

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

LOK SABHA
UNSTARRED QUESTION NO. 1964
TO BE ANSWERED ON 03/03/2020

RESEARCH CENTRES AND PROJECTS UNDER ICAR

1964. SHRI GAJANAN KIRTIKAR:
SHRI BIDYUT BARAN MAHATO:
SHRI SHRIRANG APPA BARNE:
SHRI SUDHEER GUPTA:
SHRI SANJAY SADASHIV RAO MANDLIK:

Will the Minister of AGRICULTURE AND FARMERS WELFARE

कृषि और किसान कल्याण मंत्री be pleased to state:

- (a) the details of the research centres and projects being run under the aegis of the Indian Council of Agricultural Research (ICAR) in various States of the country as on date, location and State-wise;
- (b) the details of projects initiated but not completed till date along with the date of commencement and the expected date for their completion, project and State-wise;
- (c) the details of funds allocated and expenditure incurred thereon by the Government during the last three years for each of the projects;
- (d) the details of the achievements made by these centres, State-wise;
- (e) whether agricultural production has increased through the efforts of the said centres and if so, the details thereof; and
- (f) the steps taken/being taken by the Government to promote research in agricultural sector?

A N S W E R

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE

कृषि और किसान कल्याण मंत्री

(SHRI NARENDRA SINGH TOMAR)

- (a) A list containing the names of schemes/projects run at different research centres located across different states is given in **Annexure-1**.
- (b) All the 35 schemes/projects of DARE/ICAR were initiated during 2017-18 and are continuing.

(c) The funds allocated and expenditure incurred during the last three years for all the schemes/ projects are Rs. 2166.46 Cr and 1878.14 Cr during 2017-18, 2508.43 Cr and 2271.41 Cr during 2018-19 respectively. Allocation is Rs 2488.61 Cr during 2019-20 (**Annexure-2**).

(d) Achievements made by ICAR during 2014-2019 are given in **Annexure-3**.

(e) The increase in the production of Food grains, Pulses, Oilseeds, Cotton, Sugarcane, Horticulture, Milk, Fish, Egg, Meat is given in **Annexure-4**.

(f)

- Development of state-of-the art Infrastructure facilities.
- Development of skilled agricultural manpower through higher education.
- Identification and implementation of various schemes in niche areas of excellence; national professor, emeritus professor and national fellow schemes; National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA); National Innovations on Climate Resilient Agriculture; Consortium Research Platforms; All India Coordinated Research Projects; Network Projects; Extension through KVKs.

Sl No.	Name of Scheme	Institute	State
1	Soil Characterization and Management	Indian Institute of Soil Science, Bhopal	Madhya Pradesh
		Central Soil Salinity Research Institute, Karnal	Haryana
		National Bureau of Soil Survey and Land Use Planning, Nagpur	Maharashtra
2	Water Harvesting, Conservation and Management	Indian Institute of Water Management, Bhubaneswar	Odisha
		Indian Institute of Soil and Water Conservation, Dehradun	Uttarakhand
		ICAR Research Complex for Eastern Region, Patna including Makhana	Bihar
3	Dryland Agriculture	Central Research Institute of Dryland Agriculture, Hyderabad	Telangana
		National Institute of Abiotic Stress Management, Baramati,	Maharashtra
4	Sustainable Cropping and Farming System Research	Indian Institute of Farming System Research, Modipuram	Uttar Pradesh
		Central Agroforestry Research Institute, Jhansi	Uttar Pradesh
		Directorate of Weed Research, Jabalpur	Madhya Pradesh
		Mahatma Gandhi Integrated Farming Research Institute, Motihari,	Bihar
5	Management of Arid, Hill and Coastal Eco System	Central Arid Zone Research Institute, Jodhpur	Rajasthan
		ICAR Research Complex for NEH Region, Barapani	Meghalaya
		Central Coastal Agricultural Research Institute, Goa	Goa
6	Climate Resilient Agriculture Initiative	National Innovation in Climate Resilient Agriculture, Hyderabad	Telangana
7	Farm Mechanization	Central Institute of Agricultural Engineering, Bhopal	Madhya Pradesh
8	Post production Mechanization and Value Addition	Central Institute on Post harvest Engineering and Technology, Ludhiana	Punjab
		Indian Institute of Natural Resins and Gums, Ranchi	Jharkhand
9	Fibre Processing and Value Addition	Central Institute of Research on Cotton Technology, Mumbai	Maharashtra
		National Institute of Natural Fibre and Engineering Technology, Kolkata	West Bengal
10	Genetic Resource Management	National Bureau of Plant Genetic Resources, New Delhi	Delhi
		National Bureau of Agricultural Insect Resources, Bengaluru	Karnataka
		National Bureau of Agril. Important Microorganisms, Mau	Uttar Pradesh

