

## (A) DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION

### APPENDIX I

#### SUBJECTS ALLOCATED TO DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION (KRISHI ANUSANDHAN AUR SHIKSHA VIBHAG)

##### Part I

The following subjects which fall within List I of the Seventh Schedule to the Constitution of India:

1. International cooperation and assistance in the field of agricultural research and education including relations with foreign and international agricultural research and education institutions and organizations.
2. Fundamental, applied and operational research and higher education including coordination of such research and higher education in agriculture, agroforestry, animal husbandry, dairying, fisheries, agricultural engineering and horticulture including agricultural statistics, economics and marketing.
3. Coordination and determination of standards in institutions for higher education or research and scientific and technical institutions in so far as they relate to food and agriculture including animal husbandry, dairying and fisheries. Development of Human Resources in Agricultural Research/Extensions and Education.
4. Cess for financing to the Indian Council of Agricultural Research and the Commodity Research Programmes other than those relating to tea, coffee and rubber.
5. Sugarcane research.

##### Part II

For Union Territories the subjects mentioned in Part I above, so far as they exist in regard to these Territories and in addition the following subject which falls within List II of the Seventh Schedule to the Constitution of India:

6. Agricultural Education and Research

##### Part III

General and consequential:

7. Plant, animal and fish introduction and exploration.
8. All India Soil and Land Use Survey relating to research, training, co-relation, classification, soil mapping and interpretation.
9. Financial assistance to State Governments and Agricultural Universities in respect of agricultural research and educational schemes and programmes.
10. National Demonstrations.
11. Indian Council of Agricultural Research and its constituent Institutes, National Research Centres, Project Directorates, Bureaux and All India Coordinated Research Projects.
12. Research and Development on production and improvement of bio-fuel plants.

## APPENDIX II

## TOTAL NUMBER OF POSTS AND NAMES OF IMPORTANT FUNCTIONARIES

Group	Designation	Sanctioned strength
A	Secretary, DARE and DG, ICAR	1
A	Additional Secretary, DARE and Secretary, ICAR	1
A	Additional Secretary and Financial Advisor	1
A	Director	1
A	Deputy Secretary	1
A	Senior Principal Private Secretary/Principal Staff Officer	1
A	Joint Director	1
A	Under Secretary	7
A	Principal Private Secretary	3
B	Assistant Director (OL)	1
B	Private Secretary	3
B	Section Officer	4
B	Assistant	5
B	Personal Assistant/Steno Grade 'C'	3
B	Junior Hindi Translator	1
C	UDC-cum-Cashier	1
C	UDC	1
C	Stenographer Grade 'D'	3
C	UDC-Hindi Typist	1
C	Staff Car Driver	2
C	LDC	1
D	Daftry	1
D	Peon	5
	Total	49

## NAMES OF THE IMPORTANT FUNCTIONARIES

Sl.No.	Name	Designations
1.	Dr. S. Ayyappan	Secretary, DARE & DG, ICAR
2.	Shri R. Rajagopal	Additional Secretary, DARE and Secretary, ICAR
3.	Shri P.K. Pujari	Special Secretary and Financial Advisor
4.	Shri Ravinesh Kumar	Director
5.	Smt. Niranjana Kaur	Deputy Secretary
6.	Shri Mohinder Kumar	Sr. PPS
7.	Shri R.C. Yadav	Under Secretary
8.	Smt. Alka Ahuja	Under Secretary
9.	Shri Harihar Mishra	Under Secretary
10.	Shri Irsad Alam	Under Secretary
11.	Shri V.K. Singh	Under Secretary
12.	Shri Vijay Singh	Under Secretary
13.	Shri Jitendra Misra	Under Secretary
14.	Shri A.K. Bhardwaj	Principal Private Secretary
15.	Shri V. Kurien John	Principal Private Secretary
16.	Dr. Puran Singh	Assistant Director (OL)

## APPENDIX III

## ACTIVITY PROGRAMME CLASSIFICATION

The Budget Estimates (BE) of DARE/ICAR (Plan and Non-Plan) for 2013–14 is ₹ 3,415.00 crores and ₹ 2,314.17 crores respectively and Revised Estimates (RE) of DARE/ICAR (Plan and Non-Plan) for 2013–14 is ₹ 2,600.00 and ₹ 2,281.08 crores respectively. The BE for 2014–15 (Plan and Non-Plan) is ₹ 3,715.00 crore and ₹ 2,429.39 crore. The detailed break-up of these financial figures are given below in Table 1.

Department of Agricultural Research and Education (DARE): The details in respect of BE and RE for 2013–14 and BE for 2014–15 are given in Table 1. This excludes the payment to the ICAR.

Table 1. Budget estimates and revised estimates of DARE/ICAR

(Rupees in lakh)

Budget head	Item	Budget Estimates 2013–2014		Revised Estimates 2013–2014		Budget Estimates 2014–2015	
		Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
Major Head '3451'							
090	Secretariat	–	490.00	–	490.00	–	581.00
Major Head '2415'							
80	-General						
(010032)	International Co-operation contribution to Commonwealth Agricultural Bureau International (CABI)	–	35.25	–	21.00	–	22.95
(020032)	-India's membership contribution to Consultative Group on International Agricultural Research	–	400.00	–	470.52	–	470.00
03	-Other programmes						
040032	-India's contribution to Asia Pacific Association of Agricultural Institutions	–	5.25	–	6.03	–	6.30
(050032)	-India's contribution to NACA	–	31.00	–	39.00	–	40.00
(060032)	-India's contribution to CGPRT	–	8.00	–	7.80	–	00.00
(070032)	-India's contribution to Seed Testing Associations	–	3.25	–	3.40	–	3.50
(080032)	-ISHS Belgium	–	0.25	–	0.25	–	0.25
Major head "2415"							
02	Grant-in-Aid Central Agricultural University Bundelkhand						
120	Assistance to other institutions						
(020031)	-Grants-in-Aids-General	200.00	–	0.34	–	100.00	–
(020035)	-Grants for creation of Capital assets	4,600.00	–	0.33	–	800.00	–
(020036)	-Grants-in-Aids-Salaries	200.00	–	0.33	–	100.00	–
(03)	-Grants-in-Aids to Central Agricultural University, Bihar						
(030031)	-Grants-in-Aids-General	900.00	–	0.34	–	100.00	–
(030035)	-Grant for creation of Capital Assets	900.00	–	0.34	–	200.00	–
(030036)	-Grants-in-Aids-Salaries	1,200.00	–	0.33	–	700.00	–
Major Head '2552'	North Eastern Areas						
259	-General (Agricultural Research and Education Schemes)						
(01)	-Grants-in-Aids to Central Agricultural University, Imphal						
010031	-Grants-in-Aids-General CAU, Imphal	1,089.90	–	1,129.00	–	1,619.00	–
010035	-Grants-in-Aids-Capital CAU, Imphal	3,760.80	–	5,315.00	–	7,930.00	–
010036	Grants-in-Aids-Salaries	5,049.30	–	5,555.00	–	7,351.00	–
02	Grant-in-Aids Central Agricultural University, Barapani						
020031	Grants in Aids General	20.00	–	0.34	–	20.00	–
020035	Grant for creation of Capital Assets	60.00	–	0.33	–	20.00	–
020036	Grants-in-Aids-Salaries	20.00	–	0.33	–	60.00	–
<b>Total</b>		<b>18,000.00</b>	<b>973.00</b>	<b>12,002.00</b>	<b>1,038.00</b>	<b>19,000.00</b>	<b>1,124.00</b>

**Table 2. Details of financial outlay  
Demand No. 2 Department of Agricultural Research and Education**

*The gross provision for Demand No. 2 - DARE, excluding*

*(Rupees In crore)*

Particulars	Actuals 2012-13			Budget 2013-2014			Revised 2013-2014			Budget 2014-2015		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Revenue	2519.09	2095.98	4615.07	3415.00	2314.17	5729.17	2600.00	2281.08	4881.08	3715.00	2429.39	6144.39
Capital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>2519.09</b>	<b>2095.98</b>	<b>4615.07</b>	<b>3415.00</b>	<b>2314.17</b>	<b>5729.17</b>	<b>2600.00</b>	<b>2281.08</b>	<b>4881.08</b>	<b>3715.00</b>	<b>2429.39</b>	<b>6144.39</b>

**Recoveries**

*(In crores of Rupees)*

Particulars	Actuals 2011-12			Budget 2012-2013			Revised 2012-2013			Budget 2013-2014		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
<i>Less Amount met from Social and Infrastructure Development Fund</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**A. The Budget allocations, net of recoveries and receipts, are given below:**

*(In crores of Rupees)*

Sl. No.	Group/Sub Group/Sub Scheme/Sub Programme	Major Head	Actuals 2012-2013			Budget 2013-2014			Revised 2013-2014			Budget 2014-2015		
			Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
	Revenue		2461.44	2048.31	4509.75	3415.00	2314.17	5729.17	2600.00	2281.08	4881.08	3715.00	2429.39	6144.39
	Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3715.00	0.00	3715.00
	<b>Total</b>		<b>2461.44</b>	<b>2048.31</b>	<b>4509.75</b>	<b>3415.00</b>	<b>2314.17</b>	<b>5729.17</b>	<b>2600.00</b>	<b>2281.08</b>	<b>4881.08</b>	<b>3715.00</b>	<b>2429.39</b>	<b>6144.39</b>
1.	Secretariat - Economic Service	3451	0.00	3.57	3.57	0.00	4.90	4.90	0.00	4.90	4.90	0.00	5.81	5.81
	<b>Agricultural Research and Education</b>													
	<b>Payments to Indian Council of Agricultural Research (ICAR)</b>													
2.	<i>Crop Husbandry</i>													
2.01	Payments of net proceeds of cess under Agricultural Produce Cess Act, 1940	2415	0.00	0.50	0.50	0.00	0.25	0.25	0.00	0.70	0.70	0.00	0.50	0.50
2.02	Other Programmes of Crop Husbandry													
2.02.01	Crop Science	2415	410.00	621.87	1031.87	453.00	694.79	1147.79	365.00	682.93	1047.93	458.00	737.04	1195.04
2.02.02	Horticulture	2415	145.00	242.33	387.33	186.00	269.91	455.91	143.00	269.40	412.40	200.00	290.96	490.96
2.02.03	Agricultural Extension	2415	450.00	3.90	453.90	462.00	4.05	466.05	476.00	3.53	479.53	522.00	3.75	525.75
2.02.04	Agricultural Education				0.00			0.00			0.00			0.00
2.02.04.01	Agricultural Education	2415	546.00	46.54	592.54	455.00	55.39	510.39	390.00	46.53	436.53	530.00	54.12	584.12
2.02.04.02	<i>Less Amount met from Social and Infrastructure Development Fund</i>	2415	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.02.05	Economic Statistics and Management	2415	3.50	32.87	36.37	10.00	38.02	48.02	6.00	33.10	39.10	30.00	37.28	67.28

(Table 2 continued)

(Rupees In crore)

Sl. No.	Group/Sub Group/Sub Sub Group/ Scheme/Sub Scheme/Programme/ Sub Programme	Major Head	Actuals 2012-2013			Budget 2013-2014			Revised 2013-2014			Budget 2014-2015		
			Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
2.02.06	Agricultural Engineering	2415	52.00	79.50	131.50	72.00	92.24	164.24	50.00	91.11	141.11	82.00	96.01	178.01
2.02.07	ICAR Hqr. Admn. including Agricultural Scientists Recruitment Board, Directorate of Information & Publication in Agriculture, Intellectual Property Rights Management and Consortia Research Platforms	2415	96.00	141.94	237.94	395.00	121.31	516.31	100.00	125.02	225.02	400.00	130.30	530.30
2.02.08	National Fund for Basic, Strategic and Frontier Application Research in Agriculture	2415	55.00	0.00	55.00	75.00	0.00	75.00	110.00	0.00	110.00	121.00	0.00	121.00
2.02.09	National Agricultural Innovation Project/Externally Aided Project	2415	150.00	0.00	150.00	385.00	0.00	385.00	223.00	0.00	223.00	99.00	0.00	99.00
2.02.10	Agricultur University, Andhra Pradesh	2415	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00
2.02.11	Horticulture University, Telengana	2415	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00
	<b>Total-Other Programmes of Crop Husbandry</b>		<b>1907.50</b>	<b>1168.95</b>	<b>3076.45</b>	<b>2493.00</b>	<b>1275.71</b>	<b>3768.71</b>	<b>1863.00</b>	<b>1251.62</b>	<b>3114.62</b>	<b>2642.00</b>	<b>1349.46</b>	<b>3991.46</b>
	<b>Total-Crop Husbandry</b>		<b>1907.50</b>	<b>1169.45</b>	<b>3076.95</b>	<b>2493.00</b>	<b>1275.96</b>	<b>3768.96</b>	<b>1863.00</b>	<b>1252.32</b>	<b>3115.32</b>	<b>2642.00</b>	<b>1349.96</b>	<b>3991.96</b>
3.	<i>Soil and Water Conservation</i>													
3.01	Soil and Water Conservation Research Institute	2415	3.00	32.54	35.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.02	Other Natural Resource Management Institutes including Agro-Forestry Research	2415	182.00	256.77	438.77	175.00	324.54	499.54	160.00	320.42	480.42	200.00	347.64	547.64
3.03	Climate Resilient Agriculture Initiative	2415	75.00	0.00	75.00	80.00	0.00	80.00	65.00	0.00	65.00	95.00	0.00	95.00
3.04	National Adaptation Fund	2415	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.00
	<b>Total-Soil and Water Conservation</b>		<b>260.00</b>	<b>289.31</b>	<b>549.31</b>	<b>255.00</b>	<b>324.54</b>	<b>579.54</b>	<b>225.00</b>	<b>320.42</b>	<b>545.42</b>	<b>385.00</b>	<b>347.64</b>	<b>732.64</b>
4.	<i>Animal Husbandry</i>	2415	194.00	414.65	608.65	205.00	465.60	670.60	179.98	465.50	645.48	215.00	477.73	692.73
5.	<i>Fisheries</i>	2415	69.00	217.99	286.99	80.00	238.34	318.34	67.00	232.46	299.46	92.00	242.82	334.82
6.	<i>National Institute for Biotic Stress Management</i>	2415	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.	<i>Indian Institute of Agricultural Biotechnology</i>	2415	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total-Payments to Indian Council of Agricultural Research (ICAR)</b>		<b>2433.50</b>	<b>2091.40</b>	<b>4524.90</b>	<b>3033.00</b>	<b>2304.44</b>	<b>5337.44</b>	<b>2334.98</b>	<b>2270.70</b>	<b>4605.68</b>	<b>3334.00</b>	<b>2418.15</b>	<b>5752.15</b>

