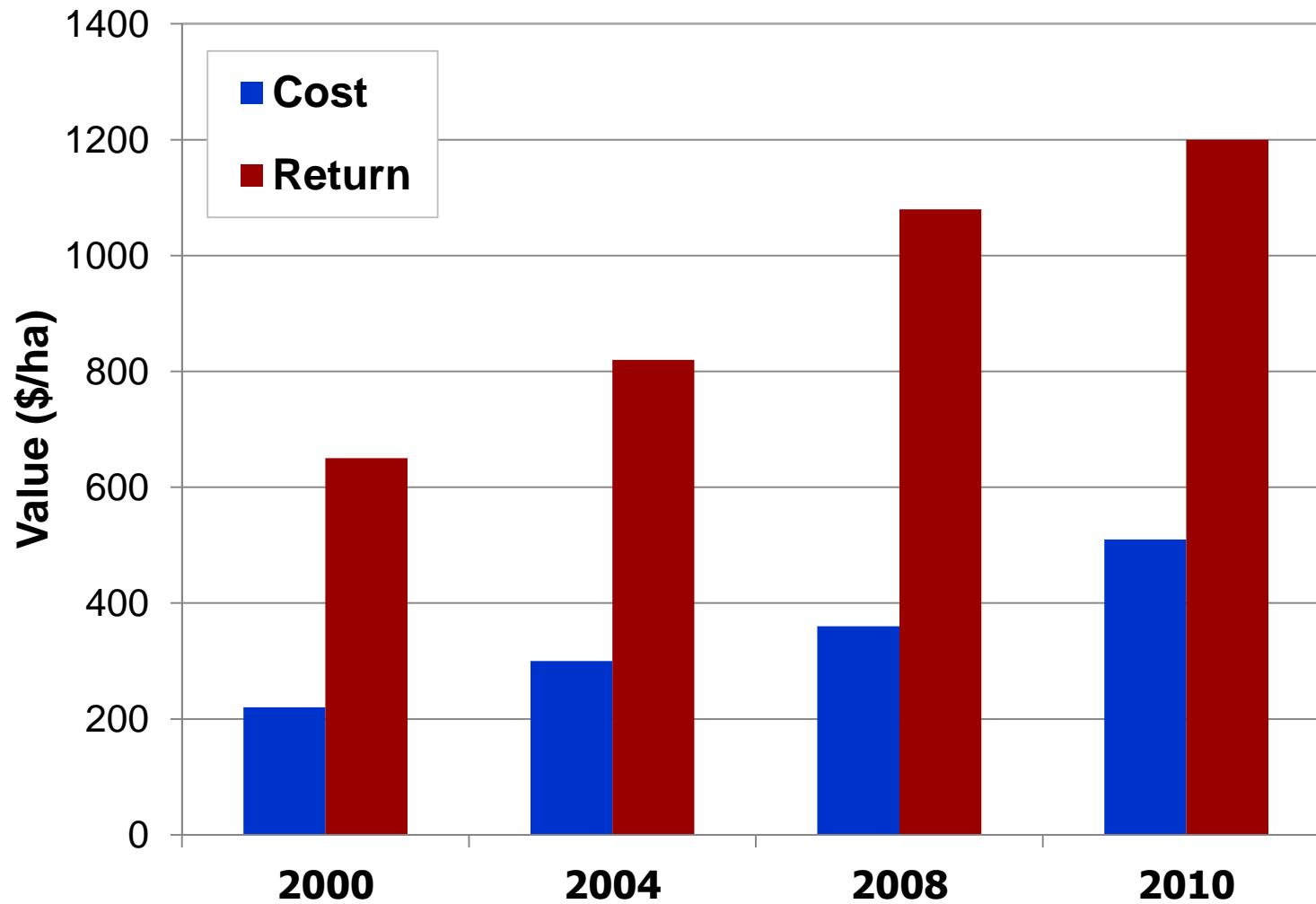
Changes in farm size, Bangladesh



H. Bhandari

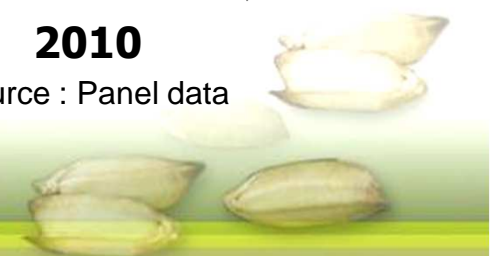


Costs and returns in paddy cultivation, sample village, Bangladesh

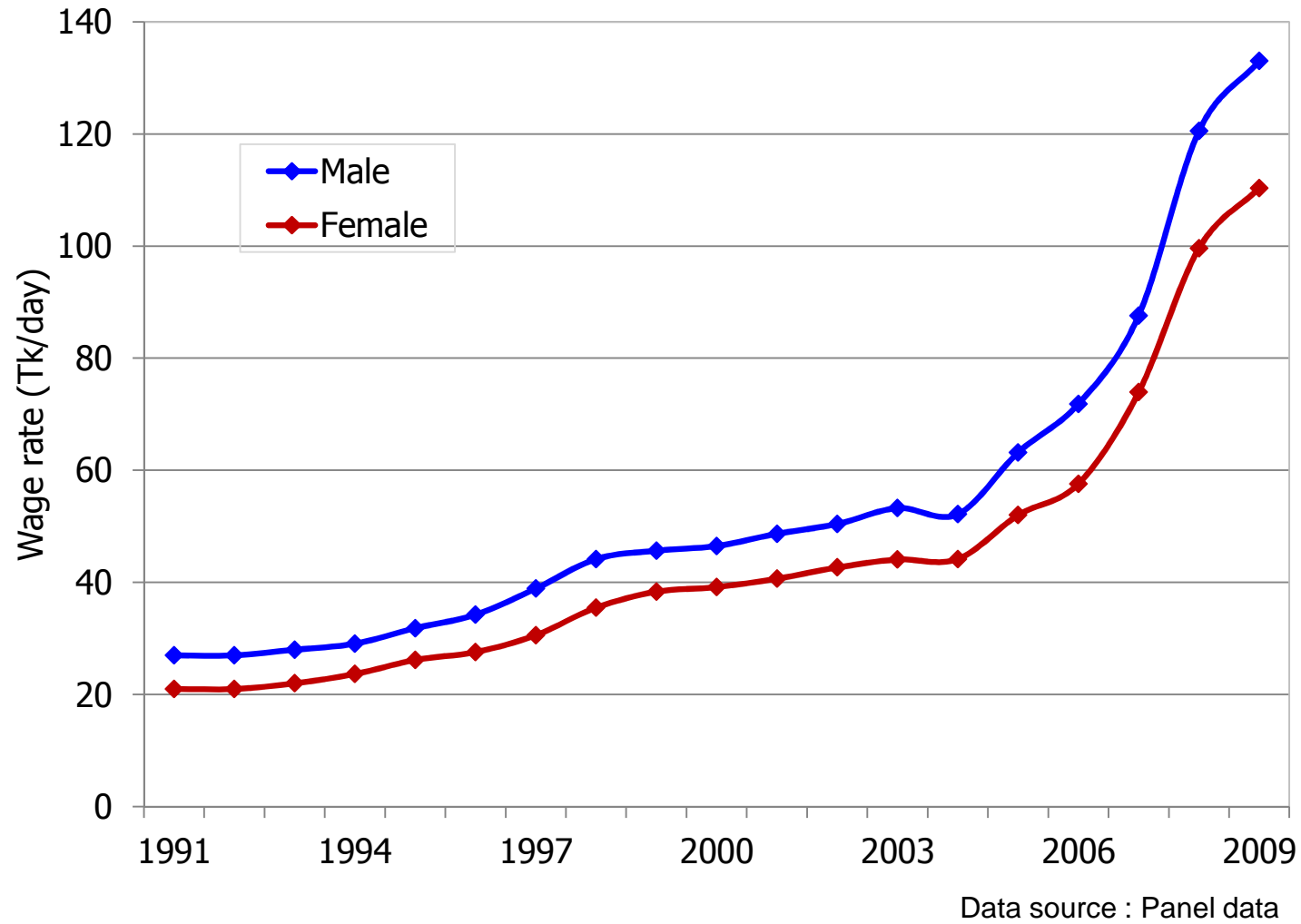


H. Bhandari

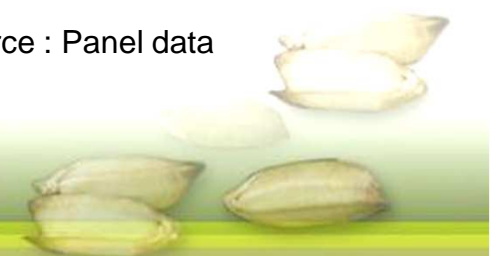
Data source : Panel data



Trends in labor wage rate, Bangladesh



H. Bhandari





**Consumers, processors,
exporters and the food
industry will drive what rice
to grow.**





**Monoculture
Hybrids, GMO
High water consumption
Fertilizers and pesticides
Negative health impacts
Methane emissions
High carbon footprint**

An aerial photograph of a rural agricultural landscape. The terrain is hilly and covered with lush green vegetation. In the foreground and middle ground, there are numerous rectangular and irregularly shaped terraced fields, some of which are filled with water, reflecting the sky. A small, simple wooden structure is visible near a pond in the lower right corner. The overall scene depicts a well-maintained and productive farming area.