11	Basic and Strategic Research and Education	Indian Agriculture Research Institute, New Delhi	Delhi
		Indian Institute of Agricultural Biotechnology, Ranchi	Jharkhand
		Indian Agriculture Research Institute, Jharkhand	Jharkhand
		Indian Agriculture Research Institute, Assam	Assam
12	Rice, Wheat and Barley Improvement	National Rice Research Institute, Cuttack	Odisha
		Indian Institute of Rice Research, Hyderabad	Telangana
		Indian Institute for Wheat and Barley Research, Karnal	Haryana
13	Maize, Millet & Forage Crop Improvement and Hill Agriculture	Indian Institute of Maize Research, Ludhiana	Punjab
		Indian Institute of Millets Research, Hyderabad	Telangana
		Indian Grassland and Fodder Research Institute, Jhansi	Uttar Pradesh
		Vivekananda Parvatiya Krishi Anusandhan Shala, Almora	Uttarakhand
14	Pulse Improvement and Seed Research	Indian Institute of Pulses Research, Kanpur	Uttar Pradesh
		Indian Institute of Seed Research, Mau	Uttar Pradesh
		Seed Production in Agricultural Crops, Mau	Uttar Pradesh
15	Oilseed Crop Improvement	Indian Institute of Oilseeds Research, Hyderabad	Telangana
		Directorate of Groundnut Research, Junagarh	Gujarat
		Indian Institute of Soybean Research, Indore	Madhya Pradesh
		Directorate of Rapeseed - Mustard Research, Bharatpur	Rajasthan
16	Commercial Crop Improvement	Indian Institute of Sugarcane Research, Lucknow	Uttar Pradesh
		Sugarcane Breeding Institute, Coimbatore	Tamil Nadu
		Central Tobacco Research Institute, Rajamundry	Andhra Pradesh
		Central Institute of Cotton Research, Nagpur	Maharashtra
		Central Research Institute for Jute and Allied Fibres, Barrackpore	West Bengal
17	Plant Protection and Pollinator Research	National Research Centre for Integrated Pest Management(NCIPM), New Delhi	Delhi
		National Institute of Biotic Stress Management, Raipur	Chhattisgarh
18	Tropical and Subtropical Horticulture	Indian Institute of Horticulture Research, Bengaluru	Karnataka
		NRC Banana, Trichi	Tamil Nadu
		Central Citrus Research Institute, Nagpur	Maharashtra
		Central Institute of Sub Tropical Horticulture, Lucknow	Uttar Pradesh
		NRC Grapes, Pune	Maharashtra
		NRC Litchi, Muzzafarpur	Bihar
		NRC Pomegranate, Solapur	Maharashtra
19	Temperate Horticulture	Central Potato Research Institute, Shimla	Himachal Pradesh
		Central Institute of Temperate Horticulture, Srinagar	Jammu & Kashmir