(Table 2 continued)

(Rupees in crore)

Sl. No.	Group/Sub Group/Sub Scheme/Sub Programme/ Sub Programme	Major Head	Actuals 2012-2013			Budget 2013-2014			Revised 2013-2014			Budget 2014-2015		
			Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
8.	Contributions to Commonwealth Agricultural Bureau, Consultative Group on International Agricultural Research and Association of Asia Pacific Agricultural Research Institutions	2415	85.59	4.58	90.17	0.00	4.83	4.83	0.00	5.48	5.48	0.00	5.43	5.43
9.	Central Agricultural University, Bundelkhand	2415	0.00	0.00	0.00	50.00	0.00	50.00	0.01	0.00	0.01	10.00	0.00	10.00
10.	Central Agricultural University, Bihar	2415	0.00	0.00	0.00	30.00	0.00	30.00	0.01	0.00	0.01	10.00	0.00	10.00
11.	Lumpsum provision for projects/ schemes for the benefit of North Eastern Region and Sikkim	2552	0.00	0.00	0.00	302.00	0.00	302.00	265.00	0.00	265.00	361.00	0.00	361.00
	<b>Total-Agricultural Research and Education</b>		<b>2519.09</b>	<b>2095.98</b>	<b>4615.07</b>	<b>3415.00</b>	<b>2309.27</b>	<b>5724.27</b>	<b>2600.00</b>	<b>2276.18</b>	<b>4876.18</b>	<b>3715.00</b>	<b>2423.58</b>	<b>6138.58</b>
12.	Actual Recoveries	2415	-57.65	-51.24	-108.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Grand Total</b>		<b>2461.44</b>	<b>2048.31</b>	<b>4509.75</b>	<b>3415.00</b>	<b>2314.17</b>	<b>5729.17</b>	<b>2600.00</b>	<b>2281.08</b>	<b>4881.08</b>	<b>3715.00</b>	<b>2429.39</b>	<b>6144.39</b>
<b>Major Head-wise Totals</b>			<b>Actuals 2011-2012</b>			<b>Budget 2012-2013</b>			<b>Revised 2012-2013</b>			<b>Budget 2013-2014</b>		
			<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>	<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>	<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>	<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>
		2415.00	2519.09	2095.98	4615.07	3415.00	2309.27	5724.27	2600.00	2276.18	4876.18	3715.00	2423.58	6138.58
		2552.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		3451.00	0.00	3.57	3.57	0.00	4.90	4.90	0.00	4.90	4.90	0.00	5.81	5.81
	<b>Total</b>		<b>2519.09</b>	<b>2099.55</b>	<b>4618.64</b>	<b>3415.00</b>	<b>2314.17</b>	<b>5729.17</b>	<b>2600.00</b>	<b>2281.08</b>	<b>4881.08</b>	<b>3715.00</b>	<b>2429.39</b>	<b>6144.39</b>

**(B) INDIAN COUNCIL OF AGRICULTURAL RESEARCH****APPENDIX 1****INDIAN COUNCIL OF AGRICULTURAL RESEARCH SOCIETY**

- i) *Minister-in-charge of the portfolio of Agriculture in the Union Cabinet- President of the Society.*
1. Shri Radha Mohan Singh *Ex-Officio*  
Minister for Agriculture  
Krishi Bhavan, New Delhi-110 001
- ii) *Minister of State in the Union Ministry of Agriculture dealing with the ICAR- Vice-President.*
2. Dr Sanjeev Kumar Balyan *Ex-Officio*  
Minister of State for Agriculture  
Krishi Bhavan, New Delhi-110 001
- iii) *Union Ministers holding charge of Finance, Planning, Science & Technology, Education and Commerce (in case the Prime Minister is holding any of these portfolios, the Minister of State in the Ministry/Department concerned)*
3. Shri Arun Jaitley *Ex-Officio*  
Minister for Finance  
Government of India,  
North Block, New Delhi-110 001
4. Shri Inderjit Singh Rao *Ex-Officio*  
Minister of State for Planning  
Government of India,  
Yojna Bhawan, New Delhi-110 001
5. Dr Harsh Vardhan *Ex-Officio*  
Minister for Science & Technology  
Government of India,  
CSIR Building, 2 Rafi Marg,  
New Delhi-110 001
6. Smt Smriti Zubin Irani *Ex-Officio*  
Minister for Human Resource Development  
Shastri Bhavan, New Delhi-110 001
7. Smt Nirmala Sitharaman *Ex-Officio*  
Minister of State for Commerce  
& Industry, Government of India,  
Udyog Bhavan, New Delhi-110 001
- iv) *Other Ministers in the Union Ministry of Agriculture.*
8. Shri Mohan Bhai Kundariya  
Minister of State for Agriculture  
Krishi Bhavan, New Delhi-110 001
- v) *Ministers in the States in-charge of Agriculture / Horticulture / Animal Husbandry / Fisheries*
- ANDHRA PRADESH**
9. Sri Prathipati Pulla Rao *Ex-Officio*  
Minister for Agriculture and Animal  
Husbandry & Fisheries,  
Government of Andhra Pradesh,  
A.P. Secretariat  
Hyderabad, Andhra Pradesh-500 022
10. Sri N. Chandrababu Naidu *Ex-Officio*  
Chief Minister holding the Charge of  
Horticulture, Government of  
Andhra Pradesh, A.P. Secretariat  
Hyderabad, Andhra Pradesh-500 022
- ARUNACHAL PRADESH**
11. Shri Chowna Mein *Ex-Officio*  
Minister for Agriculture, Horticulture  
& Animal Husbandry  
Government of Arunachal Pradesh  
CM Secretariat,  
Itanagar, Arunachal Pradesh-791 111
- ASOM**
12. Shri Nilamoni Sen Deka *Ex-Officio*  
Minister for Agriculture & Horticulture  
Government of Asom,  
Janta Bhavan, Dispur,  
Guwahati, Asom-781 006
13. Shri Khor Sing Engti *Ex-Officio*  
Minister for Animal Husbandry  
Government of Asom,  
Janta Bhavan, Dispur,  
Guwahati, Asom-781 006
14. Shri Basanta Das *Ex-Officio*  
Minister for Fisheries,  
Government of Asom,  
Janta Bhavan, Dispur,  
Guwahati, Asom-781 006
- BIHAR**
15. Shri Narendra Singh *Ex-Officio*  
Minister for Agriculture  
Government of Bihar,  
Vikas Bhavan, New Secretariat,  
Bailey Road, Patna, Bihar-800 015
16. Shri Baidyanath Sahnii *Ex-Officio*  
Minister for Animal Husbandry &  
Fisheries Resources,  
Government of Bihar,  
Vikas Bhavan, New Secretariat,  
Bailey Road, Patna, Bihar-800 015
- CHHATISGARH**
17. Shri Chandrasekhar Sahu *Ex-Officio*  
Minister for Agriculture, Animal  
Husbandry & Fisheries,  
Government of Chhattisgarh,  
Sachivalaya, Raipur (Chattisgarh).
- DELHI**
18. Vacant
- GOA**
19. Shri Ramesh Tawadhar *Ex-Officio*  
Minister of Agriculture & Animal  
Horticulture,  
Government of Goa, Secretariat,  
Panaji, Goa-403 001
20. Shri Avertano Furtado *Ex-Officio*  
Minister for Fisheries  
Government of Goa, Secretariat,  
Panaji, Goa-403 001
- GUJARAT**
21. Shri Babubhai Bokhiria *Ex-Officio*  
Minister for Agriculture,  
Fisheries & AH  
Government of Gujarat,  
Sachivalaya,  
Gandhinagar, Gujarat-382 010
- HARYANA**
22. Shri Om Prakash Dhankar *Ex-Officio*  
Minister for Agriculture, Fisheries & AH  
Government of Haryana,  
Haryana Civil Secretariat,  
Chandigarh, Haryana

**HIMACHAL PRADESH**

- 23 Shri Anil Kumar *Ex-Officio*  
Minister of Animal Husbandry  
Government of Himachal Pradesh,  
H.P. Secretariat,  
Shimla, Himachal Pradesh-171 002
- 24 Shri Sujan Singh Pathania *Ex-Officio*  
Minister for Agriculture,  
Government of Himachal Pradesh,  
H.P. Secretariat,  
Shimla, Himachal Pradesh-171 002
- 25 Smt. Vidya Stokes *Ex-Officio*  
Minister for Horticulture,  
Government of Himachal Pradesh,  
H.P. Secretariat,  
Shimla, Himachal Pradesh-171 002
- 26 Shri Thakur Singh Bharmouri *Ex-Officio*  
Minister for Fisheries  
Government of Himachal Pradesh,  
H.P. Secretariat,  
Shimla, Himachal Pradesh-171 002

**JAMMU & KASHMIR**

- 27 Minister for Agriculture Production *Ex-Officio*  
Government of Jammu & Kashmir,  
Civil Secretariat, Jammu  
Jammu & Kashmir-180 001
- 28 Minister for Horticulture, *Ex-Officio*  
Government of Jammu & Kashmir,  
Civil Secretariat, Jammu  
Jammu & Kashmir-180 001
- 29 Minister of State for Animal Husbandry, *Ex-Officio*  
Government of Jammu & Kashmir,  
Civil Secretariat, Jammu  
Jammu & Kashmir-180 001
- 30 Minister of State for Fisheries *Ex-Officio*  
Government of Jammu & Kashmir,  
Civil Secretariat, Jammu  
Jammu & Kashmir-180 001

**JHARKHAND**

- 31 Minister for Agriculture *Ex-Officio*  
Government of Jharkhand,  
Project Building HEC, Dhurva,  
Ranchi, Jharkhand-834 002
- 32 Minister for Animal Husbandry & *Ex-Officio*  
Fisheries, Government of Jharkhand,  
Project Building HEC, Dhurva,  
Ranchi, Jharkhand-834 002

**KARNATAKA**

- 33 Shri Shamanur Shivashankarappa *Ex-Officio*  
Minister of Agriculture & Horticulture,  
Government of Karnataka,  
Vidhan Soudha, Bengaluru  
Karnataka-560 001
- 34 Shri K. Abhayachandra Jain *Ex-Officio*  
Minister of Fisheries  
Government of Karnataka,  
Vidhan Soudha, Bengaluru  
Karnataka-560 001

**KERALA**

- 35 Shri K.P. Mohanan *Ex-Officio*  
Minister for Agriculture & Animal  
Husbandry, Government of Kerala  
Secretariat Annexe  
Thiruvananthapuram, Kerala-695 001
- 36 Shri K. Babu *Ex-Officio*  
Minister for Fisheries,  
Government of Kerala  
North Block, Secretariat  
Thiruvananthapuram, Kerala-695 001

**MADHYA PRADESH**

- 37 Shri Gaurishankar Chaturbhuj Bisen *Ex-Officio*  
Minister of Agriculture Development  
Government of Madhya Pradesh,  
Vallabh Bhavan,  
Bhopal, Madhya Pradesh -423 006
- 38 Sushri Kusum Mehdele *Ex-Officio*  
Minister of Horticulture, Fisheries  
& Animal Husbandry,  
Government of Madhya Pradesh,  
Vallabh Bhavan,  
Bhopal, Madhya Pradesh -423 006

**MAHARASHTRA**

- 39 Shri Eknathrao Ganpatrao Khadse *Ex-Officio*  
Minister for Agriculture, Animal  
Husbandry & Fisheries,  
Government of Maharashtra,  
Mantralaya,  
Mumbai, Maharashtra-400 032

