

# **South Asia: An update**

## **India, Nepal & Bangladesh**

**Arun K. Joshi**

[a.k.joshi@cgiar.org](mailto:a.k.joshi@cgiar.org)





**Land of 1.5 billion people.  
For half of them, wheat is  
a staple crop**

THE WORLD  
PHYSICAL  
SOURCE: NASA/NOAA





## **Daily calorie**

**37% Pakistan**

**20% India**

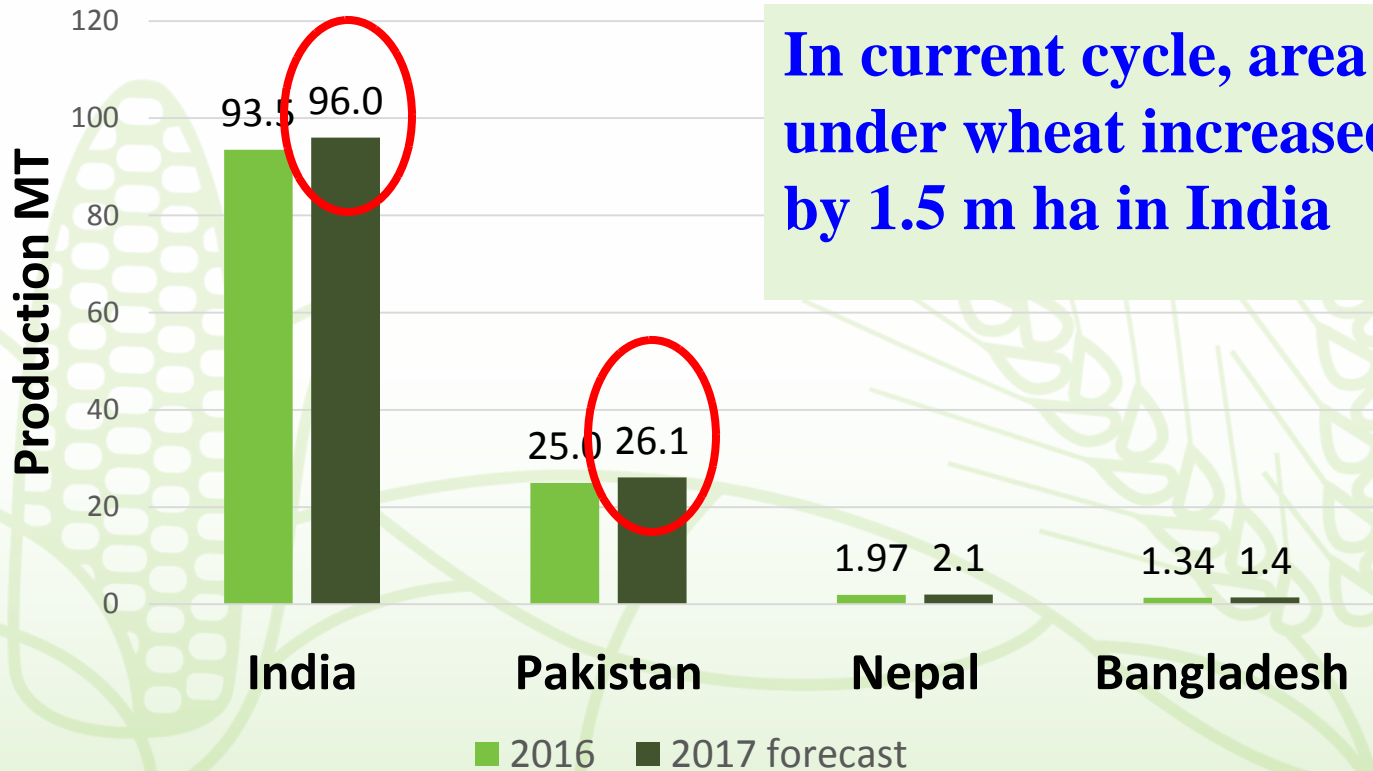
**13% Nepal**

**7% Bangladesh**

**They are self-sufficient except Bangladesh – annual import ~ 4 m t**

<https://farm8.static.flickr.com>

# Wheat production 2016 and 2017 (forecasted)



# Wheat varieties: what was new?

High Zn wheat varieties released in 2016 in India and Pakistan



