



## WHEAT - Global Alliance for Improving Food Security and the Livelihoods of the Resource-poor in the Developing World

WHEAT is part of an international, collaborative effort to raise the productivity of wheat farming systems, address the global threat of stem rust disease, and help wheat crops grow in hotter conditions with less water and less fertilizer.

### Why focus on wheat?

- Wheat provides 21% of the food calories and 20% of the protein for more than 4.5 billion people in 94 countries.
- Wheat sustains 1.2 billion wheat dependent poor, who live on less than US\$ 2 per day
- Demand for wheat in the developing world is projected to increase 60% by 2050, with an expected reduction in production of 20-30% due to climate change.
- 90% of the world's wheat varieties have no resistance to newly emerging, highly virulent diseases such as stem rust.

### Research initiatives

1. **Technology targeting for greatest impact:** Research which not only stabilizes wheat grain prices, but also incorporates value-chain analysis to link farmers with markets.
2. **Sustainable wheat-based systems:** Cell phone technology, precision farming, and research-to-farmer communication approaches adapted to resource-poor farmer conditions.
3. **Nutrient and water use efficiency:** Adaptation of precision agriculture technologies allowing smallholder farmers to grow more with less water and fertilizer.
4. **Productive wheat varieties:** Faster integration of desirable traits to improve breeding efficiency, particularly for drought and heat tolerance.
5. **Management of diseases and insect pests:** Investment into global disease and pest monitoring systems. Development of disease resistance through the stacking of favorable genes and integrated management.
6. **Enhanced heat and drought tolerance:** Incorporation of heat and drought tolerant traits into seed varieties.
7. **Breaking the yield barrier:** Leveraging private-sector technologies for the benefit



of partners and stakeholders in developing countries, increasing yield by as much as 50%.

**8. More and better seed:** Improvement on seed delivery systems by the private sector and farmer organizations.

**9. Seeds of Discovery:** Adoption and exploitation of genetic resources in wheat and its wild relatives to overcome impacts of climate change and diseases.

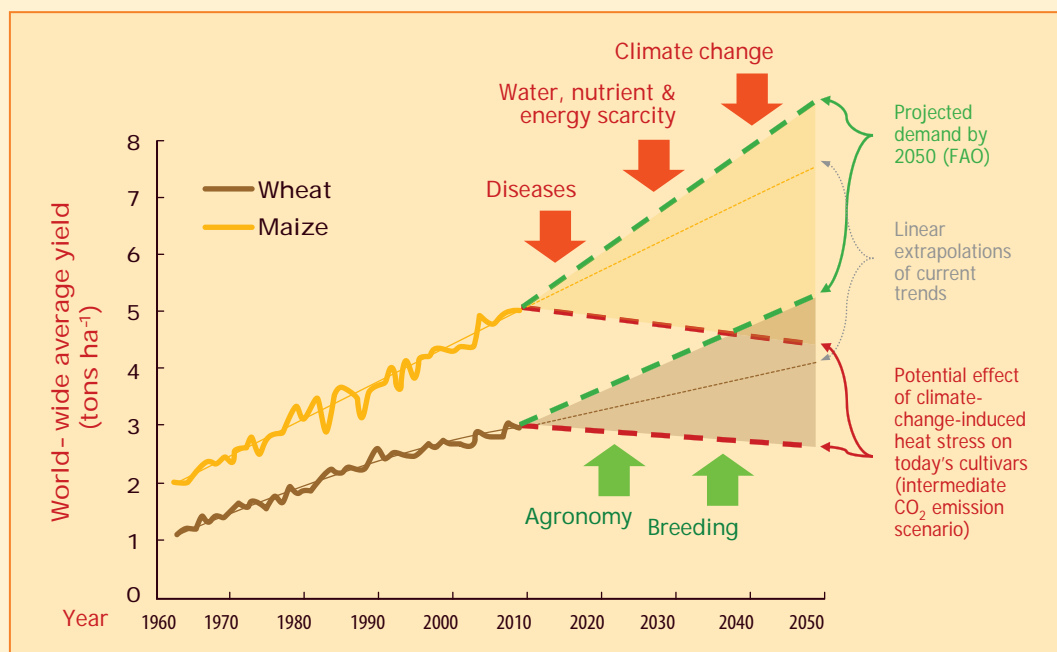
**10. Strengthening capacities:** Increased collaboration with national universities and training programs for wheat professionals.

### Potential impacts

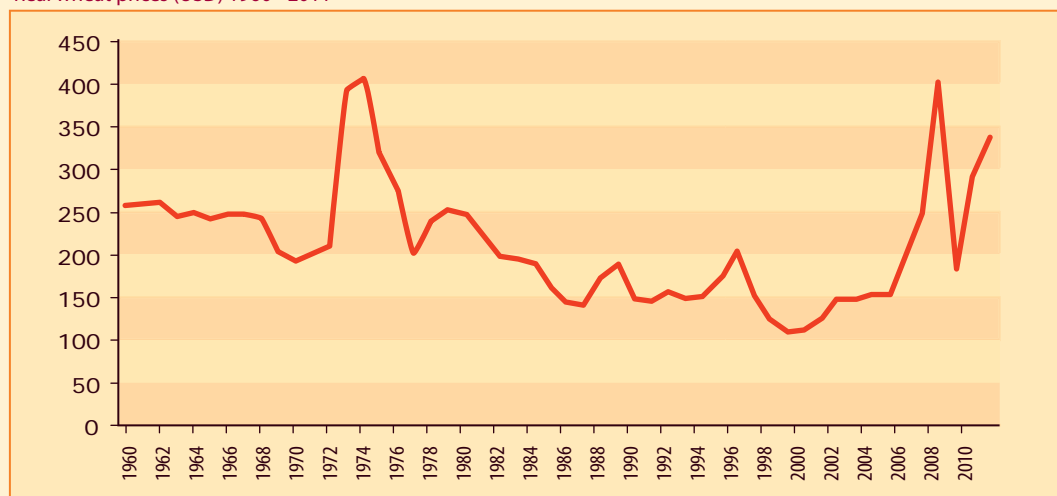
An added annual value of wheat produced equaling \$1.3 billion in 2020 and \$8.1 billion by 2030.

Enough wheat to meet the annual food demand for an additional 56 million wheat consumers by 2020, reaching an additional 397 million by 2030.

21% increased productivity in target areas by 2030.



Real wheat prices (USD) 1960 - 2011



### Partners

**CIMMYT**



**ICRISAT**  
Science with a human face



**ILRI**  
INTERNATIONAL  
LIVESTOCK RESEARCH  
INSTITUTE

**IRRI**  
INTERNATIONAL RICE RESEARCH INSTITUTE

**IWMI**

86 National Agricultural Research Institutes  
13 Regional and International Organizations  
71 Universities and Advanced Research Institutes  
15 Private Sector Organizations  
14 Non-Governmental Organizations and Farmers Cooperatives  
20 Host Countries

### Contact

<http://wheat.cimmyt.org/>

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