

Indo-US cooperation in agriculture

Why in news?

Prime Minister Narendra Modi is visiting the US for strengthening the 'global strategic partnership' between the two countries.

What is the India-U.S. Global Partnership all about?

- India-U.S. bilateral relations have developed into a "global strategic partnership", based on shared democratic values and increasing convergence of interests on bilateral, regional and global issues.
- The emphasis placed by the Government in India on development and good governance has created opportunity to reinvigorate bilateral ties and enhance cooperation.
- The summit level joint statement issued in June 2016 called the India-U.S. relationship an "Enduring Global Partners in the 21st Century".

How did the U.S. help India in the past?

- The United States played a vital role in India's agricultural development during the 1950s and 1960s.
- While the Soviet Union drove its industrialisation in the 1950s and 1960s, the US paved the way for India's Green Revolution.
- Through the establishment of agricultural universities and the Green Revolution US involved in the agricultural development of India.

How did the US help with India's agricultural universities?

- **Indian Universities** - The agricultural and veterinary colleges in India merely taught and produced graduates.
- Research and extension (training farmers in adopting scientific cultivation practices) was largely left to the state agricultural departments.
- **American Universities** - In 1950, Major H.S. Sandhu and the Uttar Pradesh's Chief Secretary A.N. Jha saw the land-grant universities during their US visit.
- **Land-grant University** - These institutions, set up on public land, integrated teaching, research and extension activities.
- **Transformation** - On their return, the two officials recommended US land-grant model agricultural university to be established in the Tarai region of the Himalayan foothills to the then Chief Minister of UP G.B. Pant.
- H.W. Hannah, Associate Dean of the University of Illinois, prepared a 'Blueprint for a Rural University in India'.

- **First Agri University** - Based on the blueprint, the UP government made available 14,255 acres of land and passed the UP Agricultural University Act of 1958.
- The UP Agricultural University (later renamed as G.B. Pant University of Agriculture & Technology) was inaugurated in 1960.

How the U.S. helped in establishing land-grant universities in India?

- The Indian Council of Agricultural Research (ICAR) published the blueprint and circulated to interested state governments.
- It led to as many as 8 agricultural universities coming up within eight years.
- **US Association** - All the 8 universities received the US Agency for International Development's assistance for training of faculty and provision of equipment and books.

State agricultural universities and their mentoring US institutions

Name of University	Date of Establishment	US Partner
Uttar Pradesh Agricultural University, Pantnagar	Nov 17, 1960	University of Illinois
Rajasthan Agricultural University, Udaipur	Jul 12, 1962	Ohio State University
Orissa University of Agriculture and Technology, Bhubaneswar	Aug 24, 1962	University of Missouri
Punjab Agricultural University, Ludhiana	Jul 8, 1963	Ohio State University
Andhra Pradesh Agricultural University, Hyderabad	Jun 12, 1964	Kansas State University
Mysore University of Agricultural Sciences, Bangalore	Aug 21, 1964	University of Tennessee
Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (MP)	Oct 2, 1964	University of Illinois
Maharashtra Agricultural University, Rahuri	Mar 29, 1968	Pennsylvania State University

- Specialists from the linked US land-grant institution were involved in curriculum design and putting in place research and extension systems in the new universities.
- The universities were to have their own research farms, regional stations and sub-stations, and seed production facilities.

G.B. Pant University, from 1969, also began marketing its seeds under the 'Pantnagar' brand.

How the U.S helped India's Green Revolution?

- **Traditional variety** - Traditional wheat and rice varieties were tall and slender.
- They grew vertically on application of fertilizers and water, when their ear-heads were heavy with well-filled grains they “lodge” (bending over or even falling).
- **Dwarf varieties** - The Green Revolution entailed breeding semi-dwarf varieties with strong stems that didn’t lodge.
- **Properties** - Can tolerate high fertilizer application.
- More output (grain) is produced, when more inputs (nutrients and water) are given.
- Do not lodge when they are filled with grains.

- An American biologist S.C. Salmon identified ‘Norin-10’, a Japanese wheat variety which grew to only 2-2.5 feet.
- Norman Borlaug crossed this with the spring wheats grown in Mexico and released many varieties of spring wheat with Norin-10 dwarfing genes.
- M.S. Swaminathan got in touch with Borlaug and requested spring wheat seeds containing the dwarfing genes.
- Borlaug sent the seeds of four Mexican wheat varieties bred by him, which were first sown in the trial fields.
- By 1966-67, farmers were planting these dwarf varieties in large scale.
- India, from being an importer, turned self-sufficient in wheat.

M.S. Swaminathan - Father of Indian green Revolution; Norman Borlaug - Father of Green Revolution

Why did the US help India?

- **Cold War** - The Cold War geopolitics and great-power rivalry in the 60’s resulted in competition to do-good between the cold-war nations.
- **The USSR** - The Soviet Union promoted its industrialization in India at that time through supply of capital equipment and technology.
- **The US** - Extending to ‘fighting world hunger’ and sharing of knowledge and plant genetic material were viewed as ‘global public goods’.
- The U.S. took this route along with Rockefeller and Ford Foundations.
- The idea of an MSP and a market at closer proximity was first pushed by a Ford Foundation team’s report of 1959.
- The strategy of “non-alignment” of India paid off and by the 70s and early-80s, India had built a robust indigenous crop breeding programme.

Reference

1. [IE - The lessons of Indo-US cooperation in agriculture](#)



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