

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
**RAJYA SABHA**  
**UNSTARRED QUESTION No. 1731**  
ANSWERED ON 13/03/2025

**SCIENTIFIC INNOVATIONS FOR AGRICULTURE AND RURAL DEVELOPMENT  
IN ODISHA**

1731 SHRI DEBASHISH SAMANTARAY:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether Government has conducted any research on scientific innovations for improving agriculture in Odisha;
- (b) the details of projects related to biotechnology and precision farming implemented in Odisha;
- (c) whether Government has provided any financial or technical assistance to farmers in Odisha for adopting new agricultural technologies; and
- (d) the steps taken to promote climate-resilient farming technologies in Odisha's rural areas?

**ANSWER**

MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE  
MINISTRY OF SCIENCE AND TECHNOLOGY & EARTH SCIENCES  
(DR. JITENDRA SINGH)

(a) The Government of India, through various agencies under the Ministry of Science and Technology, and Indian Council of Agricultural Research (ICAR) has been actively involved in conducting research to improve agricultural productivity in the country including Odisha. Key research initiatives are focused on soil health management, pest control, crop breeding, climate-resilient crop varieties and sustainable farming practices. Department of Science and Technology (DST) has been actively involved in fostering scientific innovations and a wide range of research initiatives that focus on enhancing agricultural productivity and sustainability has been supported. The Government has collaborated with state agricultural universities and institutions to implement region-specific solutions for improving agricultural practices. For example, a centre at Odisha University of Agriculture and Technology (OUAT), Bhubaneswar has conducted research, feasibility trials of equipment, and demonstration of proven prototypes for region specific solutions.

(b) Various programs/projects of the Government focused on agriculture, agri-tech startups, and rural development have helped farmers to access cutting-edge agricultural technologies, such as biofertilizers, advanced irrigation systems, precision farming techniques, automated precision laser weeder, monitoring device for early detection of respiratory disease in poultry etc. Under the DST's Technology Development Programmes, number of proposals have been supported through special call for proposals under Agro-tech domain to promote technological advancements in agriculture. These projects include developing biological control agents for pest management, enhancing crop resilience to climate change, creating bio-pesticides and bio-fertilizers etc. Biotechnology Industry Research Assistance Council (BIRAC) under the Department of Biotechnology, has supported projects on developing bio-inputs and bio-

pesticides for enhancing agricultural productivity while ensuring environmental sustainability. To address water scarcity, collaboration with Government of Odisha has been done for watershed management, groundwater recharge and canal automation techniques.

The Government has supported the adoption of precision farming technologies in the country including Odisha through projects such as the geospatial technology applications for agriculture, which uses satellite imagery, drones, and Geographic Information System (GIS) technologies to enhance land-use planning, irrigation management and pest control.

(c) Yes, the Government has been providing both financial and technical assistance to farmers of the country including Odisha for adopting modern agricultural technologies. Under National Mission on Agricultural Extension and Technology (NMAET), financial assistance/subsidies have been provided to farmers for the adoption of new agricultural technologies, high-yielding seed varieties, efficient irrigation systems, and integrated pest management techniques. Under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) in Odisha, financial assistance for micro-irrigation (drip and sprinkler systems), soil testing, advisory services by the agricultural scientists and experts, etc. has been extended to the farmers. In addition, many of training and capacity building programmes have been instrumental in upskilling farmers on the latest agricultural innovations and technologies.

(d) To promote climate-resilient farming technologies in Odisha, the Government has supported development of drought-tolerant and flood-resistant crop varieties. The Government, through the National Adaptation Fund for Climate Change (NAFCC) has funded several projects that focus on rainwater harvesting, smart/ drip irrigation systems that help conserve water and optimize its usage. The Government has also supported the establishment of weather forecasting and agro-advisory services for farmers. These services provide real-time weather data and advice on the best times for planting, harvesting, and pest management, helping farmers mitigate risks associated with unpredictable weather patterns. Thirty-three Krishi Vigyan Kendras (KVKs) in Odisha have also been conducting demonstration programs to promote climate-resilient agricultural practices.

Under DST's Climate Change Programme, State Climate Change Cells/Centers in 30 States of the country including Odisha have been established. The mandate of Odisha Climate Change Cell is to assist State to take up vulnerability and risk assessment, human capacity building programmes, public awareness programmes and institutional capacity building programmes.

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