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.

- 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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