**MANIPUR**

- 40 Shri Gaikhangam *Ex-Officio*  
Dy. Chief Minister holding the Charge  
of Horticulture  
Government of Manipur,  
Secretariat,  
Imphal, Manipur-795 001
- 41 Shri Mohammed Abdul Nasir *Ex-Officio*  
Minister for Agriculture & Fisheries  
Government of Manipur,  
Secretariat,  
Imphal, Manipur-795 001
- 42 Shri Govindas Konthoujam *Ex-Officio*  
Minister for Animal Husbandry  
Government of Manipur,  
Secretariat,  
Imphal, Manipur-795 001

**MEGHALAYA**

- 43 Dr Mukul Sangma *Ex-Officio*  
Chief Minister holding the Charge of  
Agriculture, Horticulture & Fisheries  
Government of Meghalaya,  
Meghalaya Secretariat (C),  
Shillong, Meghalaya-793 001
- 44 Smt Deborah C. Marak *Ex-Officio*  
Minister for Animal Husbandry  
Government of Meghalaya,  
Meghalaya Secretariat (C),  
Shillong, Meghalaya-793 001

**MIZORAM**

- 45 Shri R. Lalziriana *Ex-Officio*  
Minister for Agriculture,  
Government of Mizoram,  
Aizwal, Mizoram - 796 001
- 46 Shri P.C. Lalthanliana *Ex-Officio*  
Minister for Horticulture,  
Government of Mizoram,  
Aizwal, Mizoram - 796 001
- 47 Shri C. Ngunlianchunga *Ex-Officio*  
Minister of State for Animal Husbandry,  
Government of Mizoram,  
Aizwal, Mizoram - 796 001
- 48 Shri B.D. Chakma *Ex-Officio*  
Minister of State for Fisheries,  
Government of Mizoram,  
Aizwal, Mizoram - 796 001

**NAGALAND**

- 49 Dr Benjongliba *Ex-Officio*  
Minister of State for Agriculture,  
Government of Nagaland,  
Civil Secretariat Complex  
Kohima, Nagaland-797 004
- 50 Shri Neiba Kronu *Ex-Officio*  
Minister of State for Horticulture,  
Government of Nagaland,  
Civil Secretariat Complex  
Kohima, Nagaland-797 004
- 51 Shri Yitachu *Ex-Officio*  
Minister of State for Animal Husbandry,  
Government of Nagaland,  
Civil Secretariat Complex  
Kohima, Nagaland-797 004
- 52 Shri Shetoyi *Ex-Officio*  
Minister of State for Fisheries,  
Government of Nagaland,  
Civil Secretariat Complex  
Kohima, Nagaland-797 004

**ODISHA**

- 53 Shri Pradeep Maharathy *Ex-Officio*  
Minister for Agriculture, Fisheries &  
Animal Resource Development,  
Government of Odisha,  
Odisha Secretariat,  
Bhubaneshwar, Odisha-751 001

**PUNJAB**

- 54 Shri Prakash Singh Badal *Ex-Officio*  
Chief Minister holding the charge of  
Agriculture,  
Government of Punjab,  
Punjab Civil Secretariat,  
Chandigarh, Punjab
- 55 Shri Ajit Gulzar Singh Ranike *Ex-Officio*  
Minister for AH & Fisheries  
Government of Punjab,  
Punjab Civil Secretariat,  
Chandigarh, Punjab

**PUDUCHERRY**

- 56 Shri M. Chandrakasu *Ex-Officio*  
Minister for Agriculture,  
& Animal Husbandry  
Government of Puducherry,  
Puducherry-605 001
- 57 Shri N.G. Pannirselvam *Ex-Officio*  
Minister for Fisheries  
Government of Puducherry,  
Puducherry-605 001

**RAJASTHAN**

- 58 Shri Prabhu Lal Saini *Ex-Officio*  
Minister for Agriculture, Horticulture,  
Animal Husbandry & Fisheries,  
Government of Rajasthan,  
Rajasthan Secretariat,  
Jaipur, Rajasthan - 302 005.

**SIKKIM**

- 59 Shri Somnath Poudyal *Ex-Officio*  
Minister for Agriculture Development  
& Horticulture,  
Government of Sikkim,  
Secretariat,  
Gangtok, Sikkim-737 101
- 60 Shri Arjun Kumar Ghatani *Ex-Officio*  
Minister for AH & Fisheries  
Government of Sikkim,  
Secretariat,  
Gangtok, Sikkim-737 101

**TAMIL NADU**

- 61 Shri Agri S.S. Krishnamoorthy *Ex-Officio*  
Minister for Agriculture & Horticulture  
Government of Tamil Nadu,  
Chennai, Tamil Nadu-600 009
- 62 Shri K.A. Jayapal *Ex-Officio*  
Minister for Fisheries,  
Government of Tamil Nadu,  
Chennai, Tamil Nadu-600 009
- 63 Shri T.K.M. Chinnayya *Ex-Officio*  
Minister for Animal Husbandry,  
Government of Tamil Nadu,  
Chennai, Tamil Nadu-600 009

**TELANGANA**

- 64 Sri Pocharam Srinivas Reddy *Ex-Officio*  
Minister of Agriculture, Horticulture  
Animal Husbandry & Fisheries,  
Room No.261,D-Block  
Government of Andhra Pradesh,  
A.P. Secretariat  
Hyderabad, Andhra Pradesh-500 022

**TRIPURA**

- 65 Shri Aghore Debbarma *Ex-Officio*  
Minister for Agriculture, Horticulture  
& Animal Resource Development,  
Government of Tripura,  
Civil Secretariat,  
Agartala, Tripura-799 001
- 66 Shri Khagendra Jamatia, *Ex-Officio*  
Minister for Fisheries,  
Government of Tripura,  
Civil Secretariat,  
Agartala, Tripura-799 001

**UTTARAKHAND**

- 67 Shri Harak Singh Rawat *Ex-Officio*  
Minister for Agriculture & Horticulture  
Government of Uttarakhand,  
Dehra Dun, Uttarakhand
- 68 Shri Pritam Singh Panwar *Ex-Officio*  
Minister for AH & Fisheries  
Government of Uttarakhand,  
Dehra Dun, Uttarakhand

**UTTAR PRADESH**

- 69 Shri Rajkishor Singh *Ex-Officio*  
Minister of Animal Husbandry,  
Government of Uttar Pradesh,  
UP Civil Secretariat,  
Lucknow-226 001, Uttar Pradesh
- 70 Shri Rajiv Kumar Singh *Ex-Officio*  
Minister of State for Agriculture,  
Government of Uttar Pradesh,  
Sachivalaya Annexe,  
Vidhan Sabha Marg,  
Lucknow-226 001, Uttar Pradesh
- 71 Shri Iqbal Mahmud *Ex-Officio*  
Minister of Fisheries  
Government of Uttar Pradesh,  
Sachivalaya Annexe, Vidhan Sabha Marg,  
Lucknow-226 001, Uttar Pradesh
- 72 Shri Paras Nath Yadav *Ex-Officio*  
Minister for Horticulture,  
Government of Uttar Pradesh,  
Sachivalaya Annexe,  
Vidhan Sabha Marg,  
Lucknow-226 001, Uttar Pradesh

## WEST BENGAL

73	Sri Purnendu Basu Minister for Agriculture, Government of West Bengal, Writers' Building, Kolkata, West Bengal-700 001	<i>Ex-Officio</i>			
74	Sri Swapan Debnath Minister for Animal Resources (Independent Charge), Government of West Bengal, Writers' Building, Kolkata, West Bengal-700 001	<i>Ex-Officio</i>			
75	Sri Chandranath Sinha Minister for Fisheries Development Department, Government of West Bengal, Writers' Building, Kolkata, West Bengal-700 001	<i>Ex-Officio</i>			
76	Sri Krishnendu Narayan Choudhury Minister for Horticulture Government of West Bengal, Writers Building, Kolkata, West Bengal-700 001	<i>Ex-Officio</i>			
vi) <i>Member, Niti Ayog In-charge of Agriculture.</i>					
77	Vacant Member (Agriculture) Planning Commission, Yojana Bhawan, New Delhi-110 001	<i>Ex-Officio</i>			
vii) <i>Six members of Parliament—four elected by Lok Sabha and two elected by Rajya Sabha.</i>					
78	Smt. Renuka Chowdhury Member of Parliament (RS), H.No.8-1-116, Khanapuram(V) Khammam Urban(M), Khammam District, Andhra Pradesh-507 002 Smt. Renuka Chowdhury Member of Parliament (RS), 76, Lodhi Estate, New Delhi-110 003		2 April 2018		
79	Shri D. Bandyopadhyay Member of Parliament (RS), GD - 89, Sector - III, Salt Lake, Kolkata, West Bengal - 700 106 Shri D. Bandyopadhyay Member of Parliament (RS), C-202, Swarna Jayanti Apartments, Dr. B.D. Marg, New Delhi - 110 001		18 August 2017		
80	Shri Dushyant Chautala Member of Parliament (LS), 18, Janpath, New Delhi - 110001		Till the expiry of term in Lok Sabha		
81	Shri Sanjay Dhotre Member of Parliament (LS), B-801, MS Flats, B.K.S. Marg, New Delhi - 110001		-do-		
82	Shri Raju Shetti Member of Parliament (LS), 226, North Avenue, New Delhi - 110001		-do-		
83	Shri Ravneet Singh Member of Parliament (LS), 28, Dr. Rajendra Prasad Road, New Delhi - 110001.		-do-		
viii) <i>Director-General, Indian Council of Agricultural Research.</i>					
84.	Dr S. Ayyappan Director-General, ICAR, Krishi Bhavan, New Delhi-110 001	<i>Ex-Officio</i>			
ix) <i>All Secretaries in the Ministry of Agriculture.</i>					
85	Shri Ashish Bahuguna Secretary (Agriculture & Cooperation) Deptt. of Agriculture & Cooperation Krishi Bhavan, New Delhi-110 001	<i>Ex-Officio</i>			
86	Shri A.K. Thakur Secretary (ADF) Department of Animal Husbandry, Dairying & Fisheries, Krishi Bhavan, New Delhi-110 001	<i>Ex-Officio</i>			
x) <i>Secretary, Niti Ayog</i>					
87	Ms. Sindhushree Khullar Secretary, Planning Commission Yojana Bhavan, Sansad Marg, New Delhi-110 001	<i>Ex-Officio</i>			
xi) <i>Secretary, Department of Bio-Technology.</i>					
88	Prof. K. Vijay Raghavan Secretary, Department of Biotechnology, Block 2, 7 <sup>th</sup> Floor, CGO Complex, Lodhi Road, New Delhi-110 003	<i>Ex-Officio</i>			
xii) <i>Director-General, Council of Scientific and Industrial Research</i>					
89	Dr. P.S. Ahuja Director General, Council of Scientific and Industrial Research, Anusandhan Bhavan, 2-Rafi Ahmed Kidwai Marg, New Delhi-110 001	<i>Ex-Officio</i>			
xiii) <i>Chairman, University Grants Commission</i>					
90	Prof. Ved Prakash Chairman, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-110 002	<i>Ex-Officio</i>			
xiv) <i>Chairman, Atomic Energy Commission (or Director, Bhabha Atomic Research Centre, if nominated by the Chairman, Atomic Energy Commission)</i>					
91	Dr. R.K. Sinha Chairman, Atomic Energy Commission & Secretary to the Govt. of India, Department of Atomic Energy, Anushakti Bhavan, Chhatrapati Shivaji Maharaj Marg, Mumbai-400 001	<i>Ex-Officio</i>			
xv) <i>Member, Finance (Secretary/ Additional Secretary) in the Ministry of Finance, Government of India</i>					
92	Smt. Anjuly Chib Duggal, Additional Secretary (Expenditure) Department of Expenditure, Ministry of Finance, North Block New Delhi-110 001	<i>Ex-Officio</i>			
xvi) <i>Four Vice-Chancellors of Agricultural Universities, nominated by the President.</i>					
93	Dr. B.S. Dhillon, Vice Chancellor, Punjab Agricultural University, Ludhiana, Punjab - 141 004			10 July 2015	
94	VACANT				
95	Dr. K.E. Lawande Vice Chancellor, Dr Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, District-Ratnagiri, Maharashtra-415 712			25 December 2015	
96	Dr. Vijay Kumar Taneja Vice Chancellor, Guru Angad Dev Veterinary and Animal Sciences University, Firozpur Road, Ludhiana Punjab-141004			22 April 2016	

