

श्री मुख्तार अब्बास नकवी: सभापति महोदय, जो ज़मीन किसानों को मिलनी चाहिए थी, वह ...*(व्यवधान)*...

श्री सभापति: आप बैठ जाइए। ...*(व्यवधान)*...

श्री मुख्तार अब्बास नकवी: जो जमीन मजदूरों को मिलनी चाहिए। ...*(व्यवधान)*... जमीन पर कब्जा हो गया है। हम इस पर चर्चा चाहते हैं। ...*(व्यवधान)*...

श्री थावर चन्द गहलोत: सर, यह बहुत गंभीर मामला है। ...*(व्यवधान)*...

श्री पुरुषोत्तम खोडाभाई रूपाला: सभापति महोदय ...*(व्यवधान)*...

श्री सभापति: आप बैठ जाइए। ...*(व्यवधान)*... आपको बोलने की इजाजत नहीं है। ...*(व्यवधान)*... You have not been permitted to speak. ...*(Interruptions)*... Please sit down. Allow the Question Hour to proceed. ...*(Interruptions)*... It is not correct. ...*(Interruptions)*... Please sit down. This is not going on record. Nothing is going on record. ...*(Interruptions)*...

श्री मुख्तार अब्बास नकवी: \*

MR. CHAIRMAN: There is no point in shouting. आप बैठ जाइए। Allow the Question Hour to proceed. ...*(Interruptions)*... बैठ जाइए। It is not going on record. ...*(Interruptions)*... You are not being heard inside or outside. ...*(Interruptions)*... Please allow the Question Hour to proceed. ...*(Interruptions)*... नकवी साहब, आपको पोजिशन एक्सप्लेन कर दी गई थी। ...*(व्यवधान)*... I am sorry. ...*(Interruptions)*...

श्री मोहम्मद अली खान (आंध्र प्रदेश): सर, क्वेश्चन ऑवर चलाइए। ...*(व्यवधान)*...

MR. CHAIRMAN: The House is adjourned till 12 o'clock.

The House then adjourned at eighteen minutes past eleven of the clock.

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The House reassembled at Twelve of the clock

THE VICE-CHAIRMAN (PROF. P. J. KURIEN) in the Chair.

### WRITTEN ANSWERS TO STARRED QUESTIONS

#### Functioning of Research Institutes

\*601. DR. K. V. P. RAMACHANDRA RAO: Will the Minister of AGRICULTURE be pleased to state:

(a) the major research and development works undertaken by research organisations under the Ministry;

(b) whether functioning of these research institutes has been reviewed during the last three years;

(c) if so, the details thereof; and

(d) the improvements proposed to be made in their functioning?

THE MINISTER OF AGRICULTURE (SHRI SHARAD PAWAR): (a) The major research and development works undertaken by research organizations under the Ministry are as follows:

1. 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, while the Council also coordinates the higher agricultural education of the State Agricultural Universities (SAUs), Central Agricultural University and Central University with agricultural faculty and frontline extension through the Krishi Vigyan Kendras (KVKs). The ICAR operates the All India Coordinated Research Projects and Network Projects, located in both the Institutes and Universities, all the above forming the National Agricultural Research System in the country. Some of the major projects undertaken during the recent years are the National Agricultural Innovation Project (NAIP), National Initiative on Climate Resilient Agriculture (NICRA) and a company, *AgrInnovate India*, for commercialisation of technologies and providing consultancy services.
2. The R&D work at the organisations have resulted in agro-ecology-specific improved crop varieties/hybrids, making available high quality, genetically true to type breeder seed; and efficient, economic, eco-friendly and sustainable crop production and protection technologies; high yielding breeds of poultry and livestock, fishes; prototypes and commercially viable manufacturing designs and processes of farm implements and machinery for farming and post-harvest management.
3. 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, Integrated Farming and Integrated Pest management strategies; design and fabrication of farm implements such as laser land leveller, 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.

