

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

LOK SABHA
UNSTARRED QUESTION NO. 1486
TO BE ANSWERED ON 9TH DECEMBER, 2025

DISSEMINATING AGRICULTURAL MACHINERY AND TECHNOLOGIES DEVELOPED BY ICAR

1486. SHRI MANISH JAISWAL:
SHRI CHINTAMANI MAHARAJ:
SHRI DULU MAHATO:
SMT. SHOBHANABEN MAHENDRASINH BARAIYA:
SHRI RAJKUMAR CHAHAR:
SHRI P P CHAUDHARY:
SMT. KAMALJEET SEHRAWAT:

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

- (a) the mechanism currently in place for disseminating agricultural machinery and technologies developed by ICAR to farmers across the country including Rajasthan and particularly in Pali Lok Sabha constituency;
- (b) whether any assessment has been done to assess their impact at the regional level;
- (c) if so, the details thereof;
- (d) whether the Government has launched any new programmes to increase the availability of modern mechanisation tools, including robotics, Artificial Intelligence-based systems, drones and automated equipment across the country;
- (e) if so, the details thereof including for Pali Lok Sabha constituency; and
- (f) the present status of partnerships with private sector entities or start-ups for co-development and deployment of these technologies?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE

कृषि और किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

(a): The Indian Council of Agricultural Research (ICAR) through its National Agricultural Research, Education and Extension System (113 Institutes, 731 Krishi Vigyan Kendras (KVKs) and 68 Agricultural Universities) across the country has a robust mechanism of disseminating agricultural machineries and technologies. Research Institutes with its network of All India Coordinated Research

Projects in various Universities develop technologies and machineries. These technologies are assessed by KVKs to ensure suitability for diverse agro-ecological conditions. KVKs disseminate the validated technologies through on-farm demonstrations; capacity-building programmes for farmers and state extension personnel; awareness programs; farmers' interface; etc. Subsequently, the State Government departments scale up these technologies in the states. Farmer feedback is continuously channelled back to researchers for further refinement and improvement of the technologies. Further, the ICAR-State Coordination, through 8 Regional Committees, is also in place for coordinating research and extension activities within a region including Rajasthan and Pali Lok Sabha Constituency.

(b) & (c): The adoption of farm machinery varies with farmers' socioeconomic and geographic conditions as well as cropping pattern. ICAR estimates overall mechanization at about 47%. Seedbed preparation is the most mechanized operation (70%), while harvesting and threshing remain low (under 35%) except in rice and wheat, where they exceed 60%. Wheat has the highest mechanized sowing (65%), and planting/transplanting levels remain modest for sugarcane (25%) and rice (35%). Further, ICAR also assessed impact of 19 selected farm equipment/machines for the period 2012 to 2023 and found that aggregate total surplus generated from this equipment/machines were about Rs 14,071 Crores per annum benefiting to about 19.5 lakh farm families.

(d) & (e): The Government has launched Centrally Sponsored/Central Sector programmes/schemes to increase the availability of modern mechanization tools, including robotics, Artificial Intelligence-based systems, drones and automated equipment across the country including Rajasthan and Pali Lok Sabha Constituency. Such programmes/schemes include Sub-Mission on Agricultural Mechanization, Namo Drone Didi and Digital Agriculture Mission.

(f): ICAR is taking initiatives to develop partnerships with private sector entities for co-development and deployment of technologies. In this regard, ICAR has signed more than 150 MoUs in the last 5 years. Further, the Institutes are licensing the developed technologies to private firms for commercialization and deployment of the technologies. ICAR is also encouraging start-ups for the purpose.
