GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

LOK SABHA
UNSTARRED QUESTION NO. 1466
TO BE ANSWERED ON 29TH JULY, 2025

HYBRID AGRICULTURAL INTELLIGENCE

1466. SHRI SHYAMKUMAR DAULAT BARVE:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि और किसान कल्याण मंत्री be pleased to state:

(a)   whether the Government is making active efforts towards developing models like 'Hybrid Agricultural Intelligence (HAI) by integrating agricultural practices and Artificial Intelligence (AI);

(b)   if so, the details of the vision, goals and primary components of HAI (e.g. date-driven decision support systems, climate-smart agriculture, and digitization of indigenous knowledge);

(c)   the details of major research project, pilot projects, or policy initiatives related to HAI initiated so far and Government in these projects; and

(d)   the number of research institutes, agricultural universities, technical institutes (like IITs, IIITs) and multi-disciplinary centres linked in collaborative manner in this perspective?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि और किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

(a) & (b):   Artificial Intelligence based models/technologies developments are in focus of R&D programme of the government for achieving sustainable, climate smart, efficient and locally adaptive solutions for precision farming, enhanced crop production, sustainable agriculture and improved live-stock management. Some of the initiatives by Ministry of Agriculture & Farmers Welfare are:

- "Kisan e-Mitra" and AI-powered chatbot to assist farmers with queries about the Pm Kisan Samman Nidhi Scheme. This solution supports multiple languages and is evolving to assist with other government programs.

- National Pest Surveillance System for tackling the loss of produce due to climate change. This system utilizes AI and Machine learning to detect crop issues, enabling timely intervention for healthier crops.

- AI based analytics using field photographs for crop health assessment and crop health monitoring using satellite, weather & soil moisture datasets for rice and wheat crop.

(c):   Some of the research projects related to the above fields are as below:

- Precision Agriculture

- Intelligent irrigation system for field crops

- Plant disease detection using UAV multispectral imagery

- Yield prediction using multi-temporal data

- AI enabled jute fibre grading

- Monitoring and early Infection detection in dairy cattle

- Pregnancy detection in dairy animals

- Precision livestock farming systems

- Precision enclosure culture and fisheries management

(d):   Some Institutes involved in the research related to the above subjects are as below:

ICAR-Central Institute of Agricultural Engineering, Bhopal; ICAR-Central Institute of Post Harvest Engineering and Technology, Ludhiana; Indian Institute of Technology, Kharagpur; Punjab Agricultural University, Ludhiana; ICAR-Indian Institute of Agricultural Research, New Delhi; ICAR-National Dairy Research Institute, Karnal; ICAR-Indian Institute of Horticultural Research, Bengaluru; ICAR-Central Inland Fisheries Research Institute, Barrackpore; ICAR-Sugarcane Breeding Institute, Coimbatore; ICAR-Central Institute for Dryland Agriculture, Hyderabad; Centre for Development of Advanced Computing, Kolkata; Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Kashmir.

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