4. The adoption of technologies by farmers in the country have resulted in manifold increase in the farm productivity and production. While the annual foodgrain production has increased from 50 mmt in 1950-51 to 250 mmt presently from the stagnant cultivable area of 140mha  $\pm$ 2 mha, the horticultural production has increased from 25 mmt to 241 mmt over the same period. While the present milk production of over 120 mmt has resulted in per capita availability of milk of 283 grams/day, the annual egg and fish production are of the order of 63 billion and 8.3 mmt respectively. As regards productivity enhancement, R&D efforts over the years have led to 3.6 folds increase in foodgrains, 1.3-2.3 folds in fruits and vegetables, 6.8 times in fish, 1.8 times in milk and 4.8 folds in eggs. These have shown to be enabled by research efforts, whose specific contribution to the output is to the extent of 13.7% in rice, 23.6% in wheat, 13.1% in maize 8.9-11.0% in pulses and oilseeds.

(b) 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. Each Research Institute also has a Research Advisory Committee (RAC) that reviews progress of research and provides advice on the direction and types of scientific aspects and methods/processes of research.

The reports of Quinquennial Review Team (QRT) in respect of the institutes are presented to the Governing Body (GB) of ICAR and the recommendations of both the QRT and GB are acted upon. The advice from RACs is subjected to further discussion in Institute Research council (IRCs) of ICAR research institutes and research programmes are redesignated or recast, as required. The research Prioritization Management and Evaluation (PME) units of the institutes oversee these research planning and implementation processes.

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).

(c) The details of the reviews of these research institutes is given in the Statement (*See below*). Some of the important observations made by these reviews include: Strengthening multidisciplinary research work for focussed 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.

(d) 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. The ICAR regularly undertakes O&M reforms for efficient utilisation of financial and human resources, strengthening decision support system for informed decision making, thus creating an enabling environment in the system. Certain important reforms introduced in the recent years include revisiting ARS guidelines; half-yearly progress review of scientists; ICAR rewards; revised score cards for assessment of scientists; modified Foundation Course for ARS Scientists (FOCARS) programme; Leadership programme; Farmer Professors. In order to further improve the system's efficiency, institution-specific performance indicators, revised research proforma, research consortia platforms, inter-departmental research collaboration, mission projects, extramural funding, programmes of Farmer FIRST and Student READY are contemplated.

In a unique approach to address critical constraints in agriculture, a National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA) has been set up in 2006 and new models of value chain and sustainable rural livelihoods have been developed in the National Agricultural Innovation Project (NAIP) started in 2006. Further, in order to fill yield gaps, short, medium and long-term strategies of multidisciplinary research in major crops and commodities; inter-departmental platforms in bioprospecting, climate change, biodiversity management, genomics, phenomics, molecular breeding, precision farming, disease diagnostics, conservation agriculture and related aspects have been planned. Along with assessing the impact of technologies developed by the Institutes, technology forecasting is envisioned. With an emphasis on modernisation of infrastructure of farms and laboratories, reorientation of course curricula for SAUs with an emphasis on skill and entrepreneurship is underway. With guidelines for Intellectual Property Management and Commercialisation of Technologies developed and the company AgrInnovate India formed, strengthening of agri-incubators for effective technology commercialisation and formation of public-private partnerships are in progress.

**Statement**

*List of QRT Reports of ICAR Institute placed before GB since April, 2009*

GB Meeting	Date	Sl. No.	Institute Name
1	2	3	4
213th	02.06.2009	1	Report of the QRT of National Seed Project (Crops) for the period 1998-2005.
		2	Report of the QRT of National Research Centre on Coldwater Fisheries, Bhimtal (renamed as Directorate of Coldwater Fisheries Research, Bhimtal) for the period 2003-2008.
		3	Report of the QRT of Central Plantation Crops Research Institute and AICRP on Palms, Kasaragod for the period 2003-2008.
		4	Report of the QRT of Indian Institute of Vegetable Research, AICRP on Vegetable Crops and NSP (Vegetable), Varanasi for the period 2002-2007.
		5	Report of the QRT of Central Tuber Crops Research Institute, Thiruvananthapuram and AICRP on Tuber Crops for the period 01.01.2003 to 31.03.2008.
		6	Report of the QRT of ICAR Research Complex for Eastern Region, Patna for the period 2001-2005.
		7	Report of the QRT of ICAR Research Complex for NEH Region, Barapani for the period April, 2000 to March, 2006.