- xvii) *Five technical representatives, namely Agricultural Commissioner, Horticultural Commissioner, Animal Husbandry Commissioner, Fisheries Development Commissioner, from the Union Ministry of Agriculture and Inspector-General of Forests, Government of India.*
- 97 Dr. J.S. Sandhu *Ex-Officio*  
Agriculture Commissioner,  
Dept. of Agriculture & Cooperation,  
Ministry of Agriculture,  
Krishi Bhavan, New Delhi-110 001
- 98 Dr. S.K. Malhotra *Ex-Officio*  
Horticulture Commissioner,  
Dept. of Agriculture & Cooperation,  
Ministry of Agriculture  
Krishi Bhavan, New Delhi-110 001
- 99 Dr. Suresh S. Hannappagol *Ex-Officio*  
Animal Husbandry Commissioner,  
Dept. of Animal Husbandry, Dairying  
& Fisheries, Ministry of Agriculture,  
Krishi Bhavan, New Delhi-110 001
- 100 Shri B. Vishnu Bhatt *Ex-Officio*  
Fisheries Development Commissioner  
Dept. of Animal Husbandry, Dairying  
& Fisheries, Ministry of Agriculture,  
Krishi Bhavan, New Delhi-110 001
- 101 Shri Anoop Badhwa *Ex-Officio*  
Inspector General of Forests (NAEB)  
Ministry of Environment & Forests,  
Paryavaran Bhawan, B-Block  
CGO Complex, Lodi Road,  
New Delhi-110 003
- xviii) *Fifteen scientists from within and outside the Council including one from the Indian Council of Medical Research*
- 102 Dr. S.N. Puri 21 July 2017  
Vice-Chancellor,  
Central Agricultural University,  
Iroisemba, Imphal- 795004, Manipur
- 103 Dr. B. Venkateswarlu 21 July 2017  
Vice-Chancellor,  
Vasantrao Naik Marathwada Krishi  
Vidyapeeth,  
Parbhani - 431402, Maharashtra
- 104 Dr. Arvind Kumar  
Vice-Chancellor,  
Rani Laxmibai Central Agricultural  
University, Jhansi, Uttar Pradesh
- 105 Vacant  
106 Vacant  
107 Vacant  
108 Vacant  
109 Vacant  
110 Vacant  
111 Vacant  
112 Vacant  
113 Vacant  
114 Vacant  
115 Vacant
- Representative of ICMR**
- 116 Dr. G.S. Toteja 18 November 2015  
Director, Desert Medicine  
Research Centre, Indian Council  
of Medical Research(ICMR)  
New Pali Road, Jodhpur  
Rajasthan-342 005
- xix) *Three representatives of commerce and industry, nominated by the President.*
- 117 Shri Rakesh Bharti Mittal 01 October 2016  
VC/MD, Bharti Enterprises Limited  
Bharti Crescent, 1 Nelson Mandela Road  
Vasant Kunj, Phase-II,  
New Delhi-110 070
- 118 Shri Narendra Murkumbi 01 October 2016  
Managing Director  
Shree Renuka Sugars Limited  
7th Floor, Devchand House,  
Shiv Sagar Estate,  
Dr. Annie Besant Road,  
Worli, Mumbai – 400 018
- 119 Shri Jayprakash Dandegaonkar 01 October 2016  
Vice Chairman,  
Maharashtra State Co-Operative  
Sugar Factories Federation Limited,  
Sakhar Bhavan, 11<sup>th</sup> Floor, Plot No. 230,  
Nariman Point, Mumbai – 400 021
- xx) *One farmer from each region of the country as mentioned in Rule 60(a) and four representatives of rural interests, nominated by the President*
- 120 Chaudhary Gyan Singh 5 March 2016  
Village- Sakauti, Post- Gurukul  
Narson, District-Haridwar,  
Uttarkhand-247 670
- 121 Shri Fazle Masood 5 March 2016  
14/627, Murad Ali Lane  
Nai Basti, Lucknow  
Uttar Pradesh-226 001
- 122 Vacant  
123 Vacant  
124 Vacant  
125 Vacant  
126 Vacant  
127 Vacant
- 4 Representatives of Rural Interests
- 128 Shri Sudhir Kumar Bhargava 8 June 2017  
Director, Agroman Systems Pvt. Ltd.  
25/2, Tardeo AC Market,  
Tardeo, Mumbai, Maharashtra-400 034
- 129 Vacant  
130 Vacant  
131 Vacant
- xxi) *Four Directors of the Indian Council of Agricultural Research Institutes, nominated by the President.*
- 132 Dr. A.K. Srivastava 21 May 2016  
Director,  
National Dairy Research Institute,  
Karnal, Haryana – 132001
- 133 Dr. P.S. Minhas 21 May 2016  
Director,  
National Institute of Abiotic Stress  
Management,  
Malegaon, Baramati,  
Pune, Maharashtra – 413115
- 134 Dr. S.M.K. Naqvi  
Director,  
Central Sheep & Wool Research  
Institute, 21 May 2016  
Avikanagar, P.O. Malpura,  
Tonk - District,  
Rajasthan – 304501
- 135 VACANT
- xxii) *Secretary, Indian Council of Agricultural Research- Member-Secretary*
- 136 Shri R. Rajagopal *Ex-Officio*  
Addl. Secretary(DARE) & Secretary,  
Indian Council of Agricultural Research  
Krishi Bhavan,  
New Delhi-110 001

## APPENDIX 2

MEMBERS OF THE GOVERNING BODY OF THE  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH SOCIETY**Chairman**

1. Dr S. Ayyappan  
Director-General,  
Indian Council of Agricultural Research,  
Krishi Bhavan,  
New Delhi-110 001

**Ex-Officio Members****Member, Finance**

2. Smt. Anjuly Chib Duggal,  
Additional Secretary (Expenditure),  
Department of Expenditure,  
Ministry of Finance,  
North Block, New Delhi-110 001

**Secretary, Niti Ayog**

3. Ms. Sindhushree Khullar,  
Secretary,  
Niti Ayog  
Yojana Bhavan,  
Sansad Marg,  
New Delhi-110 001

**Secretary, Agriculture**

4. Shri Ashish Bahuguna,  
Secretary (Agriculture & Cooperation)  
Department of Agriculture & Cooperation  
Ministry of Agriculture  
Krishi Bhavan, New Delhi-110 001

**Secretary, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture**

5. Shri A.K. Thakur  
Secretary (ADF),  
Dept. of Animal Husbandry, Dairying & Fisheries,  
Ministry of Agriculture, Krishi Bhavan,  
New Delhi-110 001

**Members**

*Three Scientists (including one Management Expert who are not employees of ICAR—nominated by the President)*

**Management Expert**

6. Dr. S.N. Puri  
Vice-Chancellor  
Central Agricultural University,  
Roisemba, Imphal - 795004, Manipur

**Scientists**

7. Dr. B. Venkateswarlu  
Vice-Chancellor,  
Vasantrao Naik Marathwada Krishi  
Vidyapeeth, Parbhani- 431402, Maharashtra

8. Dr. Arvind Kumar  
Vice-Chancellor  
Rani Laxmibai Central Agricultural University  
Jhansi (Uttar Pradesh)

**Five Vice-Chancellors of Agricultural Universities-nominated by the President**

9. Dr. K.E. Lawande  
Vice Chancellor,  
Dr Balasaheb Sawant Konkan Krishi Vidyapeeth,  
Dapoli, District-Ratnagiri,  
Maharashtra-415 712

10. Dr. B.S. Dhillon,  
Vice Chancellor,  
Punjab Agricultural University  
Ludhiana (Punjab)-141 004
11. Vacant
12. Vacant
13. Vacant

**Three Members of Parliament nominated by the President-(Two from Lok Sabha and one from Rajya Sabha)**

14. Smt. Renuka Chowdhury  
Member of Parliament (Rajya Sabha),  
76, Lodhi Estate,  
New Delhi-110 003

Smt. Renuka Chowdhury  
Member of Parliament (Rajya Sabha),  
H.No.8-1-116, Khanapuram(V)  
Khammam Urban(M),  
Khammam District (Andhra Pradesh)-507 002

15. Vacant (Two posts of Lok Sabha Members)
16. Vacant

**Four Farmers/Representatives of Rural Areas nominated by the President**

17. Shri Sudhir Kumar Bhargava,  
Director,  
Agroman Systems Pvt. Ltd.  
25/2, Tardeo AC Market,  
Tardeo, Mumbai (Maharashtra)-400 034
18. Vacant
19. Vacant
20. Vacant

**Three Directors of Research Institutes of the Council (nominated by the President)**

21. Dr. A.K. Srivastava  
Director,  
National Dairy Research Institute,  
Karnal, Haryana-132 001
22. Dr. P.S. Minhas  
Director,  
National Institute of Abiotic Stress  
Management, Malegaon, Baramati,  
Pune (Maharashtra)-413 115

23. Vacant

**Four representatives of State Governments to be nominated zone-wise on a rotational basis by Director General, ICAR**

24. Shri Bharat Lal Meena  
Principal Secretary,  
Department of Agriculture,  
Government of Karnataka,  
Room No. 411,  
4<sup>th</sup> Floor, M.S. Building,  
Bengaluru (Karnataka) 560 001

25. Shri Rajesh Verma  
Principal Secretary,  
Department of Agriculture,  
Government of Odisha,  
Odisha Secretariat,  
Bhubaneswar (Odisha) 751 001

APPENDICES

26. Shri Raj Kumar 15 June 2017 **One representative from a distinguished Non-Governmental Organization dealing with Agriculture/Extension nominated by President**
- Principal Secretary,  
Department of Agriculture and  
Co-operation, Government of Gujarat,  
Block No. 5, First Floor, New Sachivalaya,  
Gandhinagar (Gujarat) 382 010
29. Vacant
27. Shri V.N. Garg 15 June 2017 **Secretary, ICAR(Member Secretary)**
- Agriculture Production Commissioner,  
Department of Agriculture,  
Government of Uttar Pradesh,  
UP Civil Secretariat,  
Lucknow (Uttar Pradesh) 226 001
30. Shri R. Rajagopal  
Additional Secretary (DARE) and Secretary (ICAR)  
Krishi Bhawan,  
New Delhi 110 001