Food for urban and rural consumers

Income for farm families

Income for agribusinesses

Erosion control

Flood control

Water purification

Biodiversity

Disease regulation

Climate regulation

Recreation

Culture

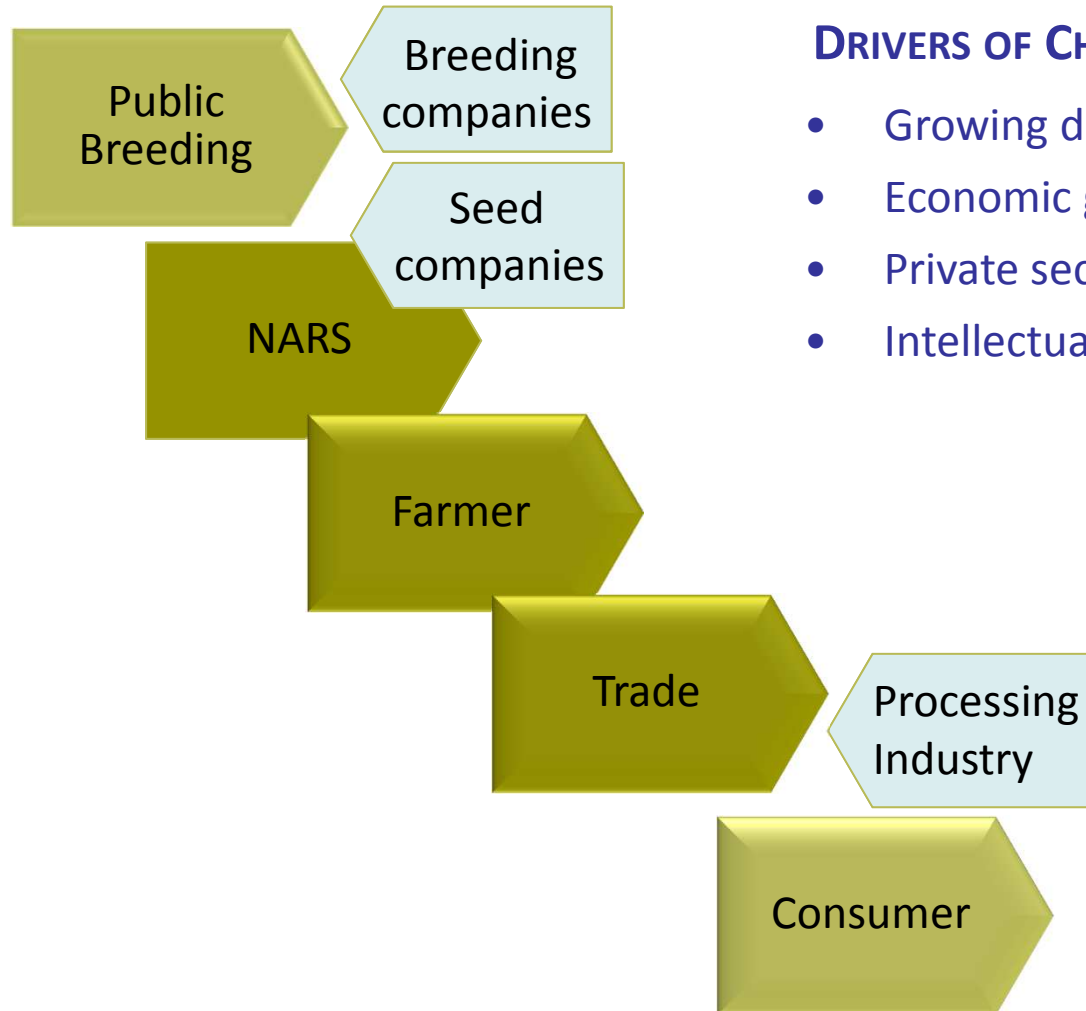
Sustainable Rice Platform (SRP)



- To develop a set of *global standards for best practices* of sustainable rice production (global rice GAP)
- To develop quantifiable *sustainability targets*
- To develop and promote decision-support tools (such as Field or footprint Calculators)
- To promote the adoption of best practices and sustainability criteria



RICE SEED VALUE CHAIN



DRIVERS OF CHANGE

- Growing demand (food, energy, etc.)
- Economic growth in emerging markets
- Private sector involvement
- Intellectual property