		8	Report of the QRT of National Research Centre for Weed Science, Jabalpur and AICRP on Weed Control for the period 2001-2005.	<i>Written Answers to</i>
		9	Report of the QRT of AICRP on Post Harvest Technology for the period 2002-2007.	
		10	Report of the QRT of AICRP on Utilisation of Animal Energy for the period 2002-2007.	
		11	Report of the QRT of Central Institute for Cotton Research, Nagpur and All India Coordinated Cotton Improvement Project for the period 2001-2007.	<i>[18 May, 2012]</i>
		12	Report of the QRT of National Bureau of Agriculturally Important Microorganisms, Mau, for the period 2002-2007.	
		13	Report of the QRT of Project Directorate on Poultry, Hyderabad, for the period 2001-2006.	
214th	27.08.2009	14	Report of the QRT of Central Institute of Freshwater Aquaculture, Bhubaneswar for the period 2003-2008.	<i>Starred Questions</i>
		15	Report of the QRT of National Bureau of Fish Genetic Resources (NBFGR), Lucknow during the period 2003-2008.	
		16	Report of the QRT of Indian Veterinary Research Institute, Izatnagar for the period 2001-06.	

1	2	3	4
		17	Report of the QRT of National Dairy Research Institute, Karnal for the Period 2002-06.
		18	Report of the QRT of Project Directorate on Cattle, Merrut for the period 2001-2005.
		19	Report of the QRT of National Centre for Agricultural Economic & Policy Research, New Delhi during the period 2000-2005.
		20	Report of the QRT of Central Institute for Research on Buffaloes, Hissar during the period 1991-2005.
		21	Report of the QRT of Central Institute for Research on Cotton Technology, Mumbai during the period 2002-2006.
		22	Report of the QRT of Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora during the period 2002-2007.
		23	Report of the QRT of Central Institute of Brackishwater Aquaculture (CIBA), Chennai for the period 2004-2009.
		24	Report of the QRT of National Research Centre on Equines, Hissar for the period 2003-2007.
		25	Report of the QRT of Central Sheep and Wool Research Institute, Avikanagar for the period 2001-2005.

215th	15.12.2009	26	Report of the QRT of National Research Centre on Pig, Guwahati for the period 2001-2006.
		27	Report of the QRT of Central Institute of Fisheries Technology, Kochi for the period 2004-2009.
		28	Report of the QRT of Central Institute of Fisheries Education, Mumbai for the period 2004-2009.
		29	Report of the QRT of National Research Centre on Camel, Bikaner for the period 2003-2007.
		30	Report of the QRT of National Research Centre on Mithun, Nagaland for the period 2002-2007.
		31	Report of the QRT of National Research Centre on Yak, Dirang for the period 2003-2007.
		32	Report of the QRT of National Bureau of Animal Genetic Resources, Karnal for the Period 2003-2007.
		33	Report of the QRT of National Institute of Research on Jute and Allied Fibres Technology, Kolkata for the period 2001-2007.
		34	Report of the QRT of Indian Institute of Natural Resins and Gums, Ranchi for the period 2002-2007.
		35	Report of the QRT of Central Tobacco Research Institute, Rajahmundry, All India Network Research Project on Tobacco and Krishi Vigyan Kendra for the period 2003-2008.