## Progenitors



# Biofortified wheat in 2016

**India (NWPZ)**

**Two sister Mayil lines (+6 ppm Zn)**

**WB 2 and HPBW01**

**India (private sector)**

**Zinc Shakti; Extra-early, +14 ppm**

**Zn (40% increase)**

**Pakistan**

**Zincol 2016; +6 ppm Zn**

**2000 tons of seed sown in 2016-17**

Source: Ravi Singh and Govindan Velu



**ME1: NW India & Pakistan**

**New varieties released  
with better resistance**

**PBW 658, PBW 677, HD  
4728**

**Yellow rust races  
virulent on *Yr17* and  
*Yr8* showed increased  
aggressiveness in India**

Map: D. Hodson

 **CIMMYT**<sub>MR</sub>

# What made big news in 2016?



## Wheat Blast in Bangladesh

March 07,  
2016

Photo: Paritosh Malekar, Bangladesh

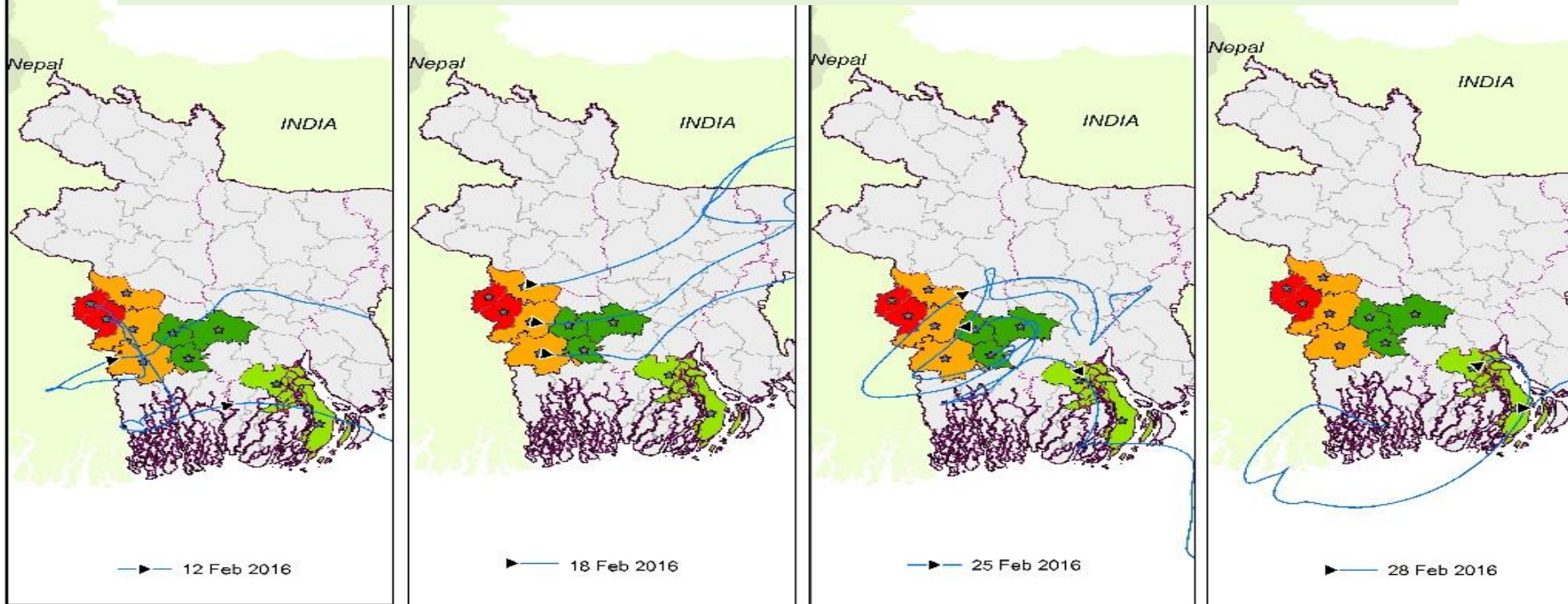




**2016**

# Wheat blast locations and wind trajectories, Feb 2016

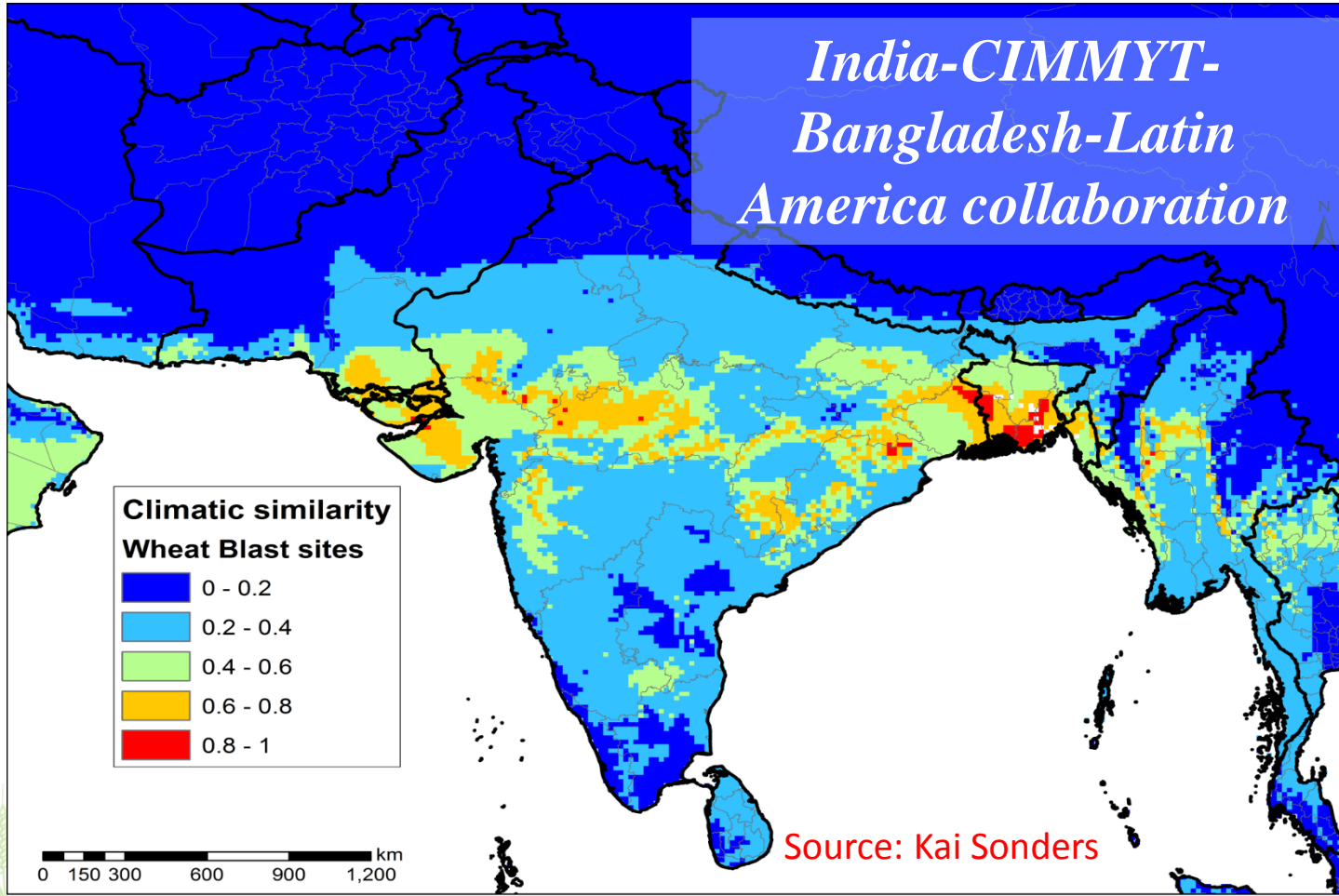
Chowdhury et al., 2017 (Map by Amit, CIMMYT Delhi)



- District centre
- Heavily affected, February 2nd week
- Heavily affected, February 4th week
- Bangladesh Country
- India
- Heavily affected, February 3rd week
- Sporadically affected, February 4th week
- Bangladesh District
- Nepal