Magandang Binhi ay nagmumula sa Magandang Binhi



TILAH

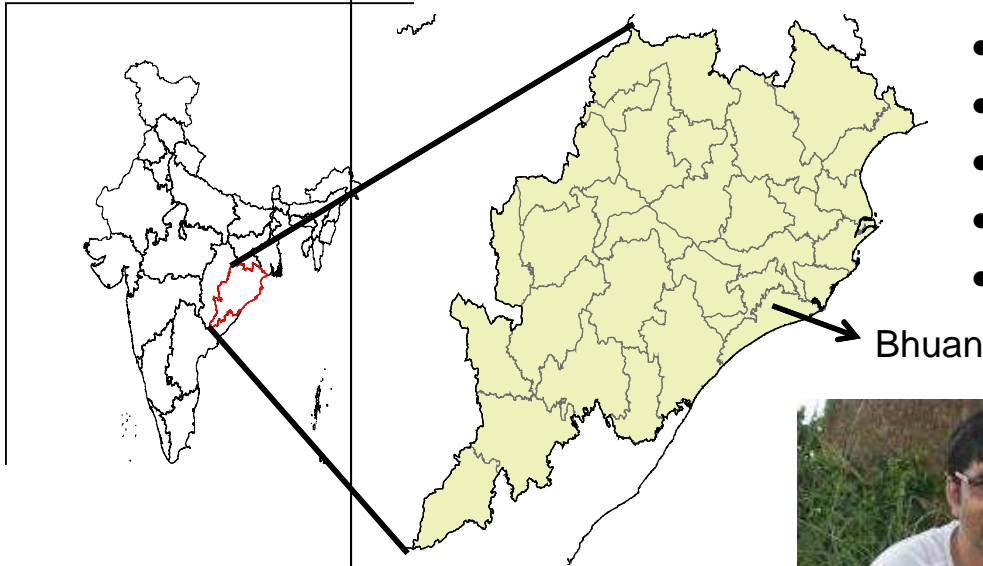
Seed Center

DISTRIBUTOR OF REGISTERED & CERTIFIED SEEDS

Variety	# of DAYS	Variety	# of DAYS	Variety	# of DAYS
PSB Rc 10	106	NSIC Rc 146	110	NSIC Rc 212	115
PSB Rc 14	110	NSIC Rc 150	109	NSIC Rc 214	116
PSB Rc 18	123	NSIC Rc 152	109	NSIC Rc 216	112
PSB Rc 28	111	NSIC Rc 154	110	NSIC Rc 222	114
PSB Rc 82	110	NSIC Rc 156	111	BIGANTE	118
NSIC Rc 122	121	NSIC Rc 158	113	TH 82	110
NSIC Rc 128	118	NSIC Rc 160	117	SL 8H	113
NSIC Rc 130	108	NSIC Rc 172	112	PIONEER PH871	112
NSIC Rc 134	107	NSIC Rc 192	106	HYRIZE RIZALINA	113
NSIC Rc 138	111	NSIC Rc 194	113		
NSIC Rc 142	112	MALAKAS 1 (Syngenta)	108		



A day in the life of an Odisha rice farmer



- 30 years farming
- 0.7 ha (two patches) = 0.4 ha shared
- rice, gram, mushrooms, potato, gourd
- 1 cow, 2 calves, 1 bullock
- >90 d laborer for others

Sam Mohanty with
Gagan and other
farmers



A day in the life of an Odisha rice farmer

- 06:00-07:00: collect cow dung; tea and puffed rice; feed cows, house chores
- 07:00-09:00: carry manure to the field, 200 m away; 10 trips with basket, total of 200 kg
- 09:00-10:00 bowl of rice, fried potatoes, and onions
- 10:00-12:30 field work: clean bunds, weeding
- 12:30-15:00 bath in river, lunch at home, 1-hour nap
- 15:00-18:00 field work: land preparation for irrigation
- 18:00-23:00: go to village market, feed cattle, jobs around the house, play some cards with friends





Gagan cleaning his bund





Gagan's mushroom bed





Gagan's lunch: rice, lentil soup and vegetable curry





Gagan working on his irrigated patch



Total gross income:

