

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:1764

ANSWERED ON:04.12.2012

FUNCTIONING OF RESEARCH INSTITUTES

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Will the Minister of AGRICULTURE be pleased to state:

- (a) whether research work in the agriculture sector in the country is very less in comparison to other countries;
- (b) if so, the details thereof;
- (c) the major research and development works undertaken by various research institutes/organisations in the country;
- (d) whether functioning of these research institutes has been reviewed periodically during the last three years and the current year;
- (e) if so, the outcome thereof;
- (f) the deficiencies identified in the functioning of these institutes; and 16901690(g) the remedial steps taken/proposed to be taken by the Government for the effective functioning of these institutes?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FOOD PROCESSING INDUSTRIES (SHRI TARIQ ANWAR)

(a) India has a very strong and large base in agricultural research which is at par with international standards. With the integration of agricultural research, education and extension, India, not only could bring about Green Revolution in sixties and seventies but also achieved a record production of food grains over 257 mmt in recent years. The contribution of Indian science in agricultural biotechnology, crop and horticultural sciences, in natural resource management and in fisheries and animal production system are well recognized all over the world.

(b) Not applicable.

(c) The Research Institutes of the Indian Council of Agricultural Research (ICAR) undertake research work pertaining to natural resource management, field and horticultural crops, animal husbandry and fisheries, agricultural engineering. ICAR coordinates the higher agricultural education and frontline extension. The ICAR also operates the All India Coordinated Research Projects and Network Projects, located in both the Institutes and Universities. Some of the major projects undertaken during the recent years are the National Agricultural Innovation Project (NAIP) and National Initiative on Climate Resilient Agriculture (NICRA). Also a company, AgriInnovateIndia, for the commercialization of technologies and providing consultancy services has been formed.

Some of the major research accomplishments in the recent years have been decoding of rice and pigeon pea genome; buffalo cloning; diagnostics and vaccines for a number of plant and animal diseases; breeding of marine fish species such as cobia and silver pompano and sea cage farming of seabass; GIS based soil fertility mapping for macro, secondary and micronutrients at district level; liquid biofertilizer formulations; resource conservation technologies of zero- tillage, raised bed planting and laser land leveling; formulation of protocols for nutrient based subsidy; farming systems modules for small farmers in drylands and intercropping models; resilient varieties of rice, wheat, maize, pulses, oilseeds, sugarcane, jute, fruits and vegetables for abiotic stresses such as temperature, salinity, drought and submergence and pests and diseases; integrated nutrient management, farming and the pest management strategies; design and fabrication of farm implements such as laser land leveler, self-propelled sprayers, precision seeders and planters, transplanters for rice and vegetable seedlings, multi-crop threshers, harvesters for cereals and sugarcane, bullock drawn manure spreader to uniformly spread manure in fields, pedal-operated sugarcane bud chipping equipment, groundnut-cum-castor decorticators, maize sheller and related equipment.

(d) to (f): Yes, the functioning of the Research Institutes of the ICAR is reviewed at regular intervals. The programmes of the Institutes are subject to Quinquennial Review through eminent experts in respective fields of science. Governing Body (GB) of ICAR has discussed in depth the QRT recommendations of 60 institutes since 2009 and the recommendations of both the QRT and GB have been acted upon. Each Research Institute also has a Research Advisory Committee (RAC) that reviews progress of research and advises on the future line of research.

Apart from these, there are other performance monitoring mechanisms such as Results Framework Document (RFD) on quarterly basis, Half Yearly Progress Monitoring (HYPM) and Project Information Management System (PIMS), these provide inputs for continuous improvements. Some of the important observations made by these reviews include: Strengthening multidisciplinary research work for focused work on emerging issues such as climate change, diseases, post-harvest losses in a problem-resolving

mode; Technologies for enhanced Input Use Efficiencies across commodities; Insulating farm production against pests and diseases; Research programmes to address issues of profitability by promoting secondary agriculture; Human resource development in new areas such as Nanotechnology, Conservation agriculture and Farming systems; Policy oriented research, Intellectual Property Management and Entrepreneurial skill development; Strengthening infrastructure facilities; and Meeting knowledge needs of the farmers.

(g) The suggested improvements are taken up by the ICAR institutes under the guidance of the Subject Matter Divisions of the ICAR headquarters. Besides, mid-course corrections are also taken up for ensuring effective functioning of the research institutes to overcome deficiencies. In order to further improve the system's efficiency, institution-specific performance indicators, revised research proformae, research consortia platforms, inter-departmental research collaboration, mission projects, extramural funding, programmes of Farmer FIRST and Student READY are being taken up in XII Plan.