AI Intervention holds promise of manifold increase in India's Agriculture Economy; Agri-Startups Hold the Key to the Future of Farming: Dr. Jitendra Singh

Union Minister calls for technology-driven, entrepreneurship-led agricultural transformation at the 17th Agriculture Leadership Conclave 2026

Digital Technologies Are Reshaping Agriculture into a High-Value Growth Sector: Dr. Jitendra Singh

India's Farmers Must Benefit from Emerging Technologies, Artificial Intelligence and Space Applications: Dr. Jitendra Singh

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Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences, and Minister of State for the Prime Minister's Office, Personnel, Public Grievances & Pensions, Department of Atomic Energy and Department of Space, Dr. Jitendra Singh today said that Artificial Intelligence (AI) holds promise of manifold increase in India's Agriculture Economy which, according to one estimate , could be to the tune of around Rs 70,000 crore addition to the existing annual agricultural economy.

Calling Agri-Startups the defining force of India's agricultural future, the Minister said, the next wave of India's StartUp revolution must emerge from farms rather than only from technology hubs, enabling agriculture to become a major source of entrepreneurship, employment and wealth creation.

Dr. Jitendra Singh was addressing the 17th Agriculture Leadership Conclave 2026, organised with the support of the Ministry of Food Processing Industries in New Delhi. The conclave brought together policymakers, farmers, scientists, entrepreneurs, industry leaders, startups and innovators to deliberate on the future of Indian agriculture under the theme, "Feeding the Future."

Congratulating the organisers for creating a common platform for every stakeholder connected with the agriculture ecosystem, the Minister said such interactions are essential for accelerating the adoption of emerging technologies and converting scientific innovations into sustainable livelihood opportunities. He stressed that agriculture today demands close collaboration among government, industry, research institutions, startups and farmers to ensure that innovation reaches the field and translates into economic gains.

Referring to the rapid pace of technological advancement, Dr. Jitendra Singh said the agriculture sector can no longer rely on conventional approaches, as technologies are evolving faster than ever before. He emphasised that India must continuously adapt to new scientific developments in order to remain globally competitive and ensure long-term food and nutritional security.

Highlighting India's commitment to achieving Net Zero emissions by 2070, the Minister said agriculture will play an important role in the country's clean energy transition. He referred to the growing importance of biofuels, renewable energy and other sustainable energy alternatives, recalling the successful initiatives undertaken to convert used cooking oil into biofuel. Such efforts, he said, not only create economic value from waste but also contribute significantly to environmental protection and circular economy practices.

Dr. Jitendra Singh said India has witnessed an extraordinary transformation in its startup ecosystem over the last decade, growing from nearly 350 registered startups in 2015 to over 2.3 lakh startups today, making the country the third-largest startup ecosystem in the world. However, he remarked that the true potential of this movement lies in agriculture, where innovation can directly improve farmers' incomes while creating employment for rural youth.

The Minister said the perception that startups are confined to information technology, metropolitan cities or highly qualified professionals needs to change. Agriculture, he said, offers one of the largest opportunities for entrepreneurship in India, where practical knowledge, innovation and willingness to learn are often more valuable than academic qualifications alone. Government support, digital learning platforms and scientific institutions have made technology increasingly accessible even in rural areas.

Sharing the success of the CSIR Aroma Mission, Dr. Jitendra Singh described how lavender cultivation initiated in the villages of Jammu & Kashmir evolved into the widely recognised Purple Revolution, creating new livelihood opportunities for thousands of young entrepreneurs. He said nearly 8,000 to 9,000 youth associated with the initiative have established successful agri-enterprises, with several earning annual incomes of minimum Rs 60-70 lakh and more. The model has since been adopted by several Himalayan and North-Eastern States including Uttarakhand, Himachal Pradesh, Arunachal Pradesh and Nagaland, demonstrating the immense potential of science-led agricultural entrepreneurship.

The Minister emphasised that such success became possible because scientific research was linked with industry from the very beginning. Industry participation, market access and value addition, he said, are essential components of every agricultural innovation if farmers are to derive sustainable economic benefits. He encouraged innovators and entrepreneurs to work closely with industry to develop products that meet market demand while generating employment opportunities across rural India.

Calling climate change one of the biggest challenges facing global agriculture, Dr. Jitendra Singh said scientific advancements are equipping farmers with powerful decision-making tools. Satellite technology, weather forecasting systems, resource mapping, drone-based surveys and real-time advisories now enable farmers to take informed decisions regarding sowing, irrigation and crop management. He said advanced weather forecasting can help farmers anticipate monsoon variability and select suitable crops accordingly, reducing losses caused by changing climatic conditions.

The Minister highlighted the extensive scientific work underway across various departments under the Ministry of Science & Technology, including climate-resilient crop development, genomics, crop improvement, pest-resistant varieties, precision farming and resource optimisation. He said Artificial Intelligence is increasingly becoming an indispensable tool for predictive crop management, precision irrigation, weather-based advisories and efficient utilisation of agricultural resources.

Dr. Jitendra Singh said, according to one estimate, AI-driven optimisation alone can help each farmer save nearly Rs 5,000 annually, creating an estimated Rs 70,000 crore value addition for the overall agricultural economy. Such interventions, he said, will significantly strengthen India's efforts towards building a Viksit

Bharat while ensuring higher farm productivity, better resource efficiency and increased farmer incomes.

The Minister also stressed that awareness is as important as innovation. Scientific knowledge and government support, he said, must reach people through platforms they regularly use and in languages they understand. With nearly 70 per cent of India's population below the age of 40, digital communication, short-form videos, multilingual content and AI-powered language technologies can greatly accelerate the dissemination of agricultural knowledge among farmers and young entrepreneurs.

Calling upon all stakeholders to work together, Dr. Jitendra Singh said India's agricultural future depends on integrating science, technology, entrepreneurship and market-driven innovation. He expressed confidence that with stronger partnerships among researchers, industry, startups and farmers, Indian agriculture will emerge as a globally competitive, technology-enabled sector capable of driving inclusive economic growth and contributing substantially to the vision of a developed India by 2047.

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