Greenhouse technology: An Indian perspective and GoI initiatives

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Protected cultivation technologies have proved to be a boon for farmers in the country by providing conducive climatic conditions for producing round the year with enhanced quantity and better quality of produce. The effectiveness of the technology has been observed world over. Massive production of fresh and high-quality vegetables has been very popular in many developed counties in Asia (like Japan, South Korea, China and around Mediterranean region) and in Europe (like Spain, Italy, France, Holland, etc.) mostly located in temperate zone to satisfy the strong needs for year-round supply of high quality fresh vegetables, fruits, etc. India being a country with diverse climatic regions have shown significant footprints under protected cultivation technologies in the last two decades. In northern India, these technologies faced high challenges for making them successful against the harsh climatic conditions, whereas, in the mild climatic areas like that of Bangalore and Pune, the success rate has been high. Basically, the growth of this technology in the country happened mainly due to government policies providing handsome subsidies under the center sector schemes. The technical knowhow for adoption of protected cultivation technology under Indian conditions was not to the level at the time of inception, with time research and development work carried out by various public-sector institutions in collaboration with developed countries gradually reflected that for various Indian climatic conditions the technical designs of different protected structures needs modification suitable to the region-specific needs. Under the new era, these kinds of model possess high potential for enhancing the income of farmers opting for quality and off-season vegetable and cut flower cultivation. The success of protected cultivation technology entirely depends upon four basic concepts, viz., what to produce, when to produce, how to produce and where to sell the high-quality produce. While adopting the protected cultivation technology the most important points, viz., market requirement of the produce, distance from the market for the fresh produce, climatic conditions of the area, soil characteristics and quality of water, economic convenience, crop requirement, labor and skilled manpower requirement should be considered. Ministry of Agriculture and Farmers Welfare under its flagship scheme of Mission for Integrated Development of Horticulture have been promoting these technologies by way of providing financial assistance to incentivizing the capital investment by the farmers. Apart from these MoUs have been signed with leading countries and other designated projects to upscale the adoption and to garner the benefits of these technologies, but still there a huge untapped potential for these technologies. It is one such technology amongst various plasticulture applications that would generate more employment opportunities for young rural youth as well as cater the grueling demand by urban cities for quality and disease-free produce.

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