		Directorate of Floricultural Research, Pune	Maharashtra
		NRC Orchids, Pakyong	Sikkim
		Directorate of Mushroom Research, Solan	Himachal Pradesh
20	Vegetable Crops	Indian Institute of Vegetable Research, Varanasi	Uttar Pradesh
		Directorate of Onion and Garlic Research , Rajgurunagar, Pune	Maharashtra
		Central Tuber Crops Research Institute, Tiruvanthapuram	Kerala
21	Plantation Crops and Island Ecosystem	Central Plantation Crops Research Institute, Kasargod	Kerala
		Directorate of Cashew Research, Puttur	Karnataka
		Indian Institute of Oil Palm Research, Pedavegi	Andhra Pradesh
		Central Island Agricultural Research Institute, Port Blair	Andaman & Nicobar
22	Arid Horticulture, Spices and Medicinal & Aromatic Plant	Central Institute of Arid Horticulture, Bikaner	Rajasthan
		Indian Institute of Spices Research, Calicut	Kerala
		NRC Seed Spices, Ajmer	Rajasthan
		Directorate of Medicinal and Aromatic Plants Research, Anand	Gujarat
23	National Agricultural Science Fund	NASF, New Delhi	Delhi
24	Dairy Production and Technology	National Dairy Research Institute, Karnal	Haryana
		Central Institute for Research on Buffaloes, Hissar	Haryana
		Central Institute for Research on Cattle, Meerut	Uttar Pradesh
25	Small Ruminants Production and Technology	Central Sheep and Wool Research Institute, Avikanagar	Rajasthan
		Central Institute for Research on Goats, Makhdoom	Uttar Pradesh
26	Animal Nutrition and Products Technology	National Institute of Animal Nutrition and Physiology, Bengaluru	Karnataka
		NRC on Camel, Bikaner	Rajasthan
		NRC on Meat, Hyderabad	Telangana
27	Animal Health Management	Indian Veterinary Research Institute, Izatnagar	Uttar Pradesh
		National Institute of Veterinary Epidemiology and Disease Informatics(NIVEDI), Bengaluru	Karnataka
		National Institute of High Security Animal Diseases, Bhopal	Madhya Pradesh
		Directorate of Foot & Mouth Disease, Mukteshwar	Uttarakhand
		NRC on Equine, Hissar	Haryana
		National Centre for Veterinary Type Culture Collection, Hisar	Haryana

28	Animal Genetic Resource Management, Production and Improvement	National Bureau of Animal Genetic Resources, Karnal	Haryana
		Central Avian Research Institute, Izatnagar	Haryana
		Directorate of Poultry Research, Hyderabad	Telangana
29	Pig Production and Hill Animal Agriculture	NRC on Pig, Guwahati	Assam
		NRC on Yak, Dirang	Arunachal Pradesh
		NRC on Mithun Jharnapani, Nagaland	Nagaland
30	Management of Marine and Coastal Fisheries and Aquaculture	Central Marine Fisheries Research Institute, Kochi	Kerala
		Central Institute Brackishwater Aquaculture, Chennai	Tamil Nadu
		Central Institute of Fisheries Technology, Kochi	Kerala
31	Management of Freshwater Fisheries and Aquaculture	Central Inland Fisheries Research Institute, Barrackpore	West Bengal
		Project Directorate of Cold Water Fisheries, Bhimtal	Uttarakhand
		Central Institute of Freshwater Aquaculture, Bhubaneswar	Odisha
32	Fisheries Education and Genetic Resource Management	Central Institute on Fisheries Education, Mumbai	Maharashtra
		National Bureau of Fish Genetic Resources, Lucknow	Uttar Pradesh
33	Agriculture Extension	Krishi Vigyan Kendras	
		Directorate of Knowledge Management in Agriculture, New Delhi	Delhi
34	Agricultural Universities and Institutions	Strengthening and Development of Higher Agricultural Education in India	Delhi
		National Academy of Agricultural Research Management (NAARM), Hyderabad	Telangana
		Central Institute for Women in Agriculture, Bhubaneswar	Odisha
		National Agricultural Higher Education Project	Delhi
35	Economics, Statistics & Management	Indian Agricultural Statistical Research Institute, New Delhi	Delhi
		National Institute of Agricultural Economics & Policy Research, New Delhi	Delhi

(Rs. In lakhs)