US\$ 1100 per year





Gagan with his youngest daughter



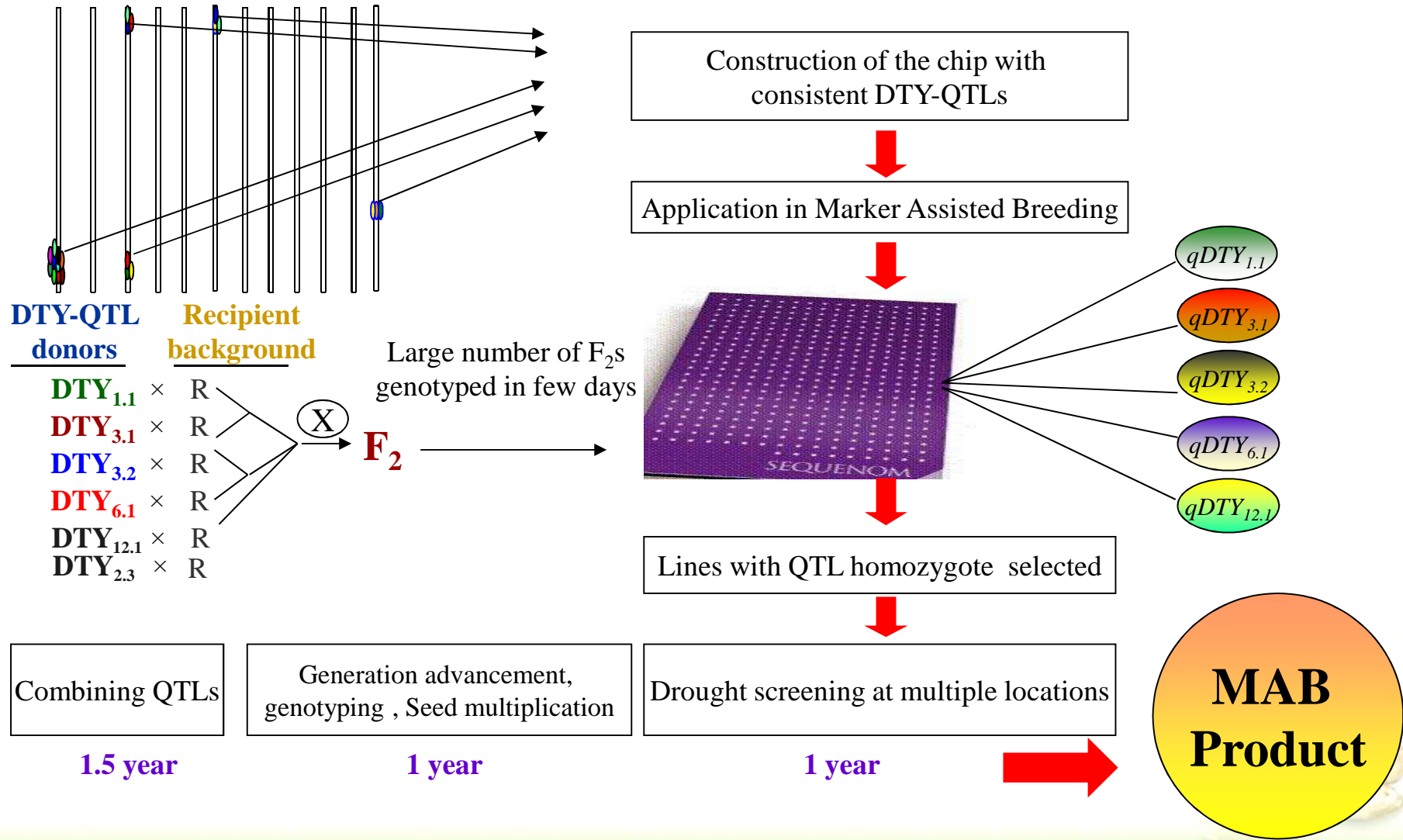


Local

MV+sub1

MV-sub1

Fast track MAB using SNP platforms





NMRice Philippines

IRRI Development



★★★★★ (8)

INSTALLED

This app is compatible with your AT&T Samsung GT-I9300.

More from developer



NMRice Indonesia
IRRI DEVELOPMENT
★★★★★ (2)
Free

See more >

Users who viewed this also viewed



iReader (Full version)
ZHANGYUE
★★★★★ (9,255)
Free



Syrious Scramble Full
VISUAL SYSTEMS CORP.

OVERVIEW USER REVIEWS WHAT'S NEW PERMISSIONS

Description

The content of this application is subject to change without prior notice.

Version 2.1.0

Initial non-beta release

Version 2.0.9

Revised the layout of question for organic materials to accommodate its full list same as with the NM Web.

Version 2.0.6

Revised the set of questions to compliment the beta version of NM Web 2.1

Version 1.0.74

Added the sessions capability

[Visit Developer's Website >](#) [Email Developer >](#)

App Screenshots



+1 6

Tweet

ABOUT THIS APP

RATING:
★★★★★
(8)

UPDATED:
July 18, 2012

CURRENT VERSION:
2.1.36

REQUIRES ANDROID:
1.5 and up

CATEGORY:
Education

INSTALLS:
1,000 - 5,000

SIZE:
3.2M

PRICE:
Free

CONTENT RATING:
Low Maturity

Effect of NMRice on rice yield, fertilizer use, and added income for farmers in Capiz

Results from West Visayas State University



Nutrient management decision tools

Obtain location-specific guidelines for rice. Select your location:



Bangladesh



China, Guangdong

- [Open web application](#)



Indonesia

- [Open web application](#)
- [View video of web application](#)
- [Open mobile phone demonstration](#)



Philippines

- [Open web application](#)
- [Open mobile phone demonstration](#)
- [Download application for Smartphones](#)



Vietnam



West Africa

- [Ghana](#)
- [Nigeria](#)
- [Mali](#)
- [Senegal](#)

View how to develop a nutrient management guideline for rice.



