

BORLAUG INSTITUTE FOR SOUTH ASIA

CIMMYT IS UNIQUELY POSITIONED TO TACKLE THE CHALLENGES IN INDIA



FUNDING GOAL: \$86 Million | FUNDING RAISED: \$





50%
of the world's poor
live in South Asia.



75%
of South Asia's poor
live in rural areas.



**1.6 & 2.4
billion**
people lived in South Asia in
2010 and are projected to live
there in 2050.



**25 & 30
million**
tons of maize consumed
by South Asia in 2010 and
projected need for 2020.



**101 & 124
million**
tons of wheat consumed
by South Asia in 2010 and
projected need for 2020.



6%-23%
of South Asia's maize crop
will be lost due to higher
temperatures by 2050.



25%-30%
of South Asia's wheat crop
will be lost due to higher
temperatures by 2050.

South Asia is home to half of the world's poor.

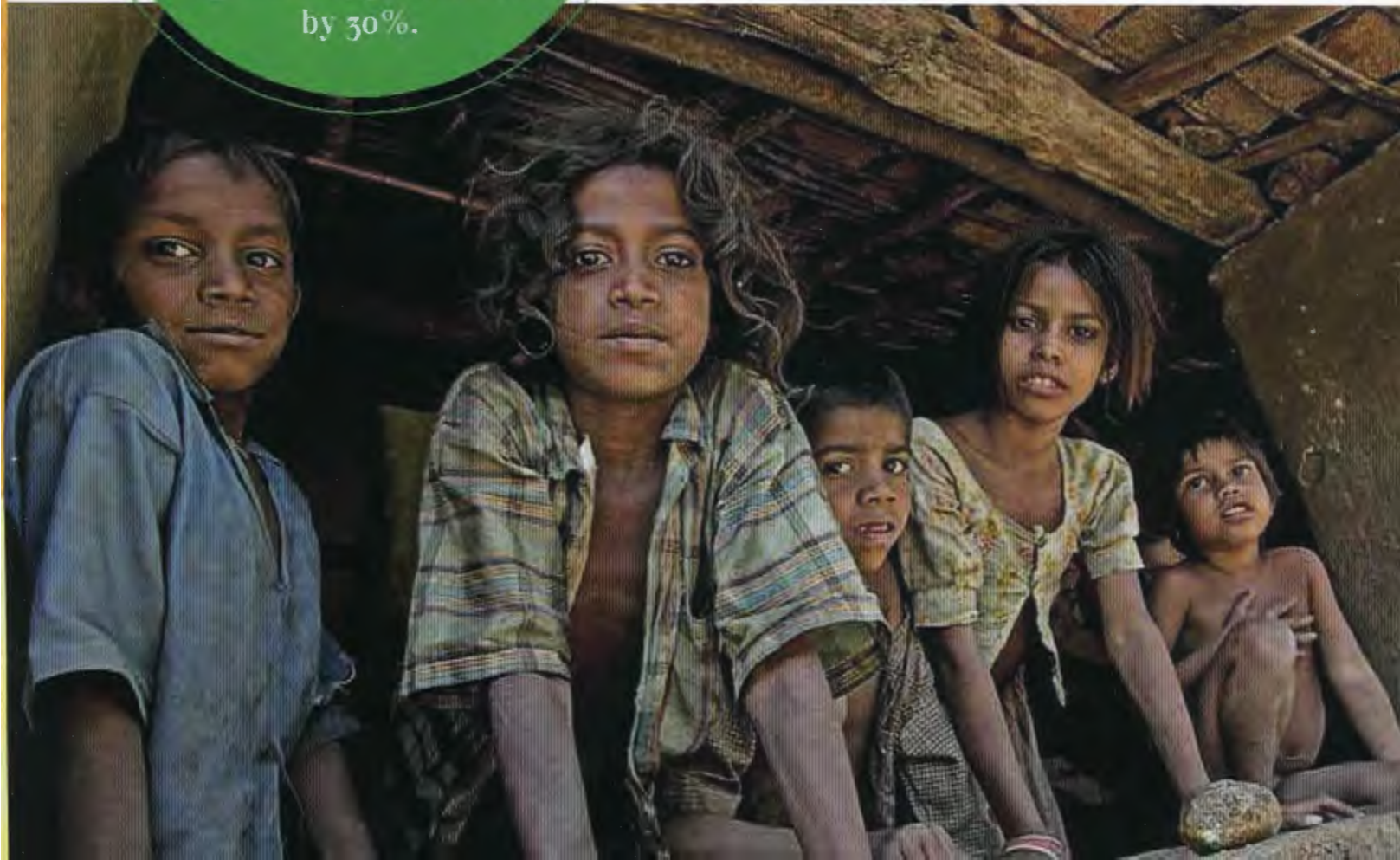
By 2020, demand for water in India is projected to outstrip supply. It will be the most populous nation by 2025. By 2080, higher temperatures and climate change impacts could reduce the country's agriculture production by 30%.

The Challenge

Over the next decades, food security and economic development in South Asia and India will be increasingly and most drastically affected by the negative impacts of climate change, rapidly falling ground water tables, lack of land, population growth, and changing diets. Already now, only 14 countries in the world rank lower than India on food security and none of these has as big of a population or economy.

The average person in rural India spends 50% of their income on food, while maize, rice and wheat prices are predicted to more than double again within the next 20 years. As a result, food and energy-price related inflation will be greater than income increases of the rural and urban poor, pushing large numbers of people back into poverty.

The urgency and magnitude of these issues require different approaches to finding sustainable solution for ensuring food security for the poor in South Asia, preventing large-scale social unrest, and sustaining an agricultural sector that supports economic development and climate change adaptation.



