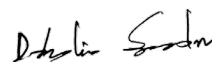


Editorial

India is the major producer, consumer and exporter of spices in the world. India grows over 75 different varieties of spices because of varied agro-climatic conditions and soil types. The acreage and production of spices have changed significantly between 2020-21 and 2023-24, with a general trend of increase in both. For instance, the estimated total production of spices in 2023-24 was around 1.18 crore metric tonnes, a substantial rise from earlier figures, and sowing area has also shown growth. India is the largest exporter of spices and spice items. It retained its position as the leading global exporter, with exports reaching USD 4.45 billion in FY 2024–25. Between 2013–14 and 2024–25, spice exports increased by 88% in volume, and 97% in value (USD), reflecting India's expanding presence in the global spice market. If India aims to achieve USD 10 billion in spice exports over the next six years, a lot must change. Addressing existing challenges and leveraging technological advancements are crucial to drive this growth. One of the most critical challenges facing India's spice sector is the stagnation of yields for key spices such as chili, turmeric, coriander, and cumin. Climate-related disruptions have made these yields volatile, limiting the industry's growth potential. Furthermore, most of the trade is commodity-based, lacking value addition, which has resulted in lower revenue despite increased production. The supply chain for spices is complicated, involving multiple intermediaries from the farm to the consumer. This complexity has led to hitches in tracking the journey of produce, thus diminishing the confidence of the consumers. High pesticide residues have been a tenacious issue in India's spice exports, leading to refusals in international markets. The inconsistent quality of products due to varying cultivation and processing methods also undermines the global competitiveness. A combination of advanced digital technologies can transform the spice sector by driving efficiency, quality, and market confidence to overcome these challenges. Precision agriculture, reinforced by the Internet of Things (IoT), allows farmers to monitor soil health, moisture levels, and nutrient content effectively. The use of soil sensors, remote monitoring systems, and drones can reduce the cost of cultivation by 15% while boosting yields by up to 20%. The integration of digital analytics and remote sensing has proven to be a game-changer for the agricultural landscape. Satellite imagery and drone-based imaging provide critical insights into crop growth and health. Satellites equipped with sensors capture large-scale, repetitive data that can be used to monitor crop conditions, estimate production, and detect land-use changes. Meanwhile, drones provide high-resolution imagery at the field level, offering flexibility for monitoring specific areas on demand.

Editor-in-Chief



Debashis Sarkar