PROFILE

Borlaug Institute of South Asia

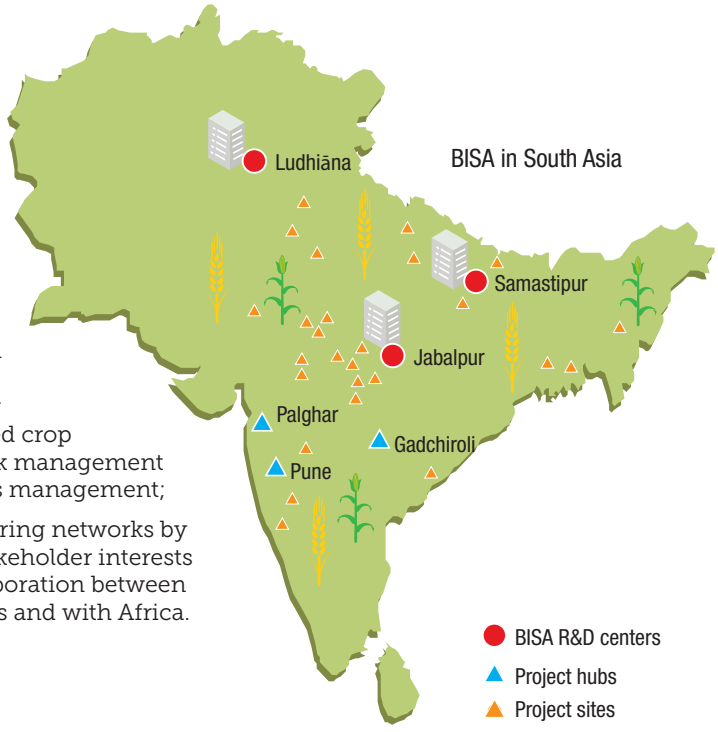
Borlaug Institute of South Asia (BISA) is an international research institute established in October 2011 at New Delhi, through a joint initiative between International Maize and Wheat Improvement Centre (CIMMYT) and the Indian Council of Agricultural Research (ICAR) to implement the vision of Norman E. Borlaug.

By adopting the 'Agricultural Research for Development' approach, BISA aims to invigorate the agriculture and food systems in the region, make it climate resilient while enhancing productivity, livelihood and nutrition security of millions of people.

What we do

Still in a developing growth trajectory, South Asia harbours almost a quarter of the world's hungry and nearly 40% of the world's malnourished children and women. Climatic risks are only adding to the woes with weather extremities visibly threatening food production and quality. To attain the goals of food security against the backdrop of a bludgeoning population, environmental degradation and stressed resources, it is imperative to bring about transformative solutions via science led research and coordinated interventions. BISA is addressing these challenges specifically. The key mechanisms are:

- Deploy advanced breeding and molecular genetics techniques for increasing wheat and maize yield potential and its stability in the region;
- Develop, pilot and implement advanced research and development models for scaling up climate-smart agricultural practices and technologies;
- Operate as a Regional Learning Platform to develop researcher capacities in advanced crop breeding, climate-risk management and natural resources management;
- Build knowledge-sharing networks by collating multiple stakeholder interests and strengthen collaboration between South Asian countries and with Africa.



BISA Borlaug Institute for South Asia

CIMMYT

ICAR

CGIAR

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

Vision

Carry forward the legacy of the father of the Green Revolution, Norman E. Borlaug, and create a hunger free, food secure South Asia via advanced scientific research and environmentally sustainable agricultural practices.

Key achievements

- Almost 1,000 advanced CIMMYT wheat lines are being tested each year in collaboration with ICAR and distributed in the region for yield potential, quality and resistance to biotic and abiotic stresses. Advanced molecular breeding approaches, such as genomic selection, have been introduced for enhanced genetic gains in breeding for climate resilience. Throughout the 2017-18 season, yield potential up to 10 t/ha was observed at BISA Jabalpur.
- Several heat and drought tolerant, bio-fortified maize lines have been identified and tested with the support of CIMMYT's Global Maize Program.
- Sustainable production systems that utilize conservation and precision agriculture have been tested widely in all three BISA R&D centers and in on-farm participatory trials. A Climate-Smart Village approach to build resilience in agricultural systems has been developed and piloted in Bihar, Haryana, Madhya Pradesh, Uttar Pradesh, and Maharashtra in India and in a few states of Nepal.
- Schemes to control air pollution by improved rice residue management that discourages straw burning were developed in collaboration with ICAR and PAU. Large-scale demonstrations of the Happy Seeder machine and improved straw management were implemented.
- Improved crop insurance schemes and crop-loss assessment protocols have been developed in collaboration with ICAR, state governments, and insurance industry.
- A real-time crop yield monitoring system has been established in Nepal in partnership with the Government of Nepal and the World Food Programme.
- Capacity strengthening programs via exposure visits to BISA sites have helped disseminate valuable information in South Asia on state of the art precision field phenotyping in wheat breeding, farm mechanization (straw management system), conservation agriculture, disease resistance (spot blotch and rusts for wheat), and on different aspects of climate-smart agriculture.

Key partners in the region

National Agricultural Research System (NARS): ICAR, DARE, New Delhi; NARC, Nepal; BARI, Bangladesh; Govt. of Maharashtra; Govt. of Punjab; Govt. of Bihar; Govt. of Madhya Pradesh; IIIWBR, Karnal; IIMR, Ludhiana; PAU, Ludhiana; JNKVV, Jabalpur; RPCAU, Samastipur; MPKV, Rahuri; DBSKKV, Dapoli; PDKV, Akola; All ATARI and KVKs; BARC, Mumbai; MSSCL & MAIDC, Maharashtra.

CGIAR Centers and Research Programs: CIMMYT, CCAFS, WorldFish, IFPRI.

NGOs: Pragati Pratishthan, Vegetable Growers Association of India, Krushi Vikas Va Gramin Prashikshan Sanstha.

www.bisa.org

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