SI No	CENTRAL SECTOR SCHEMES	2017-18		2018-19		2019-20	
		Revised Estimates	Actual Expenditure	Revised Estimates	Actual Expenditure	Revised Estimates	Actual Expenditure*
1	Soil Characterization and Management	3259.00	3005.24	2807.87	2437.58	2913.59	1980.37
2	Water Harvesting, Conservation and Management	2833.76	2168.48	2287.34	1970.45	2626.98	1714.24
3	Dryland Agriculture	3004.00	2920.14	1951.18	1580.70	2153.19	1405.25
4	Sustainable Cropping and Farming System Research	2795.61	2322.51	3206.21	3202.61	2633.90	1536.81
5	Management of Arid, Hill and Coastal Eco System	4875.63	2503.06	4571.40	4381.01	5555.34	3600.67
6	National Innovation in Climate Resilient Agriculture, Hyderabad	5000.00	3552.44	4421.00	3836.42	4600	3228.00
7	Farm Mechanization	1473.00	1331.67	2206.19	2171.33	2330.65	1508.75
8	Post production Mechanization and Value Addition	1792.00	1543.19	2355.31	2215.76	2718.37	1569.98
9	Fibre Processing and Value Addition	1003.00	1006.31	1388.50	1411.30	1352.98	817.18
10	Genetic Resource Management	4737.65	5167.10	4488.50	4151.55	5370.62	2691.00
11	Basic and Strategic Research and Education	13366.83	11315.48	27110.49	26552.36	24822.94	10394.00
12	Rice, Wheat and Barley Improvement	6032.85	5677.41	8556.60	6748.53	7700.94	3742.00
13	Maize, Millet & Forage Crop Improvement and Hill Agriculture	3677.95	3426.86	5631.67	5780.74	6239.95	3211.00
14	Pulse Improvement and Seed Research	2322.65	2186.12	3954.10	3599.62	4055.64	2759.00
15	Oilseed Crop Improvement	2913.43	2732.71	4307.80	3263.11	3920.21	2213.00
16	Commercial Crop Improvement	4078.90	3220.74	6342.91	6315.75	6971.21	4511.00
17	Plant Protection and Pollinator Research	2835.74	3239.54	4806.93	4359.12	4418.49	2963.00
18	Tropical and Subtropical Horticulture	5056.75	4825.40	6041.47	5719.70	6565.22	4955.05
19	Temperate Horticulture	2743.90	2091.60	3073.31	2738.53	3054.73	2016.59

SI No	CENTRAL SECTOR SCHEMES	2017-18		2018-19		2019-20	
		Revised Estimates	Actual Expenditure	Revised Estimates	Actual Expenditure	Revised Estimates	Actual Expenditure*
20	Vegetable Crops	2196.80	1727.14	2512.83	2446.13	2615.07	1761.71
21	Plantation Crops and Island Ecosystem	3310.55	2337.94	2796.82	2506.07	3092.98	2124.84
22	Arid Horticulture, Spieces and Medicinal & Aromatic Plant	2182.00	1712.20	2150.57	1770.54	2033.00	1432.11
23	National Agricultural Science Fund	3655.00	3077.30	5075.00	3943.54	5000.00	2692.04
24	Dairy Production and Technology	6355.30	6154.72	6727.58	6260.82	7521.00	4832.41
25	Small Ruminants Production and Technology	2385.50	2079.04	3056.55	3070.99	3310.00	1901.47
26	Animal Nutrition and Products Technology	1525.00	1449.66	1833.34	1784.63	2033.00	901.41
27	Animal Health Management	11163.15	10254.59	10587.88	9800.44	11263.00	6585.64
28	Animal Genetic Resource Management, Production and Improvement	3176.00	3093.32	3746.16	3537.97	4090.00	2917.21
29	Pig Production and Hill Animal Agriculture	2592.05	2245.80	2946.49	2489.49	2783.00	1954.01
30	Management of Marine and Coastal Fisheries and Aquaculture	4887.50	4798.99	5506.00	5337.82	5855.45	4013.79
31	Management of Freshwater Fisheries and Aquaculture	2773.00	2662.90	3424.50	3246.35	3703.64	2009.24
32	Fisheries Education and Genetic Resource Management	3924.50	3695.59	4303.50	4212.34	4679.91	3250.33
33	Agriculture Extension	23251.00	23198.66	20553.00	19781.81	22115.00	11204.03
34	Agricultural Universities and Institutions	65837.00	52207.87	52559.00	44554.05	45000.00	33068.28
35	Economics, Statistics & Management	3129.00	2882.27	2766.00	2648.20	2976.00	1895.00
	TOTAL CENTRAL SECTOR SCHEMES	216646.00	187814.01	250843.00	227141.55	248861.00	155760.93

* Actual Expenditure up to December, 2019

Indian Council of Agricultural Research (ICAR)/DARE
Achievements during 2014-19

High Yielding Varieties

- During 2014-19, 1020 stress tolerant, high yielding, agro-climatic zone specific varieties of crops were developed against 545 during 2009-14. Similarly 339 varieties of horticultural crops were developed against 269 during 2009-14.
- To address the malnutrition concerns through natural food system, 52 bio-fortified varieties of field crops were developed during 2014-19 against only one variety during 2009-14. A total 3483.8 quintals of breeder seed of 16 varieties produced during 2016-17 to 2018-19.
- Stress tolerance traits such as disease resistance, drought tolerance and submergence tolerance were transferred to high yielding background to develop 30 new varieties using molecular breeding approach.

