

CIMMYT and INDIA



CIMMYT's partnership with the Indian government, spanning over more than five decades, is one of the longest and most productive in the world. The collaboration started with the visit of Nobel Laureate Dr. Norman E. Borlaug in 1963 in order to usher in the Green Revolution in active partnership with the Government of India.

Established in 2001, the CIMMYT-India office currently has 16 international and 144 national staff spread across Delhi, Haryana, Punjab, Uttar Pradesh, Bihar, Madhya Pradesh, Maharashtra, Odisha and Telangana. In 2011, the Indian Council of Agricultural Research (ICAR) and CIMMYT launched a new collaborative initiative, the Borlaug Institute for South Asia (BISA) which is dedicated to food, nutrition and livelihood security as well as environmental rehabilitation in South Asia.

Given the newer challenges of climate change in the economically fragile agro eco-systems, the partnership between India and CIMMYT plays a pivotal role in developing improved wheat and maize varieties with climate smart and conservation agriculture based practices.

Collaborations

The CGIAR Research Programs on Maize (MAIZE), Wheat (WHEAT) and Climate Change, Agriculture and Food Security (CCAFS) form the cornerstone of CIMMYT's ongoing collaboration with ICAR and other national partners.



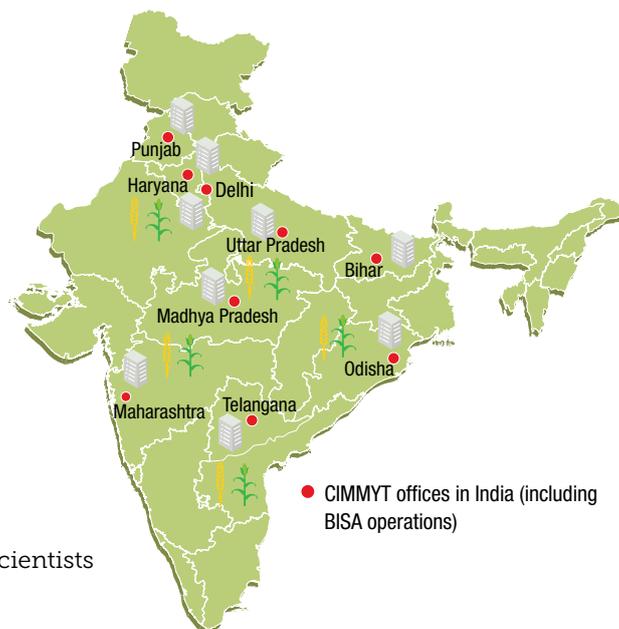
Maize and wheat science for improved livelihoods

The International Maize and Wheat Improvement Center, widely known by its Spanish acronym CIMMYT, works with hundreds of partners throughout the developing world to improve livelihoods and foster more productive, sustainable maize and wheat farming systems. Through collaborative research, partnerships, and training, CIMMYT helps to build and strengthen a new generation of national agricultural research and extension services in maize and wheat growing nations.

Headquartered in Mexico as an international organization, CIMMYT is a member of CGIAR and is the global leader in publicly-funded maize and wheat research and related farming systems. CIMMYT's germplasm bank is home to humanity's largest collection of maize and wheat varieties made freely available to scientists, researchers and farmers around the world. CIMMYT receives support from national governments, foundations, development banks and other public and private agencies.

CIMMYT contributions to Indian agriculture

- About 170 wheat varieties from CIMMYT germplasm released.
- More than 200 wheat varieties developed, where CIMMYT lines were used as a parent or grand parent.
- Two biofortified wheat varieties, rich in grain Zinc, were released in 2017, the first release of such varieties in India.
- For the first time, three wheat varieties were released for early sowing (October) in India. This includes first >8t/ha wheat variety (DBW 303) released in 2020.
- Provitamin-A enriched maize hybrids released.
- Climate-resilient maize hybrids developed and shared.
- Conservation agriculture practices like residue management, zero tillage, direct-seeded rice, precision land leveling, water and nutrient efficiency, systems optimization were adopted.
- In last ten years, facilitated capacity building for more than 500 scientists and about 1,500 technical and other stakeholder from India.



Key Research interventions

- Development of high yielding climate resilient wheat and maize germplasm with tolerance to biotic and abiotic stresses.
- Breeding for biofortified wheat with high grain Zinc.
- Molecular markers, genomic selection and high throughput phenotyping to maximize genetic gains and climate resilience.
- Innovative research in use of wild relatives of wheat to introduce important traits such as disease resistance, drought tolerance and improved nutritional quality.
- Development and validation of molecular markers for resistance to major diseases and rapid cycle genomic selection.
- Establishment of a maize doubled haploid facility.
- Systems research for sustainable intensification of wheat and maize farming systems based on conservation agriculture.
- Scale appropriate farm mechanization solutions especially for smallholder farmers.
- Precision water and nutrient management practices.
- Developing Climate-Smart Villages to scale up adaptation practices and technologies.
- Cross-cutting agricultural research for social and gender inclusiveness.
- Capacity building for a new generation of researchers.



M.S. Swaminathan (left) and Norman Borlaug (right) in a semi dwarf wheat field with fellow scientists in India.

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