**One representative of Agro and Agro-Processing Industries to be nominated by President**

28. Vacant

## APPENDIX 3

## SENIOR OFFICERS AT THE HEADQUARTERS OF THE ICAR

1. **Dr S. Ayyappan**  
Director General, ICAR and  
Secretary to the Government of India,  
Department of Agricultural Research and Education
  2. **Shri R. Rajagopal**  
Secretary, ICAR and Additional Secretary to  
Government of India,  
Department of Agricultural Research and Education
- Deputy Directors General**
- 1 Dr A.K. Sikka (NRM)
  - 2 Dr S.K. Datta (Crop Science)
  - 3 Dr N.K. Krishna Kumar (Horticultural Science)
  - 4 Dr K.M.L. Pathak (Animal Science)
  - 5 Dr (Mrs.) B. Meenakumari (Fisheries Science)
  - 6 Dr K. Alagusundaram (Agricultural Engineering)
  - 7 Dr Arvind Kumar (Education, Additional Charge)
  - 8 Dr A.K. Singh (Agricultural Extension)
- Assistant Directors General**
- 1 Dr B. Mohan Kumar (AAF&CC, NRM)
  - 2 Dr S.K. Chaudhari (S&WM, NRM)
  - 3 Dr N. Gopalakrishnan (Commercial Crops)
  - 4 Dr J.S. Chauhan (Seeds, CS)
  - 5 Dr P. Chakrabarty (Plant Protection, CS)
  - 6 Dr B.B. Singh (Oilseeds and Pulses, CS)
  - 7 Dr T. Janakiram (Hort. I)
  - 8 Dr Kanchan Kumar Singh (FE, Engg)
  - 9 Dr Gaya Prasad (AH, Animal Science)
  - 10 Dr R.S. Gandhi (AP&B, Animal Science)
  - 11 Dr B.S. Prakash (AN&P, Animal Science)
  - 12 Dr S.D. Singh (Inland Fisheries)
  - 13 Dr Madan Mohan (Marine Fisheries)
  - 14 Dr V. Venkateshwarlu (EQA&R)
  - 15 Dr Ashok Kumar Singh (AE-II)
  - 16 Dr S. Mauria (IPTM & PME)
  - 17 Dr A.K. Vasisht (PIM)
  - 18 Dr Shiv Prasad Kimothi (Cdn.)
  - 19 Dr A.K. Vyas (HRM)
  - 20 Dr Alok Jha (IR)
  - 21 Dr P.K. Agrawal (NASF)
- Principal Scientists**
- 1 Dr A.K. Bawa (Economic Botany, DG Office)
  - 2 Dr A. Arunachalam (Agroforestry, DG, Office)
  - 3 Dr P.P. Biswas (NRM)
  - 4 Dr Rajbir Singh (Agroforestry)
  - 5 Adlul Islam (NRM)
  - 6 Dr S.P. Ahalawat (NRM)
  - 7 Dr Rajan (Crop Science)
  - 8 Dr S.K. Jha (Crop Science)
  - 9 Dr Dinesh Kumar (Crop Science)
  - 10 Dr Ranvir Singh (Horticultural Science)
  - 11 Dr Manish Das (Horticultural Science)
  - 12 Dr Vikramaditya Pandey (Horticultural Science)
  - 13 Dr B.K. Pandey (Horticultural Science)
  - 14 Dr M.K. Agnihotri (Education)
  - 15 Dr K.A. Singh (Education)
  - 16 Dr (Mrs) Vanita Jain (Education)
  - 17 Dr K.L. Khurana (Education)
  - 18 Dr K.P. Tripathi (Education)
  - 19 Dr Neeraj Rana (Education)
  - 20 Dr Anil Agarwal (FPT) (Fisheries Science)
  - 21 Dr (Mrs.) Yasmeen Basade (Fisheries Science)
  - 22 Dr R.P. Mishra (Agricultural Engineering)
  - 23 Dr Devinder Dhingra (Agricultural Engineering)
  - 24 Dr Rajan Gupta (Animal Science)
  - 25 Dr Vineet Bhasin (Animal Science)
  - 26 Dr (Mrs) Jyoti Misri (Animal Science)
  - 27 Dr (Mrs) Neelam Gupta (Animal Science)
  - 28 Dr V.P. Chahal (Agricultural Extension)
  - 29 Dr (Mrs.) Harjit Kaur (Agricultural Extension)
  - 30 Dr P. Adhiguru (Agricultural Extension)
  - 31 Dr M. Kochu Babu (NRM)
  - 32 Dr Dalip Lal (PIM)
  - 33 Dr P.K. Katiha (PIM)
  - 34 Dr A.S. Mishra (Tech. Cdn.)
  - 35 Dr Sanjeev Saxena (Agrinnovate India)
  - 36 Dr Shiv Kumar (IPTM)
  - 37 Dr R.K. Tomar (RFD)
  - 38 Dr A.P. Srivastava, NC, NAIP
  - 39 Dr R. Ezekiel, NC, NAIP
  - 40 Dr P.S. Pandey, NC, NAIP
  - 41 Dr P. Ramasundaram, NC, NAIP
- Agricultural Scientists' Recruitment Board**
- 1 Dr Gurbachan Singh, Chairman
  - 2 Dr V.N. Sharda, Member
  - 3 Dr S.K. Bandyopadhyay, Member
  - 4 Sh. N.S. Randhawa, Secretary
  - 5 Dr A.P. Ruhil, Principal Scientist
  - 6 Sh G.G. Harakangi, Controller of Examination-I
  - 7 Sh. Rajiv Mangotra, Deputy Secretary
  - 8 Sh. P.K. Jain, Controller of Examination-II
- Directorate of Knowledge Management in Agriculture**
- 1 Dr Rameshwar Singh, Project Director
  - 2 Dr (Mrs.) N. Kanaka Durga (Principal Scientist, Plant Biotechnology, DKMA)
  - 3 Dr R.S. Rana (Sr Scientist, Animal Biotechnology, DKMA)
  - 4 Dr V.K. Bharti, Chief Production Officer
  - 5 Dr Jagdip Saxena, Incharge Hindi Editorial Unit
  - 6 Dr Aruna T. Kumar, Incharge English Editorial Unit
  - 7 Sh. Hans Raj, Information System Officer
  - 8 Sh. S.K. Joshi, Business Manager
  - 9 Sh. Anil Sharma, Public Relations Officer
- Administration**
- Directors**
- 1 Sh. J. Ravi, Director (Personnal & Admn.)
  - 2 Sh. Devender Kumar, Director (Finance)
  - 3 Sh. H.C. Joshi, Director (Other Languages)
  - 4 Sh. V.P. Kothiyal, Director (Works)
  - 5 Sh. S.K. Mitra, Director (Crop Science)
- Deputy Secretaries**
- 1 Sh. Rajiv Maheshwari
  - 2 Sh. P. Sakthivel
  - 3 Ms. Namrta Sharma
  - 4 Sh. P.K. Bage
  - 5 Sh. Kanhaiya Chaudhary
  - 6 Sh. S.K. Behera
  - 7 Sh. K.N. Choudhary
  - 8 Sh. V.D. Naniwadekar
  - 9 Sh. V.K. Sharma
  - 10 Ms. Roja Sethumadhavan
  - 11 Sh. M.K. Jain
  - 12 Sh. K.K. Kulshreshtha
  - 13 Ms. Sunita Sharma

## APPENDIX 4

## ICAR INSTITUTES AND THEIR DIRECTORS

**National Institutes**

- 1 Dr Ravinder Kaur (Acting)  
Indian Agricultural Research Institute,  
New Delhi 110 012
  - 2 Dr Raj Kumar Singh  
Indian Veterinary Research Institute,  
Izainagar (Uttar Pradesh) 243 122
  - 3 Dr A.K. Srivastava  
National Dairy Research Institute,  
Karnal (Haryana) 132 001
  - 4 Dr W.S. Lakra  
Central Institute of Fisheries Education,  
Jaiprakash Road, Seven Bungalow (Versova)  
Mumbai (Maharashtra) 400 061
  - 5 Dr D. Rama Rao  
National Academy of Agricultural  
Research Management, Rajendranagar,  
Hyderabad (Andhra Pradesh) 500 030
  - 6 Dr P.S. Minhas  
National Institute of Abiotic Stress Management,  
Malegaon, Baramati, Pune (Maharashtra) 413 115
  - 7 Dr R. Ramani, OSD  
Indian Institute of Agricultural Biotechnology,  
Garh Khatanga, Ranchi (Jharkhand)
  - 8 Dr T.P. Rajendran, OSD  
National Institute of Biotic Stress Management,  
Raipur (Chhattisgarh) 492 012
- Agricultural Sciences**
- 9 Dr S.D. Roy  
Central Island Agricultural Research Institute,  
Post Box No. 181,  
Port Blair (Andaman & Nicobar Islands) 744 101
  - 10 Dr M.M. Roy  
Central Arid Zone Research Institute,  
Jodhpur (Rajasthan) 342 003
  - 11 Dr K.K. Singh  
Central Institute of Agricultural Engineering,  
Nabi Bagh, Berasia Road,  
Bhopal (Madhya Pradesh) 462 038
  - 12 Dr Satish Kumar Sharma  
Central Institute of Arid Horticulture,  
Bikaner (Rajasthan) 334 006
  - 13 Dr K.R. Kranthi  
Central Institute for Cotton Research  
Post Bag No. 2, Shankar Nagar P.O.  
Nagpur (Maharashtra) 440 010
  - 14 Dr Shailendra Rajan (Acting)  
Central Institute for Sub-tropical Horticulture,  
Rehmankhara, PO Kakori,  
Lucknow (Uttar Pradesh) 227 107
  - 15 Dr Nazeer Ahmed  
Central Institute of Temperate Horticulture,  
Old Air Field  
Rangreth (Jammu & Kashmir) 190 007
  - 16 Dr R.K. Gupta  
Central Institute of Post Harvest  
Engg. and Technology,  
P.O. PAU Campus,  
Ludhiana (Punjab) 141 004
  - 17 Dr P.K.G. Patil (Acting)  
Central Institute for Research on Cotton Technology  
Adenwala Road, Matunga,  
Mumbai (Maharashtra) 400 019
  - 18 Dr P. Chowdappa  
Central Plantation Crops Research Institute,  
Kasaragod (Kerala) 671 124
  - 19 Dr Bir Pal Singh  
Central Potato Research Institute  
Shimla (Himachal Pradesh) 171 001
  - 20 Dr Ch. Srinivasarao  
Central Research Institute for Dryland Agriculture,  
Santoshnagar, Saidabad P.O.,  
Hyderabad (Andhra Pradesh) 500 059
  - 21 Dr Debasis Nag  
National Institute of Research on Jute &  
Allied Fibre Technology,  
12, Regent Park,  
Kolkata (West Bengal) 700 040,
  - 22 Dr Trilochan Mohapatra  
Central Rice Research Institute,  
Cuttack (Odisha) 753 006
  - 23 Dr D.K. Sharma  
Central Soil Salinity Research Institute,  
Zarifa Farm, Kachhwa Road,  
Karnal (Haryana) 132 001
  - 24 Dr P.K. Mishra  
Central Soil & Water Conservation Research &  
Training Institute,  
218, Kaulagarh Road,  
Dehra Dun (Uttarakhand) 248 195
  - 25 Dr D. Damodar Reddy  
Central Tobacco Research Institute,  
Rajahmundry (Andhra Pradesh) 533 105
  - 26 Dr S.K. Chakrabarti  
Central Tuber Crops Research Institute, Sreekariyam  
Thiruvananthapuram (Kerala) 695 017
  - 27 Dr N.P. Singh  
ICAR Research Complex for Goa,  
Ela, Old Goa,  
North Goa (Goa) 403 402
  - 28 Dr B.P. Bhatt  
ICAR Research Complex for Eastern Region,  
ICAR Parisar, P.O. Bihar Veterinary College,  
Patna (Bihar) 800 014
  - 29 Dr S.V. Ngachan  
ICAR Research Complex for NEH Region,  
Umroi Road, Umiam,  
Ri-Bhoi (Meghalaya) 793 103
  - 30 Dr U.C. Sud (Acting)  
Indian Agricultural Statistics Research Institute,  
Library Avenue, Pusa Campus,  
New Delhi 110 0012
  - 31 Dr P.K. Ghosh  
Indian Grassland & Fodder Research Institute,  
Pahuj Dam, Gwalior Road,  
Jhansi (Uttar Pradesh) 284 003
  - 32 Dr T. Manjunatha Rao (Acting)  
Indian Institute of Horticulture Research  
Hessaraghatta Lake Post,  
Bengaluru (Karnataka) 560 089
  - 33 Dr Narendra Pratap Singh  
Indian Institute of Pulses Research,  
Kanpur (Uttar Pradesh) 208 024
  - 34 Dr Ashok Kumar Patra  
Indian Institute of Soil Sciences,  
NabiBagh, Berasia Road,  
Bhopal (Madhya Pradesh) 462 038
  - 35 Dr M. Anandraj  
Indian Institute of Spices Research,  
Marikunnu P.O., Calicut (Kerala) 673 012
  - 36 Dr S. Solomon  
Indian Institute of Sugarcane Research,  
Rai Bareilly Road, P.O. Dilkusha,  
Lucknow (Uttar Pradesh) 226 002
  - 37 Dr R. Ramani  
Indian Institute of Natural Resins and Gums,  
Namkum,  
Ranchi (Jharkhand) 834 010

## APPENDICES

- 38 Dr Bijendra Singh  
Indian Institute of Vegetable Research,  
PB No. 01,  
PO Jakhini, Shahanshapur  
Varanasi (Uttar Pradesh) 221 005
- 39 Dr Bakshi Ram  
Sugarcane Breeding Institute,  
Coimbatore (Tamil Nadu) 641 007
- 40 Dr J.K. Bisht (Acting)  
Vivekanand Parvatiya Krishi Anusandhan Sansthan,  
Almora (Uttarakhand) 263 601
- Animal Sciences and Fisheries**
- 41 Dr Jag Mohan Kataria  
Central Avian Research Institute  
Izatnagar, Bareilly (Uttar Pradesh) 243 122
- 42 Dr Inderjeet Singh  
Central Institute for Research on Buffaloes,  
Sirsa Road, Hissar (Haryana) 125 001
- 43 Dr S.K. Agarwal  
Central Institute of Research on Goats,  
Makhdoom (Uttar Pradesh) 281 122
- 44 Dr Anil Prakash Sharma  
Central Inland Fisheries Research Institute,  
Barrackpore (West Bengal) 700 120
- 45 Dr K.K. Vijayan  
Central Institute of Brackishwater Aquaculture,  
75, Santhome High Road,  
Raja Annamalai Puram,  
Chennai (Tamil Nadu) 600 028
- 46 Dr Ravishankar C.N.  
Central Institute of Fisheries Technology,  
Willingdon Island, Matsyapuri P.O.,  
Cochin (Kerala) 682 029
- 47 Dr P. Jayasankar  
Central Institute of Freshwater Aquaculture,  
Kausalyaganga, Bhubaneswar,  
Khurda (Odisha) 751 002
- 48 Dr A. Gopalakrishnan  
Central Marine Fisheries Research Institute,  
P.B. No. 1603, Ernakulam North  
P.O., Kochi (Kerala) 682 018
- 49 Dr S.M.K. Naqvi  
Central Sheep and Wool Research Institute,  
Avikanagar, Distt. Tonk (Rajasthan) 304 501
- 50 Dr Raghevendra Bhatta,  
National Institute of Animal Nutrition &  
Physiology, Adugodi,  
Bengaluru (Karnataka) 560 030

## APPENDIX 5

### NATIONAL BUREAUX AND THEIR DIRECTORS

#### Agricultural Sciences

- 1 Dr Abraham Verghese  
National Bureau of Agriculturally Important Insects,  
P.B. No. 2491, H.A. Farm Post,  
Bengaluru (Karnataka) 560 024
- 2 Dr Arun Kumar Sharma  
National Bureau of Agriculturally Important  
Micro-organisms,  
P.B. No. 6, Kusmaur,  
Maunath Bhanjan (Uttar Pradesh) 275 101
- 3 Dr K.C. Bansal  
National Bureau of Plant Genetic Resources,  
Pusa Campus, New Delhi 110 012

- 4 Dr Surendra Kumar Singh  
National Bureau of Soil Survey and  
Land Use Planning,  
Shankar Nagar P.O., Amravati Road,  
Nagpur (Maharashtra) 440 010

#### Animal Sciences and Fisheries

- 5 Dr Arjava Sharma  
National Bureau of Animal Genetic Resources,  
P.B. No. 129, G.T. Road Bye Pass,  
Karnal (Haryana) 132 001
- 6 Dr J.K. Jena  
National Bureau of Fish Genetic Resources,  
Canal Ring Road, P.O. Dilkusha,  
Lucknow (Uttar Pradesh) 226 002