Landmarks during 2014-19

- **Wheat** variety HD CSW18 for less water and input requirements; HD 3117 for late sown conditions for conservation agriculture system.
- **Mungbean** variety IPM 205-7 (Virat) of 52-55 days maturity with high protein content for rice-wheat system; iron rich masoor variety PusaAgetiMasoor (L 4717) of 100 days duration.
- **Pusa Mustard 30** (zero erucic acid) and Pusa Mustard 31 (Double zero) to prevent atherosclerosis, a heart ailment.
- **ArkaRakshakand ArkaSamrat**- High Yielding Tomato F₁ Hybrids with Triple Disease Resistance to Tomato Leaf Curl Virus + Bacterial Wilt + Early Blight Bred for fresh market and processing. Suitable for summer, kharif and rabi seasons

Popularization of Mega varieties

- **Pusa Basmati 1121**: Extremely popular in the foreign market due to its superior grain and cooking quality. The variety, by way of its export, earned total of Rs. 92117 crore during 2014-19 against Rs. 60482 crore during 2009-14. The export earning was Rs. 16700 crore from Pusa Basmati 1121 per year.
- **Sugarcane variety Co-238**: The average sugar recovery increased up to 12% against 8.5 to 9 in other varieties. More than 14.75 lakh hectares acreage with additional sugarcane production of 21.72 m tons and sugar production of 0.873 m tons leading to additional income of ~Rs. 65,50.50 crore million to farmers and ~Rs. 27,91.3 Cr to sugar industries, in UP, Punjab, Haryana and Bihar since 2013-14.
- **Wheat variety HD 2967**: About 10 million ha (1/3 area of the country) under this variety. Highest ever demand of breeder seed (3600 quintals during 2017-18) of a single variety in the history of Indian agriculture.

New Institutions/facilities

- Under “Act East” policy of the Government, IARI like Institution-IARI-Jharkhand and IARI-Assam established.
- Rajendra Agricultural University, Samastipur, Bihar was upgraded to Rajendra Prasad Central Agricultural University
- 6 New Colleges in North Eastern States established under CAU, Imphal taking the total number of colleges to 13.
- Mahatma Gandhi Integrated farming System Research Institute established at Motihari, Bihar
- Nanaji Deshmukh National Phenomics Facility- A precision phenotyping facility for heat tolerance studies. A state-of-the-art facility established at IARI New Delhi to understand and combat climate change impacts.

Planting material

- To promote horticultural expansion, production of quality planting materials was enhanced by 62.4 % in cuttings (from 57.2 lakh to 93.4 lakh); 71.5 % in bulbs (from 963.153 lakh to 1653.131 lakh) and 89.1 % in saplings (2710.10 to 5125.0 lakh) during 2014-19 as compared to 2009-14.

Animal Health and indigenous breeds

- In a first ever initiatives for protection of indigenous breeds, 184 registered indigenous breeds were Gazette notified on 11th October 2019. This would safeguard our indigenous breeds and help their conservation and improvement.
- Developed 10 vaccines for Animal Health during 2014-19 against 7 during 2009-14. Development of thermo tolerant FMD vaccines to make India FMD Mukta by 2024 is advanced stage.
- Developed 43 Diagnostic Kits for Animal Health and Animal Products during 2014-19 against 29 during 2009-14.
- The sero-monitoring has doubled from analysis of 420407 serum samples during 2009-2014 to 821013 samples during 2014-2019.