Productivity & efficiency increase

Skillful, precise agriculture

More integrated value chains

New enterprises

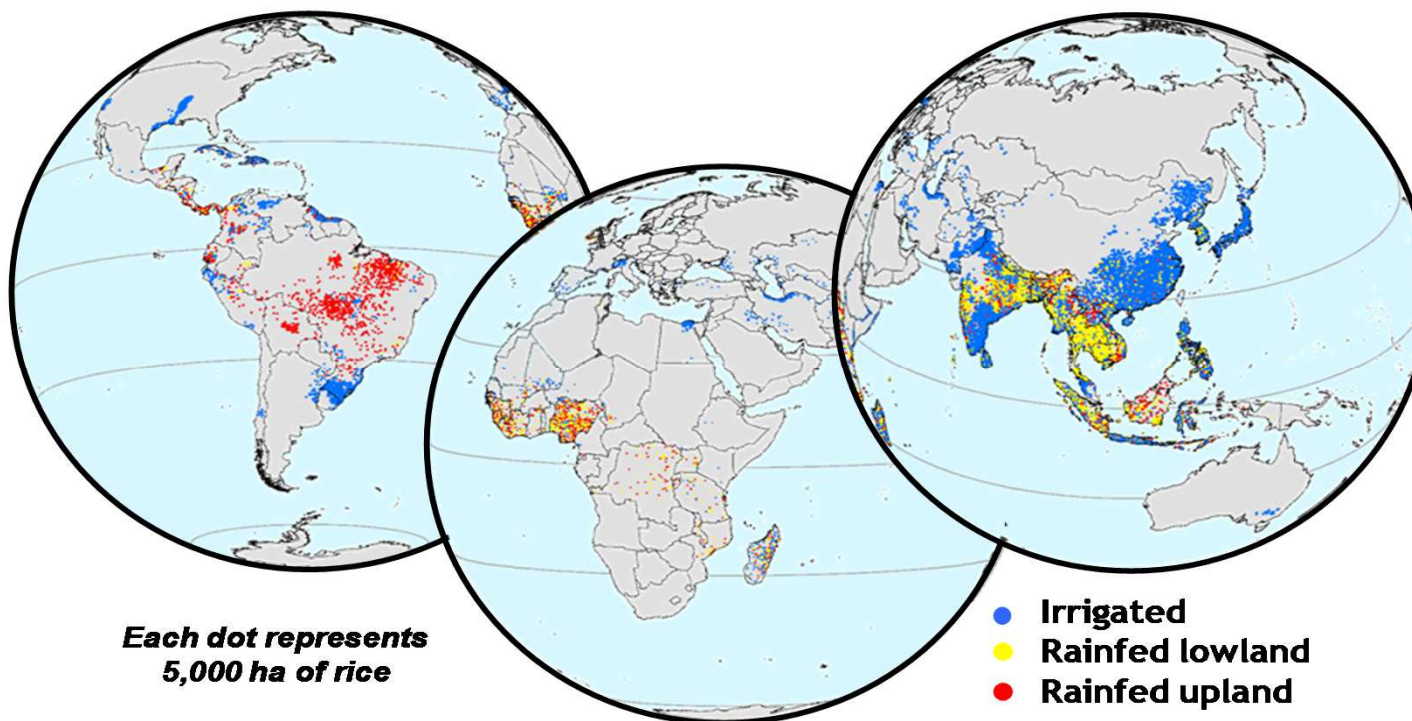
Access to information





Research
Program on
Rice

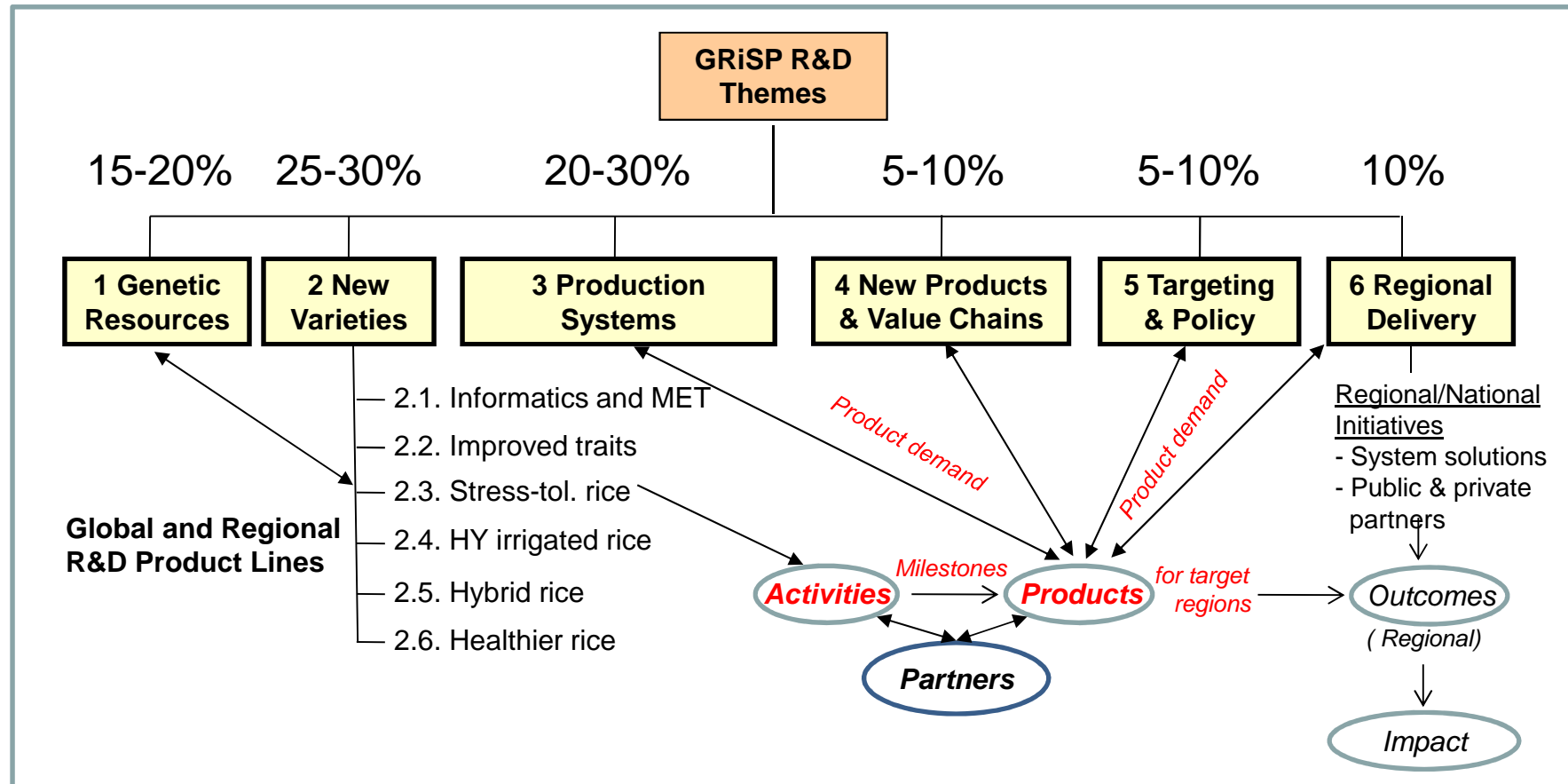
Global Rice
Science
Partnership



An evolving alliance of IRRI, AfricaRice & CIAT with Cirad, IRD, JIRCAS and ~900 research and development partners worldwide



GRiSP Approach



- **5-yr work and business plan: 2011-2015**
- **Interdisciplinary, product-oriented R&D: 94 R&D Products clustered in 26 Product lines under 6 Themes**
- **New frontiers research**
- **Science capacity building**



GRiSP New Frontiers Research

Project	PLs	Institutions
Genotyping and phenotyping of African rice species and their pathogens	1.2., 1.3. 2.2.	<u>AfricaRice</u> , IRD, JIRCAS, Cirad
Increasing the yield potential in rice: genomic and physiological approaches	2.4.	<u>IRRI</u> , AfricaRice, CIAT, Nagoya U.
GRiSP Global Rice Phenotyping Network	1.2.	<u>IRRI</u> , AfricaRice, CIAT, Cirad, Embrapa, NIAES, U. Qsld., CAAS, PhilRice
Enhancing the sustainable use of phosphorus through the development of varieties with reduced grain P	2.3.	<u>JIRCAS</u> , IRRI, AfricaRice, Southern Cross U., FOFIFA, Yara
Cutting edge rice transformation platform for complex traits	1.3., 1.4. 2.2.	<u>IRRI</u> , CIAT, U. Minnesota
Nutritious and higher value rice-based products from locally parboiled and lower grade milled rice	4.3.	<u>AfricaRice</u> , Cirad, U. Milano, U. Abomey Calavi (Benin), CSIR (Ghana)




Capacity Building

- Global Rice Science Scholarship program launched (GRiSS)
 - 188 applicants from 40 countries
 - 31 awarded for Themes 1-5




Region	Female	Male	Total
Africa	3	6	9
Asia	9	8	17
Europe	1		1
South America	1	3	4
Grand Total	14	17	31