## APPENDIX 6

## PROJECT DIRECTORATES, ZONAL PROJECT DIRECTORATES AND THEIR DIRECTORS

**Agricultural Sciences**

- 1 Dr B. Gangwar  
Project Directorate for Farming Systems Research,  
Modipuram, Meerut (Uttar Pradesh) 250 110
- 2 Dr Radhakrishnan T.  
Directorate of Groundnut Research,  
Post Box No. 5, Ivnagar Road,  
Junagadh (Gujarat) 362 001
- 3 Dr O.P. Yadav  
Directorate of Maize Research,  
Indian Agricultural Research Institute,  
Pusa, New Delhi 110 012
- 4 Dr S. Arulraj  
Directorate of Oilpalm Research,  
Pedavegi,  
West Godavari (Andhra Pradesh) 534 450
- 5 Dr K.S. Varaprasad  
Directorate of Oilseeds Research,  
Rajendranagar  
Hyderabad (Andhra Pradesh) 500 030
- 6 Dr Dhiraj Singh  
Directorate of Rapeseed - Mustard Research,  
Sewar, Bharatpur (Rajasthan) 321 303
- 7 Dr V. Ravindra Babu (Acting)  
Directorate of Rice Research,  
Rajendranagar  
Hyderabad (Andhra Pradesh) 500 030
- 8 Dr S. Rajendra Prasad,  
Directorate of Seed Research  
P.B. No. 11, Kusmaur, P.O. Kaitihauli,  
Mau Nath Bhanjan (Uttar Pradesh) 275 101
- 9 Dr Jagannath Vishnu Patil  
Directorate of Sorghum Research,  
Rajendranagar  
Hyderabad (Andhra Pradesh) 500 030
- 10 Dr S.K. Srivastava  
Directorate of Soybean Research,  
Khandwa Road,  
Indore (Madhya Pradesh) 452 017
- 11 Dr (Mrs) Indu Sharma  
Directorate of Wheat Research  
P. Box No. 158, Agrasain Marg,  
Karnal (Haryana) 132 001
- 12 Dr A.R. Sharma  
Directorate of Weed Science Research,  
Maharajpur, Adhartal,  
Jabalpur (Madhya Pradesh) 482 004
- 13 Dr P.L. Saroj  
Directorate of Cashew Research,  
Darbe, P.O. Puttur  
Dakshina Kannada (Karnataka) 574 202
- 14 Dr K.P.Singh (Acting)  
Directorate of Floriculture Research  
IARI, New Delhi 110 012
- 15 Dr Jitendra Kumar  
Directorate of Medicinal & Aromatic Plants Research,  
Boriavi, Anand (Gujarat) 387 310
- 16 Dr Manjit Singh  
Directorate of Mushroom Research, Chambaghat,  
Solan (Himachal Pradesh) 173 213
- 17 Dr Jai Gopal  
Directorate on Onion and Garlic Research,  
Rajgurunagar,  
Pune (Maharashtra) 410 505

**Animal Sciences**

- 18 Dr H. Rahman  
NIVEDI  
H.A. Farm Post, Hebbal,  
Bengaluru (Karnataka) 560 024

- 19 Dr Birham Prakash  
Project Directorate on Cattle,  
P.B. No. 17, Grass Farm Road,  
Meerut Cantt. (Uttar Pradesh) 250 001
- 20 Dr B. Pattnaik  
Project Directorate on Foot-and-Mouth Disease,  
IVRI Campus, Mukteshwar (Uttarakhand) 263 138
- 21 Dr R.N. Chatterjee  
Project Directorate on Poultry,  
Rajendranagar, Hyderabad (Andhra Pradesh) 500 030
- 22 Dr Atul Kumar Singh  
Directorate of Coldwater Fisheries Research,  
Anusandhan Bhawan, Industrial Area,  
Bhimtal (Uttarakhand) 263 136

**Others**

- 23 Dr Rameshwar Singh  
Directorate of Knowledge Management in Agriculture,  
KAB-I, Pusa, New Delhi 110 012
- 24 Dr S.D. Kulkarni  
Soybean Processing and Utilization Centre,  
CIAE Campus,  
Nabi Bagh, Berasia Road,  
Bhopal (Madhya Pradesh) 462 038
- 25 Dr (Mrs) Ravinder Kaur  
Water Technology Centre, IARI,  
New Delhi-110012
- 26 Dr R.C. Srivastava (Acting)  
Directorate of Water Management,  
Opposite Rail Vihar, Chandersekharpur  
Bhubaneswar (Odisha) 751 023
- 27 Dr (Mrs) Neelam Grewal  
Directorate of Research on Women in Agriculture,  
Plot No.50, Mauza-Jokalandi,  
P.O. Baramunda, Bhubaneswar (Odisha) 751 003

**Zonal Project Directorates**

- 28 Dr S. Prabhu Kumar (Acting)  
Zonal Project Directorate (Zone-I)  
PAU Campus, Ludhiana (Punjab) 141 004
- 29 Dr Ajoy Kumar Singh  
Zonal Project Directorate (Zone-II)  
Bhumi Vihar, Block-GB,  
Sector-III, Salt Lake,  
Kolkata (West Bengal) 700097
- 30 Dr A.K. Gogoi  
Zonal Project Directorate (Zone-III)  
TOP, Umroi Road,  
Barapani (Meghalaya) 793103
- 31 Dr Atar Singh  
Zonal Project Directorate (Zone-IV)  
G.T. Road, Rawatpura, Near Vikas Bhawan,  
Kanpur Uttar (Pradesh) 208 002
- 32 Dr N. Sudhakar  
Zonal Project Directorate (Zone-V)  
CRIDA Complex, Santoshnagar,  
Hyderabad (Andhra Pradesh) 500 059
- 33 Dr Y.V. Singh  
Zonal Project Directorate (Zone-VI)  
CAZRI Campus,  
Jodhpur (Rajasthan) 342003
- 34 Dr Anupam Mishra  
Zonal Project Directorate (Zone-VII)  
JNKVV Campus,  
Jabalpur (Madhya Pradesh) 484002
- 35 Dr Sreenath Dixit  
Zonal Project Directorate (Zone-VIII)  
ICAR Transfer of Technology Project,  
MRS HA Farm Post, Hebbal,  
Bengaluru (Karnataka) 560 030

## APPENDIX 7

## NATIONAL RESEARCH CENTRES AND THEIR DIRECTORS

**Agricultural Science**

- 1 Dr S.K. Dhyani  
National Research Centre for Agro-Forestry  
Near Pahuj Dam,  
Jhansi (Uttar Pradesh) 284 003
- 2 Dr M.M. Mustafa  
National Research Centre for Banana,  
Thogamalai Road, Thayanur Post,  
Thiruchirapalli (Tamil Nadu) 620 102
- 3 Dr M.S. Ladaniya  
National Research Centre for Citrus,  
P.B. No. 464, Shankar Nagar P.O.,  
Amravati Road, Nagpur (Maharashtra) 440 010
- 4 Dr S.D. Swant  
National Research Centre for Grapes,  
P.B. No. 3, Manjri Farm Post,  
Solapur Road, Pune (Maharashtra) 412 307
- 5 Dr Chirantan Chattopadhyay  
National Research Centre for Integrated Pest  
Management,  
LBS Building, Pusa Campus,  
New Delhi 110 012
- 6 Dr Vishal Nath  
National Research Centre for Litchi  
Mushahari Farm, Mushahari,  
Muzaffarpur (Bihar) 842 002
- 7 Dr D. Barman (Acting)  
National Research Centre for Orchids, Pakyong,  
Gangtok (Sikkim) 737 106
- 8 Dr T.R. Sharma  
National Research Centre on Plant Biotechnology,  
L.B.S. Building,  
Pusa, New Delhi 110 012

- 9 Dr R.K. Pal  
National Research Centre on Pomegranate  
NH-9, Bypass Road, Shelgi  
Sholapur (Maharashtra) 413006
- 10 Dr Balraj Singh  
National Research Centre on Seed Spices,  
Tabiji, Ajmer (Rajasthan) 305 206

**Animal Sciences and Fisheries**

- 11 Dr N.V. Patil  
National Research Centre on Camel  
Jorbeer, P.B. No. 07  
Bikaner (Rajasthan) 334 001
- 12 Dr B.N. Tripathi  
National Research Centre for Equines  
Hisar (Haryana) 125 001
- 13 Dr V.V. Kulkarni  
National Research Centre on Meat  
Chengicherla, P.B. No. 19, Uppal PO  
Hyderabad (Andhra Pradesh) 500 039
- 14 Dr C. Rajkhowa  
National Research Centre for Mithun  
Jharnapani, P.O. Medziphema ( Nagaland) 797 106,
15. National Research Centre on Pig  
Rani, Guwahati (Asom) 781 131
- 16 Dr S.M. Deb  
National Research Centre on Yak  
Dirang, West Kameng (Arunachal Pradesh) 790 101

**General**

- 17 Dr Ramesh Chand  
National Centre for Agricultural Economics and Policy  
Research, P.B. No. 11305, DPS Marg,  
Pusa, New Delhi 110 012

## APPENDIX 8

ALL-INDIA CO-ORDINATED RESEARCH PROJECTS, NETWORK  
RESEARCH PROJECTS, AND COORDINATED RESEARCH PROJECTS

- 1 Project Coordinator  
Plant Parasitic Nematodes  
IARI, New Delhi 110 012
- 2 Project Coordinator (Sugarcane)  
IISR, Lucknow (Uttar Pradesh) 226 002
- 3 Project Coordinator (Cotton Improvement)  
CICR, Regional. Station Coimbatore
- 4 Project Coordinator (Micro & Secondary  
Nutrients & Pollutant Elements)  
IISS, Bhopal (Madhya Pradesh) 462 038
- 5 Project Coordinator (Agro.Met.)  
CRIDA, Hyderabad (Andhra Pradesh) 500 059
- 6 Project Coordinator (Forage Crops),  
IGFRI, Jhansi (Uttar Pradesh) 284 003
- 7 Project Coordinator (Tuber Crops),  
CTCRI, Thrivanthapuram (Kerala)
- 8 Project Coordinator (Farm Implements & Machinery),  
CIAE, Bhopal (Madhya Pradesh) 462 038
- 9 Project Coordinator (RSEAAI)  
CIAE, Bhopal (Madhya Pradesh) 462 038
- 10 Project Coordinator (Pearl Millet Improvement)  
RAU, Mandore, Jodhpur
- 11 Project Coordinator (Long Term Fort Experiment)  
IISS Bhopal (Madhya Pradesh) 462 038
- 12 Project Coordinator (APA), CIPHET,  
Ludhiana (Ludhiana) 141 004
- 13 Project Coordinator (UAESAE), CIAE,  
Bhopal (Madhya Pradesh) 462 038
- 14 Project Coordinator (Ergonomics & Safety in Agriculture),  
CIAE, Bhopal (Madhya Pradesh) 462 038
- 15 Project Coordinator (SCTR),  
IISS, Bhopal (Madhya Pradesh) 462 038
- 16 Project Coordinator (SASUSWA)  
CSSRI, Karnal (Haryana)
- 17 Project Coordinator (Linseed) (Acting charge),  
CSAUA&T, Kanpur-Hqrs. Delhi
- 18 Project Coordinator (Chickpea),  
IIPR, Kanpur (Uttar Pradesh) 208 024
- 19 Project Coordinator (Mullarp),  
IIPR, Kanpur (Uttar Pradesh) 208 024
- 20 Project Coordinator (PHTS),  
CIPHET, Ludhiana (Punjab)
- 21 Project Coordinator (Sesame),  
JNKVV- Hqrs. New Delhi
- 22 Project Coordinator  
(Honey Bee & Pollinators)  
HAU, Hisar under ICAR Hqrs.
- 23 Project Coordinator (Small Millet),  
UAS, Bengaluru under ICAR Hqrs.
- 24 Project Coordinator (Vegetable),  
IIVR, Varanasi (Uttar Pradesh) 221 005