Fishery technologies and fish seed supply

- With a focus on ornamental fish, breeding technology was developed for 15 ornamental fish during 2014-19 against 5 during 2009-14.
- The fish fingerlings production increased by 54% from 4.8 lakh during 2009-14 to 7.4 lakh during 2014-19
- Developed 12 high value compounds and nutraceuticals for human health

Sustainable Natural Resources Management

- Developed a portable soil test kit/mini lab (Mridaparikshak) for the purpose of distributing soil health cards to farmers. More than 1096 units sold which helped achieving the targets of the SHC.
- Developed multipurpose rubber dam for watershed to reduce soil erosion, create water storage facility, and enhance ground water recharge and quick & safe disposal of sediments. Installed 43 rubber dams in 6 states (Orissa, Uttarakhand, Maharashtra, Madhya Pradesh, Gujarat and Jharkhand)
- Under NICRA, the climate resilient villages increased by almost three times from Villages 151 during 2009-14 to 446 during 2014-19. The model has been replicated in Maharashtra in 5000 villages
- ICAR provided technical backstopping for preparation of 650 District Agricultural Contingency Plans during 2014-19 against 521 during 2009-14

Farm Machineries/Crop Residue Management

- Increase in prototypes of machine by 19% from 19499 during 2009-14 to 23197 during 2014-19. The number of agro-processing centres increased over 3 times from 39 in 2009-14 to 126 during 2014-19.
- The food testing labs supported by ICAR more than doubled from 20 in 2009-14 to 45 during 2014-19.
- ICAR provided mechanized solution for rice crop residue burning. About 52% reduction in fire events during 2019 was observed through in-situ residue management using machines such as happy Seeder as compared to 2016. More than 2 lakh farmers and 40,000 students were mobilized for crop residue management

Lab to Land/Farmers Outreach

- The KVKs provided 26.85 crore mobile agro advisories during 2014-19 against 0.41 crore agro-advisories during 2009-14.
- The KVKs produced quality seeds and planting materials. The seed production increased from 10.1 lakh quintals to 14.16 lakh quintals and the planting materials from 853.15 lakh to 2425.45 lakh
- To augment the reach of the KVKs, 3.37 lakh common service centres have been linked with 717 KVKs during July-October, 2019 to provide demand driven information and services to the farmers.
- Moving towards application of ICT for farmers empowerment, ICAR developed 171 mobiles apps on different farm and farmers related services during 2014-2019 which is 19 times higher than those developed during 2009-14.

Higher Agricultural Education

- The accreditation of SAUs was started to enhance the quality of education and standards in SAUs. During 2009-14 only 4 SAUs were accredited which increased about 15 times to 59 during 2014-19.
- The Student-READY programme was launched in 2015. The stipend under Student Ready programme has been enhanced from Rs. 750 per month to Rs. 3000 per month and 452 experiential learning units have been established in the SAUs under the programme. Total 69621 students benefited due to this programme.
- Implemented National Higher Agricultural Education Project (NHAEP) enabling 210 students and 63 faculty members training aboard in cutting edge technologies and emerging areas of science and technologies and establishment of 14 centre of excellence in SAUs/Deemed Universities of ICAR.
- Emeritus Professor Scheme (100 numbers) initiated in 2016-17 to harness the potentials of experienced teachers in State Agricultural Universities.
- Netaji Subhash International Fellowship for overseas doctoral degree programme enhanced from 25 to 50.

Agri-business Incubation

- To address the much-needed requirements of business incubation for converting agriculture technologies into an attractive commercial proposition, ICAR established 50 ABIs since 2016.
- ICAR admitted 742 entrepreneurs for incubation during 2014-19 against 611 during 2009-2014. While only 53 start-ups initiated their business during 2009-14, the number soared up to 501 during 2014-19.

Annexure-4

[Part (e) of Lok Sabha USQ No.1964 for 03/03/2020]

Item	1950-51 Production in Million Tonnes	2016-17 Production in Million Tonnes	Times Increase (X)
Food grains	50.83	273.38	5.38
Pulses	8.41	22.40	2.66
Oilseeds	5.16	32.52	6.30
Cotton	0.52	5.54	10.73
Sugarcane	57.05	306.03	5.36
Horticulture	96.56 (1991-92 level)	295.16	3.06
Milk	17.00	163.74	9.63
Fish	0.75	10.80	14.36
Egg	1830	87050	47.57
Meat	1.9 (1998-99 level)	7.37	3.88
