



VEGETABLES:
Prosperity and Health

Research

The South Asia program started in 2006 and focuses on areas with the highest poverty levels. It covers Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, as well as Uzbekistan and Tajikistan in Central Asia. Building networks with public and private sector organizations active in seed and vegetable production in the region is a crucial component of the Center's activities.

Training partners is an integral part of our development activities across the region. The Center offers research internships, postgraduate and postdoctoral research opportunities in areas such as vegetable breeding, nutrition and crop protection.

Major activities

- Breeding improved mungbean, vegetable soybean and vegetable cowpea suited to intensive cereal based cropping systems and smallholder mixed cropping.
- Promoting home gardens for improved nutritional security, diet diversification, and human health that can also expand income earning opportunities.
- Developing and promoting protected cultivation to produce high quality vegetables with minimal pesticide use and off-season production for increased smallholder incomes.
- Identification and introduction of suitable vegetable lines to share with national partners for adoption, multiplication, distribution and utilization.
- Identification and promotion of good agricultural practices to increase yields of high quality vegetables in the region.

Crop focus

South Asia's priority vegetable crops have been identified in close collaboration with regional partners. They include:

- **Solanaceous crops:** tomato, pepper, brinjal (eggplant)
- **Cucurbits:** gourds and pumpkin
- **Vegetable legumes:** mungbean, soybean, cowpea
- **Bulb alliums:** onion
- **Indigenous leafy and other strategically important vegetables,** including: amaranth and bhindi (okra)

Highlights

The next revolution for mungbean

Mungbean is one of the region's most important legumes and a major source of protein. The Center's breeding work led to a revolution in mungbean use in South Asia during the 1990s, when more than 100 new varieties were released and production in most countries doubled. High-yielding, short-season varieties permitted double-cropping after cereals, improving crop rotations and local diets. Current breeding focuses on overcoming *Mungbean yellow mosaic virus*—a complex and severe problem across the region; building resistance to bruchids, a major storage pest; and improving methionine content to enhance the nutritional quality of mungbean protein.

Home vegetable gardening for nutritional improvement

The Center's research and development in South Asia has shown that a 6 m x 6 m home garden can produce over 250 kg of vegetables per year, providing more than sufficient vitamin A and C for a family of four. Home gardens tripled family vegetable consumption in tribal communities and halved family expenditures on vegetables. Vegetable seed packs distributed to flood victims have provided a major source of improved nutrition in the months following a disaster. School vegetable gardens are promoted for long-term improvement of community nutrition.

Our mission

To alleviate poverty and malnutrition in the developing world through the increased production and consumption of nutritious and health-promoting vegetables.

Our strategy in South and Central Asia

South Asia is home to a large proportion of the world's poor, most of whom live in rural areas. To improve the nutrition of rural families, vegetables must be integrated into the region's predominantly cereal-based farming systems. At the same time, the increasing demand for food from the urban poor living in megacities needs to be satisfied. Countries in Central Asia are seeking to diversify agriculture with new crops and production methods. The World Vegetable Center, with its regional networks and international partners, develops improved varieties, protected cultivation, home gardens, and integrated pest management (IPM) strategies for the region.





Crop diversity expands options and partnerships

The World Vegetable Center maintains more than 62,000 accessions of vegetable germplasm in its genebank, including 10,000 indigenous vegetables. This germplasm is shared with public and private partners around the world. More than 75% of seed companies in Asia use the Center's germplasm; in South Asia alone, more than 40 seed enterprises benefit from the Center's collection. Nearly 15% of tomato and chili pepper seed sales of commercial hybrids in India contained World Vegetable Center material, benefiting an estimated 500,000 farmers.

Protected cultivation systems

In conjunction with local partners WorldVeg has developed robust poly-net houses that can reduce pest problems by up to 80% and increase yields up to 50%. Other low-cost systems are enabling smallholders to grow off-season vegetables to gain higher returns, and to make vegetable production more reliable.

Vegetable soybean – a new crop for the region

While grain soybean is the largest legume crop in the region, vegetable soybean is relatively unknown. Recently released varieties have sparked great interest among South Asian farmers as vegetable soybean is a productive and hardy crop suited to consumption both as green seed or dry grain. New 'basmati' flavored lines open up new high value production and processing opportunities.

Integrated pest management

Misuse of pesticides and fertilizers is a cause of growing health problems in many parts of Asia. In South Asia, brinjal (eggplant) farmers typically control pests such as the eggplant fruit and shoot borer with excessive applications of pesticide. Integrated pest management (IPM) strategies developed by the Center have helped reduce pesticide application significantly.

About the Center

The World Vegetable Center is the world's leading international nonprofit institute for vegetable research and development. Founded in 1971, the Center develops vegetable varieties and other technologies to increase vegetable production and consumption in developing countries, leading to more income opportunities and healthier diets for the poor.



Access services and publications through our website:

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South & Central Asia