- 25 Project Coordinator (Spices),  
IISR, Calicut
- 26 Project Coordinator (Potato Improvement),  
CPRI, Shimla
- 27 Project Coordinator (Palms),  
CPCRI, Kasaragod
- 28 All India Co-ordinated Research Network  
on Potential Crops  
National Bureau of Plant Genetic Resources  
New Delhi 110 012
- 29 Network Project on Transgenics  
Indian Agricultural Research Institute  
New Delhi 110 012
- 30 Network on Insect Biosystematics,  
National Bureau of Agricultural Insect Resource  
Bengaluru 560 065
- 31 All India Network Project on Soil Arthropods Pests  
National Research Centre for Integrated  
Pest Management,  
LBS Building, IARI, New Delhi 110 012
- 32 All India Network Project on Agricultural Acarology  
University of Agricultural Sciences,  
GKVK, Bengaluru (Karnataka) 560 065
- 33 All India Network Project on Pesticides Residues  
LBS Building, IARI  
New Delhi 110 012
- 34 All India Network Project on Arid Legumes  
Central Arid Zone Research Institute,  
Jodhpur (Rajasthan) 342 003
- 35 All India Network Project on Jute and Allied Fibres  
Barrackpore, Kolkata (West Bengal) 700 120
- 36 All India Network Project on Vertebrate Pest Management  
Jodhpur
- 37 Coordinated Research Project on Agro-biodiversity  
National Bureau of Plant Genetic Resources  
New Delhi 110 012
- 38 Coordinated Research Project on Hybrid  
Indian Agricultural Research Institute  
New Delhi 110 012
- 39 Coordinated Research Project on Molecular Biology  
Indian Agricultural Research Institute  
New Delhi 110 012
- 40 Coordinated Research Project on Biofortification  
Hyderabad
- 41 All India Co-ordinated Research Project on Maize  
Indian Institute of Maize Research,  
New Delhi 110 012
- 42 All India Co-ordinated Research Project on  
Nematodes in Cropping System  
National Research Centre for Integrated Pest  
Management, New Delhi
- 43 All India Co-ordinated Research Project on Chickpea  
Indian Institute of Pulses Research,  
Kanpur (Uttar Pradesh) 208 024
- 44 All India Co-ordinated Research Project on MULLARP  
Indian Institute of Pulses Research,  
Kanpur (Uttar Pradesh) 208024
- 45 All India Co-ordinated Research on Project  
Pigeon Pea  
Indian Institute of Pulses Research  
Kanpur (Uttar Pradesh) 208 024
- 46 All India Co-ordinated Research Project on Wheat &  
Barley Improvement  
Indian Institute of Wheat and Barley Research  
Karnal (Haryana) 132 001
- 47 All India Co-ordinated Research Project on Forage  
Crops IGFRI, Jhansi (Uttar Pradesh) 284 003
- 48 All India Co-ordinated Research Project on Sorghum  
Indian Institute of Millet Research  
Rajendranagar, Hyderabad (Andhra Pradesh) 500 030
- 49 All India Co-ordinated Research Project on Pearl Millet  
Improvement Project, Rajasthan Agricultural University,  
ARS, Mandor, Jodhpur (Rajasthan) 342 304
- 50 All India Co-ordinated Research Project on Small  
Millets Improvement Project  
GKVK Campus, Channabyre,  
Bangalore (Karnataka) 560 065
- 51 All India Co-ordinated Research Project on Sugarcane  
Indian Institute of Sugarcane Research Raebareli Road,  
Lucknow (Uttar Pradesh) 226 002
- 52 All India Co-ordinated Research Project on Cotton  
CICR, Reg Stn, Coimbatore (Tamil Nadu) 641 003
- 53 All India Co-ordinated Research Project on Groundnut  
P.B. No. 5, Ivenagar Road,  
Junagarh (Gujarat) 362 001
- 54 All India Co-ordinated Research Project on Soybean  
Khandwa Road, Indore 452 001
- 55 All India Co-ordinated Research Project on  
Rapeseed – Mustard  
DRMR, Sewar, Bharatpur (Rajasthan) 321 303
- 56 All India Co-ordinated Research Project on Oilseed  
Indian Institute of Oilseed Research, Hyderabad
- 57 All India Co-ordinated Research Project on Linseed  
CSAU&T Kanpur (Uttar Pradesh) 208 002
- 58 All India Co-ordinated Research Project on Sesame  
and Niger,  
Jawaharlal Nehru Krishi Viswa Vidyalya Campus,  
Jabalpur (Madhya Pradesh)
- 59 All India Co-ordinated Research Project on Biocontrol  
of Crop Pests  
National Bureau of Agricultural Insect Resources  
Bengaluru
- 60 All India Co-ordinated Research Project on  
Honeybees and Pollinators  
Indian Agricultural Research Institute  
Pusa Campus, New Delhi 110 012
- 61 All India Co-ordinated Research Project on NSP (Crops)  
Directorate of Seed Research,  
Post Box No. 11, Kusmaur, PO Kaithali,  
Maunath Bhanjan (Uttar Pradesh) 275 101
- 62 All India Coordinated Rice Improvement Project  
DDR, Rajendranagar  
Hyderabad (Andhra Pradesh) 500 030
- 63 All India Network Research Project on Tobacco  
CTRI, Bhaskar Nagar, Rajamundry  
(Andhra Pradesh) 533 105
- 64 Technology Mission on Cotton (MM-I)  
Central Institute of Cotton Research  
Nagpur
- 65 Technology Mission on Jute (MM-I)  
Barrackpore
- 66 Application of Micro-organisms in Agriculture and  
Allied Sectors (AMAAS) + Microbial Genomic  
Resources Repository Network  
National Bureau of Agril. Important Microorganisms, Mau
- 67 All India Co-ordinated Research Project on Fruits  
(Tropical and Sub Tropical)  
Indian Institute of Horticulture Research,  
Hessaraghatta Lake Post,  
Bengaluru (Karnataka) 560 089
- 68 All India Co-ordinated Research Project on  
Arid Zone Fruits  
Central Institute of Arid Horticulture Research  
Sri Ganganagar Highway,  
Beechwal, Bikaner (Rajasthan) 334 006
- 69 All India Co-ordinated Research Project on  
Mushroom, DMR Chambaghat,  
Solani (Himachal Pradesh) 173 213
- 70 All India Co-ordinated Research Project on  
Vegetable crops  
Indian Institute of Vegetable Research  
P.B. No. 1, Shanshapur, P. O. Jakhini,  
Varanasi (Uttar Pradesh) 221 305
- 71 All India Co-ordinated Research Project on Potato  
Central Potato Research Institute  
Shimla (Himachal Pradesh) 171 001



- 72 All India Co-ordinated Research Project on Tuber Crops, Central Tuber Crops Research Institute, Sreekariyam P.O., Tiruvanthapuram (Kerala) 695 017
- 73 All India Co-ordinated Research Project on Palms Central Plantation Crops Research Institute Kasargod (Kerala) 671 124
- 74 All India Co-ordinated Research Project on Cashew Darbe P.O., Puttur, Dakshina Kannada DK (Karnataka) 574 202
- 75 All India Co-ordinated Research Project on Spices Indian Institute of Spices Research, Marikunnu Post Calicut (Kerala) 673 012
- 76 All India Co-ordinated Research Project on Floriculture Directorate of Floricultural Research Indian Agricultural Research Institute, Pusa Campus, New Delhi 110 012
- 77 Coordinated Research Project on Borer (Network Mode) Indian Institute of Horticultural Research Bengaluru (Karnataka) 560 089
- 78 Coordinated Research Project on Nanotechnology Central Potato Research Institute, Shimla (Himachal Pradesh) 171 001
- 79 Coordinated Research Project on Phytochemical & High Value Compounds (in Network Mode) Indian Institute of Spices Research Calicut (Kerala) 673 012
- 80 Network Project on Onion and Garlic Indian Institute of Vegetable Research Varanasi (Uttar Pradesh) 221 305
- 81 Network Project on Medicinal and Aromatic Plants Anand (Gujarat)
- 82 All India Coordinated Research Project on Micro Secondary & Pollutant Elements in Soils and Plants Indian Institute of Soil Science Nabibagh, Berasia Road, Bhopal (Madhya Pradesh) 462 038
- 83 All India Coordinated Research Project on Soil Test Crop Response Correlation Indian Institute of Soil Science Berasia Road Bhopal (Madhya Pradesh) 462 038
- 84 All India Coordinated Research Project on Long Term Fertilizer Experiments to study changes in soils quality Indian Institute of Soil Science Nabibagh Berasia Road Bhopal (Madhya Pradesh) 462 038
- 85 All India Coordinated Research Project on Salt Affected Soils & Use of Saline Water Central Soil Salinity Research Institute Karnal (Haryana) 132 001
- 86 All India Coordinated Research Project on Irrigation Water Management Research, Indian Institute of Water Management Bhubaneswar (Odisha) 751 023
- 87 All India Coordinated Research Project on Dryland Agriculture, Central Research Institute of Dryland Agriculture, Saidabad P.O. Santoshnagar, Hyderabad (Andhra Pradesh) 500 059
- 88 All India Coordinated Research Project on Agrometeorology, Central Research Institute of Dryland Agriculture, Santosh Nagar, Saidabad P.O., Hyderabad (Andhra Pradesh) 500 059
- 89 All India Coordinated Research Project on Integrated Farming System Indian Institute of Farming System Research PDSR Modipuram, Meerut (Uttar Pradesh) 250 110
- 90 All India Coordinated Research Project on Agroforestry Jhansi-Gwalior Road, Near Pahuj Dam, Jhansi (Uttar Pradesh) 284 003
- 91 All India Coordinated Research Project on Weed Control Maharajpur, Adhartal, Jabalpur (Madhya Pradesh) 482 004
- 92 AINP on Biofertilizer Indian Institute of Soil Science Bhopal (Madhya Pradesh) 462 038
- 93 Coordinated Research Project on Conservation Agriculture Indian Institute of Soil Science Bhopal (Madhya Pradesh) 462 038
- 94 Coordinated Research Project on Water Indian Institute of Water Management Bhubaneswar (Odisha) 751 023
- 95 Network Programme on Organic Farming Indian Institute of Farming System Research Modipuram (Uttar Pradesh) 250 110
- 96 All India Co-ordinated Research Project on Farm Implements and Machinery Central Institute of Agricultural Engineering Nebi Bagh, Barsia Road, Bhopal (Madhya Pradesh) 462 038
- 97 All India Co-ordinated Research Project on Ergonomics and Safety in Agriculture Central Institute of Agricultural Engineering Nebi Bagh, Barsia Road, Bhopal (Madhya Pradesh) 462 038
- 98 All India Co-ordinated Research Project on Energy in Agriculture and Agro based Industries Central Institute of Agricultural Engineering Nebi bagh, Barsia Road, Bhopal (Madhya Pradesh) 462 038
- 99 All India Co-ordinated Research Project on Increased Utilization of Animal Energy with Enhanced System Efficiency Central Institute of Agricultural Engineering Nebi bagh, Barsia Road, Bhopal (Madhya Pradesh) 462 038
- 100 All India Co-ordinated Research Project on Application of Plastic in Agriculture Central Institute on Post harvest Engineering and Technology, P.O. PAU, Ludhiana (Punjab) 141 004
- 101 All India Co-ordinated Research Project on Post-harvest Technology, Central Institute on Post harvest Engineering and Technology, P.O. PAU, Ludhiana (Punjab) 141 004
- 102 Coordinated Research Project on Farm Mechanization and Precision Farming, Central Institute of Agricultural Engineering, Bhopal (Madhya Pradesh) 462 038
- 103 Coordinated Research Project on Energy for Agriculture Central Institute of Agricultural Engineering Bhopal (Madhya Pradesh) 462 038
- 104 Coordinated Research Project on Health Food Central Institute on Post-harvest Engineering and Technology Ludhiana (Punjab) 141 004
- 105 Coordinated Research Project on Secondary Agriculture Central Institute on Post-harvest Engineering and Technology, Ludhiana (Punjab) 141 004
- 106 Network project on Harvesting, Processing and Value Addition of Natural Resins & Gums Indian Institute of Natural Resins and Gums Ranchi (Jharkhand) 834 010
- 107 Network Project on Conservation of Lac Insect Genetic Resources Indian Institute of Natural Resins and Gums Ranchi (Jharkhand) 834 010
- 108 Network Project on Animal Genetic Resources National Bureau of Animal Genetic Resources, Karnal (Haryana) 132 001
- 109 Network on Sheep Improvement Central Sheep and Wool Research Institute Avikanagar Via Jaipur (Rajasthan) 304 501
- 110 Network Project on Buffalo Improvement Central Institute for Research on Buffaloes Hissar (Haryana) 125 001
- 111 Network on Gastro Intestinal Parasitism Indian Veterinary Research Institute Izatnagar (Uttar Pradesh) 243 122
- 112 Network on Haemorrhagic Septicemia Indian Veterinary Research Institute Izatnagar, Bareilly (Uttar Pradesh) 243 122