Your next discovery could be the answer to food insecurity



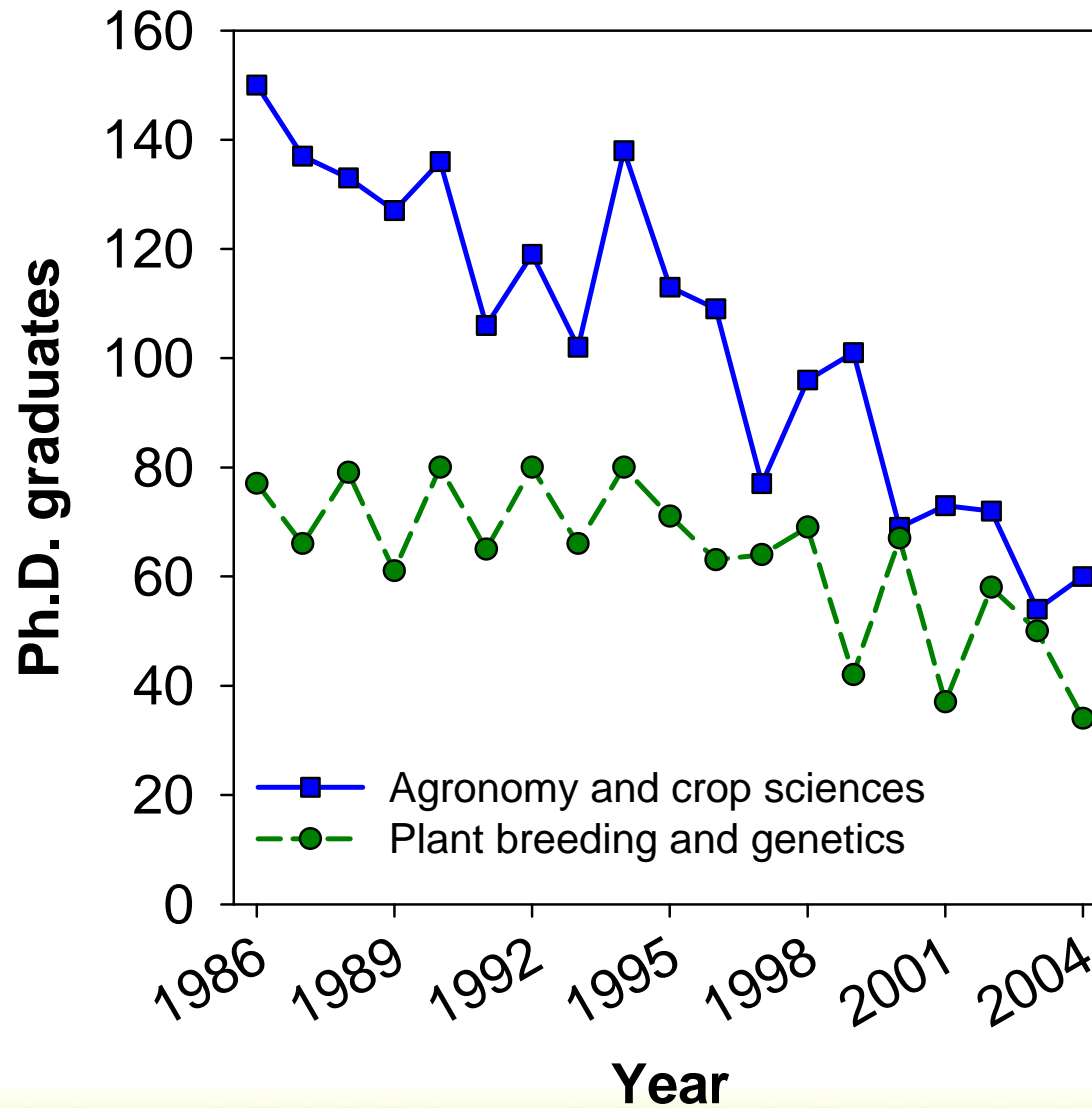
Apply now for a 2011 Global Rice Science Scholarship.

A rice scholarship for scientists pursuing their Ph.D.

IRRI    IRD



U.S. land-grant university Ph.D. graduates in agronomy and crop sciences and plant breeding and genetics



(USDA, 2008) Compiled by Chris Boomsma, Purdue U.



Opportunities for German scientists

- CGIAR CRPs provide a new umbrella for globally linking basic and applied research, utilizing the strengths of different partners.
- How can we link German science better to such globally coordinated efforts?
- What leadership role can Germany play in key areas?



www.grisp.net



Notifications **15**



[Download a copy here](#)

The Global Rice Science Partnership (GRiSP) provides a single strategic plan and unique new partnership platform for impact-oriented rice research for development. It is designed to more effectively solve development challenges.

GRiSP streamlines current rice research for development activities of the CGIAR and aligns them with more than 900 rice research and development partners worldwide to:

- Increase rice productivity and value for the poor
- Foster more sustainable rice-based production
- Help rice farmers adapt to climate change
- Improve the efficiency and equity of the rice sector

“A US\$20 investment in GRiSP will lift one person out of poverty”

Everything SEARCH

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GRiSP Annual Report

[2011 GRiSP Annual Report](#)

[2011 GRiSP Progress Report](#)

[GRiSP milestones report for 2011](#)

UPCOMING EVENTS

1 Oct 2012 AfricaRice Science Week ...
Monday, All day
Cotonou, Benin

8 Oct GRiSP Asia review meeting
Monday, All day
IRRI, Los Banos, Laguna, Philippines

11 Oct GRiSP Global Forum
Thursday, All day
IRRI Los Banos, Laguna, Philippines