GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

RAJYA SABHA
UNSTARRED QUESTION NO. -834
TO BE ANSWERED ON 06/02/2026

LEVEL OF LOW MECHANIZATION IN AGRICULTURE

834. SHRI SAMIRUL ISLAM:

Will the Minister of AGRICULTURE & FARMERS WELFARE be pleased to state:

(a) whether Government has any data on the level of mechanisation in Indian agriculture;
(b) if so, the details of mechanisation for major crops, operation-wise; and
(c) the details of top ten countries with the highest level of mechanisation in agriculture?

ANSWER

MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
(SHRI RAMNATH THAKUR)

(a) & (b): The adoption of mechanization by the farmers of various States depends on varying factors such as socio-economic conditions, geographical conditions, crops grown, irrigation facilities etc. Based on literature survey (2020-21), the Indian Council of Agricultural Research (ICAR) indicated that the agricultural mechanization level varies across different crops and their farm operation in the country. Overall, the operation-wise average mechanization levels across crops are 70% for seed-bed preparation, 40% for sowing/planting/transplanting, 32% for weeding and inter-culture, and 34% for harvesting and threshing, resulting in an overall average mechanization level of 47%.

The crop wise and operation wise percentage level of mechanization in India is indicated in the table below:

Crop	**Percentage level of agricultural mechanization**				
	Seed-bed preparation	Sowing/ planting/ transplanting	Weeding and interculture & plant protection	Harvesting and threshing	Crop wise average
Rice	80	35	35	60	53
Wheat	85	65	50	75	69
Maize	70	45	40	30	46
Sorghum and millets	60	30	20	20	33
Pulses	65	40	25	35	41
Oilseed	65	40	20	30	39
Cotton	70	40	35	0	36
Sugarcane	65	25	30	20	35
Operation wise average	70	40	32	34	47

(c): The ICAR based on literature survey further indicated that, the United States currently with approximately 95% mechanization is a global leader in utilizing AI-driven autonomous tractors, drone surveillance, and large-scale precision farming machines. France, Canada, Netherlands, Japan, Germany, Brazil, Australia and Israel are some of the other countries utilizing advanced machines in agriculture and are having high level of agricultural mechanization. China has rapidly mechanized (over 70% in 2024–2025) through massive investment in drones and smart machinery, particularly for wheat and rice farming.

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