*Written Answers to*

*[18 May, 2012]*

*Starred Questions*



1	2	3	4
		36	Report of the QRT of National Bureau Plant Genetic Resources (NBPGR), New Delhi for the Period 2002-2007.
		37	Report of the QRT of National Centre for Integrated Pest Management, New Delhi for the Period 2003-2007.
		38	Report of the QRT of National Research Centre for Orchids, Pakyong, (Sikkim) for the period 01.01.2003 to 31.03.2008.
		39	Report of the QRT of Central Institute of Temperate Horticulture, Srinagar for the period 2003-2009.
		40	Report of the QRT after reviewing the research work done under Indian Grassland and Fodder Research Institute (IGFRI), Jhansi and All India Coordinated Research Project on Forage Crops for the period 2003-2007.
216th	09.04.2010	41	Report of the QRT of Indian Agricultural Research Institute, New Delhi for the period 2000-2008.
		42	Report of the QRT of CMFRI, Kochi for the period 2004-2009.
		43	Report of the QRT of DRR, Hyderabad and All India Coordinated Rice Improvement Project for the period 2002-2007.
		44	Report of the QRT of CIRG, Makhdoom for the period April, 2003 to March, 2009.
217th	02.07.2010	45	Report of the QRT of National Institute of Animal Nutrition and Physiology, Bangalore for the period April, 2003 - March, 2007.

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*Written Answers to*

[RAJYA SABHA]

*Starred Questions*

		46	Report of the QRT of Central Avian Research Institute, Izatnagar for the period April, 2003 to March, 2007.
218th	03.09.2010	47	Report of the QRT of Sugarcane Breeding Institute, Coimbatore for the period 2004-2009.
		48	Report of the QRT of Directorate of Oilseeds Research, Hyderabad and All India Coordinated Research Projects on Sunflower, Safflower, Castor, Sesame and Niger and Linseed for the period 2002-07.
		49	Report of the QRT of Directorate of Groundnut Research, Junagadh and All India Coordinated Research Project on Groundnut for the period 2002-06.
219th	04.01.2011		Nil
220th	06.04.2011	50	Report of the QRT of Directorate of Rapeseed-Mustard Research, Bharatpur and All India Coordinated Research Project on Rapeseed-Mustard for the period 2004-2010.
		51	Report of the QRT of Indian Institute of Sugarcane Research, Lucknow and All India Coordinated Research Project on Sugarcane for the period 2005-2009.
		52	Report of the QRT of Central Institute for Research on Buffaloes, Hissar for the period April, 2005 to March, 2010.
		53	Report of the QRT of National Research Centre on Meat, Hyderabad for the period 2005-2010.

*Written Answers to*

*[18 May, 2012]*

*Starred Questions*

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1	2	3	4
		54	Report of the QRT of Central Sheep and Wool Research Institute, Avikanagar for the period April, 2006 to March, 2011.
		55	Report of the QRT of Project Directorate on Foot and Mouth Disease, Mukteshwar for the period 2004-2008.
221st	05.07.2011	56	Report of the QRT of National Research Centre for Pomegranate, Solapur for the period from June, 2005 to December, 2010.
		57	Action taken report on the recommendations of the QRT for Indian Agricultural Research Institute, New Delhi for the period 2000-2008 as approved by Governing Body in its 216th meeting.
222nd	04.10.2011		Nil
223rd	04.02.2012	58	Report of the QRT of All India Coordinated Research Project on Honey bees and Pollinators for the period 2005-2010.
		59	Report of the QRT of National Research Centre on Seed Spices, Ajmer for the period from April, 2005 to May, 2011.
		60	Report of the QRT of Project Directorate on Animal Disease Monitoring and Surveillance, Bangalore for the period from April, 2006 to March, 2011.
		61	Report of the QRT of National Centre for Agricultural Economics and Policy Research, New Delhi for the period 2006-2010.
		62	Report of the QRT of CAZRI, Jodhpur for the period 2005-09.

12 Written Answers to

[RAIYA SABHA]

Starred Questions