Wind Trajectory Source: HYSPLIT Trajectory Model, ARL, NOAA

# Wheat Blast Vulnerable Areas in South Asia





**India**

**Doubling farmers  
income by 2022**

**Nepal**

**National action plan to  
eradicate hunger by 2025**

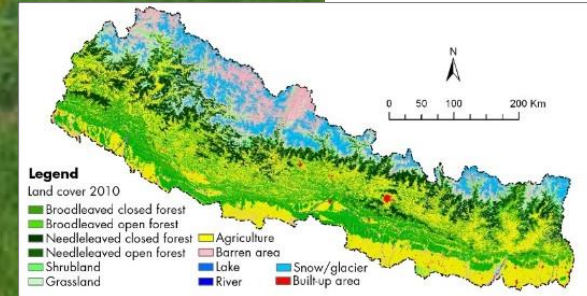
**Some ambitious  
announcements in  
2016**



**A variety from abroad can be registered for marketing after one year of multi-location testing  
Can save 4-5 years**

**Pre-release multiplication and marketing allowed after varietal identification of national varieties  
Saves 2 years of time**

**Policy change**



# Bangladesh

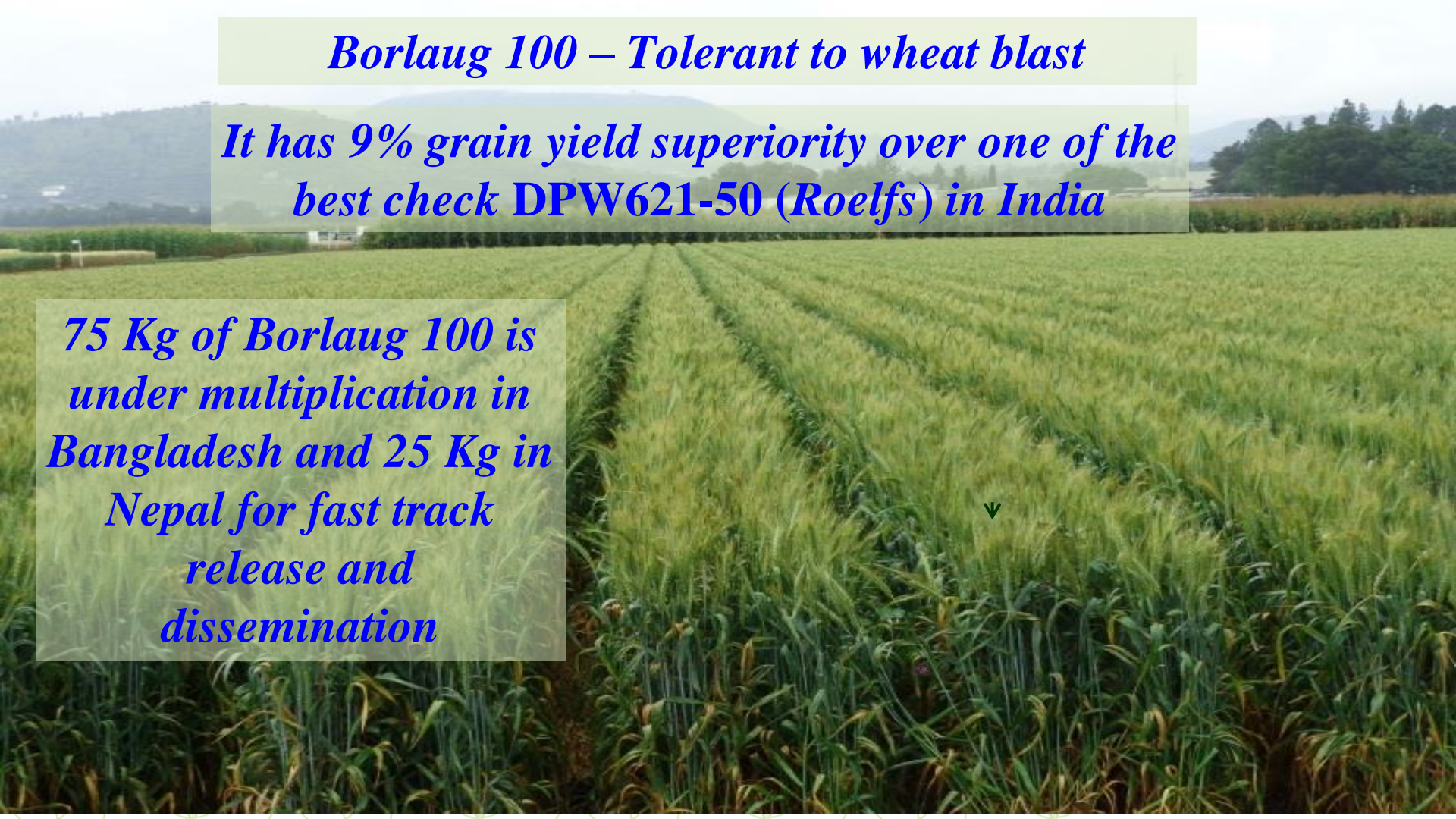
- Ready for - Fast track release of varieties