Our government wants a food safety net in which no citizen of ours would go hungry.

- Prime Minister Manmohan Singh, 2010

Bringing subsistence farmers into the 21st century provides a significant opportunity to alleviate poverty and hunger.

The Opportunity

India recognizes the signs. In his state of the nation address in August 2010, Prime Minister Manmohan Singh, called for action "Our country has not witnessed any big technological breakthrough in agriculture since the Green Revolution ... We need technology which would address the needs of dry land agriculture. In addition, our agriculture should also be able to deal with new challenges like climate change, falling levels of ground water and deteriorating quality of soil."

These words describe the action plan for the "Borlaug Institute for South Asia", a joint initiative between the Government of India and CIMMYT that was signed and launched on 5 October 2011. As we approach the year 2013, the 50th anniversary of Norman Borlaug's first collaboration with India it is time we overcome the current challenge with an institution to secure India's food future.

The Borlaug Institute for South Asia (BISA) will utilize the best international agriculture research and local expertise, from the public and private sector, to address the rapidly approaching challenges before they cause suffering to the 720 million people rely on affordable food or who want to use more sustainable and more profitable agricultural approaches to support their first step out of poverty.





Lowering the cost of food not only prevents hunger but allows families to use their resources for education, training, and other investments that improve their lives for generations to come.

The Strategy

As leaders of the first Green Revolution, CIMMYT and India understand that increasing the productivity of staple crops is becoming a critical component to preventing hunger, large-scale social unrest and economic depression.

The Borlaug Institute for South Asia – co-located in three Indian states – will bring together the best minds, locally and internationally, and look at the entire food system, to pursue strategies that can double food production in South Asia while using less water, land, and energy.

Selecting three states with different agro-ecological and socioeconomic zones allows us to better target areas of need and collaborate in a meaningful way with national institutions. We can design research outputs that are useful to smallscale farmers at every end of the spectrum whether its ICT technology in the Punjab or moving beyond subsistence in Madhya Pradesh.

CIMMYT and Indian scientists have begun to screen thousands of varieties to find heat tolerant wheat, wheat that can increase its production in spite of climate change.

Technologies will be developed that support the development of much more productive rice-maize based farming systems in the North-East where some of the poorest farmers live and where mechanization is crucial.

Conservation agriculture based practices save water, nutrients and energy while mitigating climate change. While widely used in the developed world, they are yet to be adapted to smallholder farming systems. Cell phone and remote sensing technologies allow even the poorest farmer to engage in precision farming.

These and other research products and know-how generated will be public goods; they will be exchanged freely with researchers, extension agents, farmers, community based organizations, both in support of the public and private sector.

Measure of impact will be taken at farm level in diverse communities to ensure that ambitions translate into real changes amongst the poorest, empower women and future farmers, and reduce childhood malnutrition.

Core goals for CIMMYT are to strengthen maize and wheat farming systems, empower famers with the technology to be more successful, and train the next generation of agronomists to ensure our food future. If we succeed in these three goals, we'll deepen the impact we can have globally

What you can do to contribute

The Borlaug Institute for South Asia will have three centers located strategically in three different agro-ecological regions of India : Ladhowal, Punjab; Pusa, Bihar; and Jabalpur, Madhya Pradesh. There is an investment need of \$86 Million to make this happen.

If we invest relatively modest amounts, many more poor farmers will be able to feed their families. If we don't, one in seven people will continue living needlessly on the edge of starvation. - Bill Gates, 2012

Biotechnology to meet the needs of consumers and the value chain

US\$ 24 million - Biotechnology and double haploid facilities (lab, greenhouse, nurseries) to accelerate breeding gains and get better products into the hands of those that need them.

Tackling the challenge of climate change with smart solutions

US\$ 15 million - Precision phenotyping facilities to identify and increase seed of heat, drought and flooding tolerant crop varieties.

Training the next generation of farmers and agronomists

US\$ 13 million - Training and visiting scientist facilities for bringing world-class scientists together and enabling large-scale capacity building of extension personnel, farmers, young researchers & students.

Targeting the most vulnerable, spending resources wisely

US\$ 16 million - Establishing international research centers/field stations at Ladhowal, Jabalpur, Pusa, representative for South Asia's bread basket and also some of its most impoverished regions.

Next generation technology for the most pressing issues.

US\$ 8 million - GIS/crop modeling/ICT lab to empower cell phone-connected resource poor farmers to implement precision agriculture practices.

Innovation to reduce the impact of agriculture on the environment

US\$ 10 million - Engineering and environmental analysis labs for enabling South Asian farmers to increase carbon sequestration, and reduce water, fertilizer and energy use

Partner with us.

Contact us to discuss partnership and support options that meet your interests and needs.

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Headquartered in Mexico, CIMMYT is best known as the non-profit organization that initiated wheat's "Green Revolution," saving millions of lives across Asia. CIMMYT's campus is home to the world's largest wheat and maize seed bank, comprising more than 175,000 varieties. Maize and wheat are grown on 200 million hectares in the developing world and 84 million of those hectares are planted with varieties of CIMMYT seed. CIMMYT's staff of world-class researchers and agronomists develop wheat and maize crops which are more nutritious, use water and nutrients more efficiently, and are resistant to environmental and biological stresses. Our seed, technology, and resources are freely available to farmers in the developing world and more than 10,000 researchers worldwide are alumni of CIMMYT training programs. We are dedicated to alleviating poverty and hunger by providing the world's poorest farmers with the same resources as farmers in the developed world.



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