## *Borlaug 100 – Tolerant to wheat blast*

*It has 9% grain yield superiority over one of the best check DPW621-50 (Roelfs) in India*

*75 Kg of Borlaug 100 is under multiplication in Bangladesh and 25 Kg in Nepal for fast track release and dissemination*

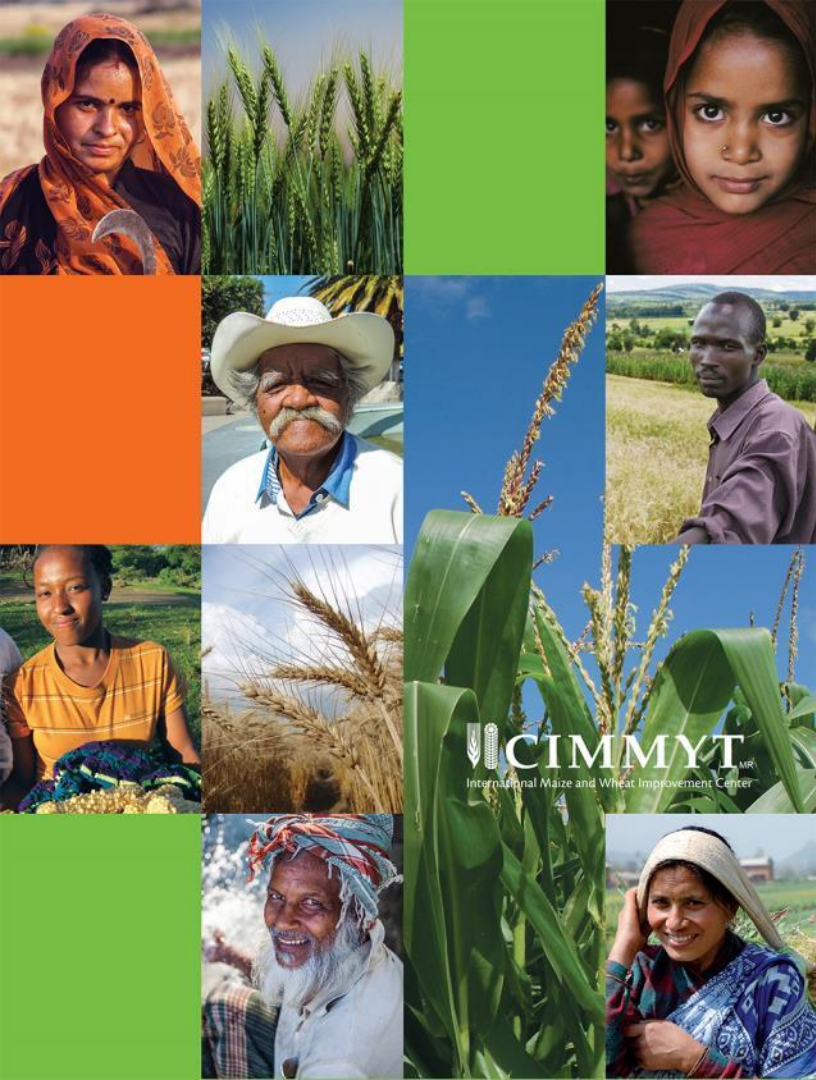


# Summary

- **There could be a record wheat production in South Asia**
- **First release of Biofortified wheat**
- **Policies improved in favour of farmers**
- **New challenges emerged – wheat blast, aggressive race of yellow rust**







# Thank you for your interest!

[www.CIMMYT.org](http://www.CIMMYT.org)

 **CIMMYT**<sup>MR</sup>  
International Maize and Wheat Improvement Center™

 **CIMMYT**<sup>MR</sup>