APPENDICES

- 113 Network Programme Blue Tongue Disease  
Indian Veterinary Research Institute  
Izatnagar (Uttar Pradesh) 243 122
- 114 Sheep Seed Project  
Central Sheep and Wool Research Institute  
Avikanagar Via Jaipur (Rajasthan) 304 501
- 115 Goat Seed Project (in CIRG)  
Central Institute for Research on Goats  
Makhdoom (Uttar Pradesh) 281 122
- 116 Poultry Seed Project  
Hyderabad (Andhra Pradesh)
- 117 AICRP on Pig (Mega Seed Project)  
NRC on Pig  
Rani, Near Guwahati, (Asom) 781131
- 118 AICRP on Goat Improvement  
CIRG, Makhdoom, Mathura (Uttar Pradesh) 281 122
- 119 All India Co-ordinated Research Project on Improvement  
of Feed Sources & Nutrient Utilisation  
National Institute of Animal Nutrition and Physiology  
Adugodi P.O., Bengaluru (Karnataka) 560 030
- 120 All India Co-ordinated Research Project on Cattle  
Research  
Central Institute for Research on Cattle  
Grass Frame Road  
Post Box No. 17 Meerut Cantt  
Meerut (Uttar Pradesh) 250 001
- 121 All India Co-ordinated Research Project on Foot and  
Mouth Disease  
Directorate of Foot & Mouth Disease  
Mukteshwar (Uttarakhand) 263 138
- 122 All India Co-ordinated Research Project on Poultry  
PDR, Rajendranagar,  
Hyderabad (Andhra Pradesh) 500 030
- 123 All India Co-ordinated Research Project on ADMAS  
Bengaluru (Karnataka) 560 024
- 124 Veterinary Type Culture (as an integral part of NRC  
NRC on Equine  
Hisar (Haryana) 125 001
- 125 All India Co-ordinated Research Project on Diagnostic  
and Vaccine  
Indian Veterinary Research Institute,  
Izatnagar (Uttar Pradesh) 243 122
- 126 All India Network Programme on Neonatal Mortality in  
Farm Animals (NNMFA)  
Indian Veterinary Research Institute  
Izatnagar (Uttar Pradesh) 243 122
- 127 All India Network Program on Diagnostic Imaging and  
Management of Surgical Condition in Animals  
Indian Veterinary Research Institute  
Izatnagar (Uttar Pradesh) 243 122
- 128 Coordinated Research Project Genomics  
National Bureau of Fish Genetic Resources  
Lucknow (Uttar Pradesh) 226 002
- 129 All India Co-ordinated Research Project on Home Science  
Central Institute for Women in Agriculture  
Plot No. 50-51, Mauza-Jokalandi,  
PO Baramund, Bhubaneswar (Odisha) 751 003
- 130 All India Co-ordinated Research Project on Home Science  
Central Institute for Research on Women in Agriculture  
Bhubaneswar (Odisha) 751 003

## APPENDIX 9

## AGRICULTURAL UNIVERSITIES

## State Agricultural Universities

1. Acharya NG Ranga Agricultural University, Rajendranagar, Hyderabad (Andhra Pradesh) 500 030
2. Assam Agricultural University, Jorhat (Assam) 785 013
3. Chandra Shekar Azad University of Agriculture and Technology, Kanpur (Uttar Pradesh) 208 002
4. Bihar Agricultural University, Sabour, Bhagalpur (Bihar) 813 210
5. CSK Himachal Pradesh Krishi Vishwavidyalaya, Palampur (Himachal Pradesh) 176 062
6. Dr Panjabrao Deshmukh Krishi Vidyapeeth, P.O. Krishi Nagar, Akola (Maharashtra) 444 104
7. Dr YSR Horticultural University, Administrative office, Venkataramannagudem, PB No. 7, West Godavari Dist., Tadepalligudem (Telangana) 534 101
8. Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana (Punjab) 141 004
9. Jawaharlal Nehru Krishi Vishwavidyalaya, Krishi Nagar, Jabalpur (Madhya Pradesh) 482 004
10. Anand Agricultural University, Anand (Gujarat) 388 110
11. Bidhan Chandra Krishi Viswavidyalaya, P.O. Krishi Viswavidyalaya, Mohanpur Nadia (West Bengal) 741 252
12. Birsa Agricultural University, Kanke, Ranchi (Jharkhand) 834 006
13. Chaudhary Charan Singh Haryana Agricultural University, Hisar (Haryana) 124 004
14. Dr Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Ratnagiri (Maharashtra) 415 712
15. Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, Udham Singh Nagar (Uttarakhand) 263 145
16. Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur (Chhattisgarh) 492 006
17. Junagadh Agricultural University, Near Motibagh, Vanthali Road, Junagadh (Gujarat) 362 001
18. Karnataka Veterinary Animal and Fisheries Science University, P.B. No. 6, Nandinagar, Bidar (Karnataka) 585 401
19. Kerala Agricultural University, P.O. Vellanikkara, Thrissur (Kerala) 680 656
20. Kerala Veterinary and Animal Sciences University, Pookode, Lakkidi P.O., Wayanad (Kerala) 673 576
21. Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar (Haryana)
22. Nanaji Deshmukh Pashu Chikitsa Vigyan Vishwavidyalaya, Jabalpur (Madhya Pradesh)
23. Sri Venkateswara Veterinary University, Administrative Office, Dr YSR Bhawan, Tirupati (Andhra Pradesh) 517 502
24. Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shalimar Campus, Srinagar (Jammu & Kashmir) 190 025
25. Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Administrative Bldg, Main Campus, Chatha, Jammu (Jammu & Kashmir) 180 009
26. University of Agricultural Sciences, GKVK Campus, Bengaluru (Karnataka) 560 065
27. University of Agricultural Sciences, PB 329, Raichur (Karnataka) 584102
28. University of Agricultural Sciences, Yettinagudda Campus, Krishi Nagar, Dharwad (Karnataka) 580 005
29. University of Horticultural Sciences, Bagalkot (Karnataka) 587103
30. University of Agricultural and Horticultural Sciences, No.126, Navile, Shimoga (Karnataka) 577 204
31. Rajmata Vijayaraje Scindia Krishi Vishwa Vidhyalaya, Opposite Mela Ground, Race, Course Road, Gwalior (Madhya Pradesh) 474 002
32. Maharashtra Animal and Fishery Sciences University, Futala Road, Telangkhedi, Nagpur (Maharashtra) 440 001
33. Vasantrao Naik Marathwada Krishi Vidapeeth, Prabhani (Maharashtra) 431402
34. Mahatma Phule Krishi Vidyapeeth, Rahuri, Tal Rahuri, Dist. Ahmednagar (Maharashtra) 413 722
35. Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan) 313 001
36. Rajasthan University of Veterinary and Animal Sciences, Bijay Bhawan Place Complex (Pt Deen Dayal circle), Bikaner (Rajasthan) 334 001
37. Swami Keshwanand Rajasthan Agricultural University, Beechwal, Bikaner (Rajasthan) 334006
38. Sri Karan Narendra Agriculture University, Jobner (Rajasthan) 303 329
39. Agriculture University Jodhpur, Mandor, Jodhpur (Rajasthan) 342 304
40. Agriculture University Kota, NH 76 Kota (Rajasthan) 324 001
41. Tamil Nadu Agricultural University, Lawley Road, Coimbatore (Tamil Nadu) 641 003
42. Tamil Nadu Veterinary and Animal Sciences University, Madhavaram Milk Colony Campus, Madhavaram, Chennai (Tamil Nadu) 600 051
43. Tamil Nadu Fisheries University, First Line Beach Road, Nagapattinam (Tamil Nadu) 611001
44. Uttarakhand University of Horticulture and Forestry, Bharsar Dist. Pauri Garhwal (Uttarakhand) 246123
45. West Bengal University of Animal and Fishery Sciences, 37 & 68 KB Sarani, Kolkata (West Bengal) 700 037
46. Uttar Banga Krishi Viswavidyalaya, PO Pundbari, Cooch Behar (West Bengal) 736 165
47. Orissa University of Agriculture and Technology, Bhubaneswar (Odisha) 751 003
48. Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad (Uttar Pradesh) 224 229
49. Sardar Ballabh Bhai Patel University of Agriculture & Technology, Modipuram, Meerut (Uttar Pradesh) 250 110

50. UP Pandit Deen Dayal Upadhaya *Pashu Chikitsa Vigyan Vishwa Vidhyalaya Evam Go Anusandhan Sansthan*, Mathura (Uttar Pradesh)
51. Manyavar Shri Kanshiram Ji University of Agriculture and Technology, Chilla Road, Banda (Uttar Pradesh) 210 001
52. Dr YS Parmar University of Horticulture and Forestry Nauni, Solan (Himachal Pradesh) 173 230
53. Chhattisgarh Kamdhenu Vishwavidyalaya, Anjora, Durg (Chhattisgarh) 491 001
54. Sardarkrushinagar-Dantiwada Agricultural University, Sardarkrushinagar, Dantiwada (Gujarat) 385 506
55. Navsari Agricultural University, Eru Char Rasta, Navsari (Gujarat) 396 450
56. Punjab Agricultural University, Ferozpur Road, Ludhiana (Punjab) 141 004
57. Kamdhenu University Amreli (Gujarat)
58. Kerala University of Fisheries and Ocean Studies, Papangad P.O., Kochi (Kerala) 682 506
59. Rajendra Agricultural University, Pusa, Samastipur (Bihar) 848 125
60. Prof. Jayashankar Teleangana State Agricultural University, Rajendranagar (Hyderabad)

**Central Agricultural University**

1. Central Agricultural University Imphal (Manipur) 795 004

2. Rani Lakshmi Bai CAU, Jhansi (Uttar Pradesh)

**Deemed Universities**

1. Indian Agricultural Research Institute Pusa, New Delhi 110 012
2. Central Institute of Fisheries Education Panch Marg, Off Yari Road Versova, Andheri (West) Mumbai (Maharashtra) 400 061
3. Indian Veterinary Research Institute Izatnagar (Uttar Pradesh) 243 122
4. Sam Higginbottom Institute of Agriculture Technology & Science (Formerly Allahabad Agricultural Institute) Rewa Road, Allahabad (Uttar Pradesh) 211 007
5. National Dairy Research Institute Karnal (Haryana) 132 001

**Central Universities with Agriculture Faculty**

1. Aligarh Muslim University, Aligarh (Uttar Pradesh) 202 002
2. Nagaland University, Lumani (Nagaland)
3. Banaras Hindu University, Varanasi (Uttar Pradesh) 221 005
4. Visva-Bharati University, Birbhum Dist Shantiniketan (West Bengal) 731 235

## APPENDIX 10

## Total number of employees in the ICAR and its research institutes and number of Scheduled Castes, Scheduled Tribes and Other Backward Classes

S.No. Class of post	Total posts sanctioned	Total employees in position	Scheduled Caste employees		Scheduled Tribes employees		OBC employees	
			No.	% to total employees	No.	% to Total employees	No.	% to total employees
<b>1. Scientific Posts</b>								
a. Scientist	3,897	2,783	372	13.36	260	9.34	479	17.21
b. Senior Scientist	1,659	1,059	89	8.40	23	2.17	142	13.40
c. Principal Scientist	757	689	61	8.85	9	1.30	48	6.96
d. RMP Scientist	163	136	3	2.20	1	0.73	4	2.94
<b>Total</b>	<b>6,476</b>	<b>4,667</b>	<b>525</b>	<b>11.24</b>	<b>293</b>	<b>6.27</b>	<b>673</b>	<b>14.42</b>
<b>2. Technical Posts</b>								
a. Category I	4,188	3,294	555	16.84	264	8.01	321	9.74
b. Category II	2,650	2,204	381	17.28	167	7.75	336	15.24
c. Category III	675	641	105	16.38	25	3.90	97	15.13
<b>Total</b>	<b>7,513</b>	<b>6,139</b>	<b>1,041</b>	<b>16.96</b>	<b>456</b>	<b>7.42</b>	<b>754</b>	<b>13.28</b>
<b>3. Administration Posts</b>								
(a) Category "A" posts: Director/Dy. Secretary/Under Secretary/CAOs/SAOs/AOs/ CF&AO/SF&AO/F&AO/LA	332	297	55	18.51	20	6.70	22	7.40
(b) Category "B" posts: AF&AO/AAO/PS/SO/AD(OL)/ ALA/	1,239	1,028	205	19.94	78	7.58	120	1.16
(c) Category "C" posts: Assistants/UDC/PA/ JAO/Steno/LDC	3,302	2,584	423	16.36	202	7.81	347	13.42
<b>Total</b>	<b>4,873</b>	<b>3,909</b>	<b>683</b>	<b>17.47</b>	<b>300</b>	<b>7.67</b>	<b>489</b>	<b>12.50</b>
<b>4. Supporting skilled-Staff</b>	<b>8,419</b>	<b>5,715</b>	<b>1,659</b>	<b>29.02</b>	<b>482</b>	<b>8.43</b>	<b>729</b>	<b>12.75</b>

## APPENDIX 11

## AWARDS

AWARDS	AWARDEES
<b>Sardar Patel Outstanding ICAR Institution Award 2013</b>	<ol style="list-style-type: none"> <li>1. <b>National Dairy Research Institute, Karnal</b></li> <li>2. <b>Sugarcane Breeding Institute, Coimbatore</b></li> <li>3. <b>Directorate of Poultry Research, Hyderabad</b></li> </ol>
<b>Chaudhary Devi Lal Outstanding All India Coordinated Research Project (AICRP) Award 2013</b>	<ol style="list-style-type: none"> <li>1. <b>AICRP on Agrometeorology</b> CRIDA, Hyderabad</li> </ol>
<b>Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2013</b>	<ol style="list-style-type: none"> <li>1. <b>Dr Ashok Kumar Singh</b> Professor and Project Leader (Rice) Division of Genetics, IARI, Pusa Campus, New Delhi 110 012</li> <li>2. <b>Prof. Rintu Banerjee</b> Chair Professor and Prof. in-charge P.K. Sinha Centre for Bioenergy, Agricultural &amp; Food Engineering Deptt., IIT, Kharagpur (West Bengal) 721 302</li> </ol>
<b>Lal Bahadur Shastri Outstanding Young Scientist Award 2013</b>	<ol style="list-style-type: none"> <li>1. <b>Dr Pradeep Sharma</b> Senior Scientist DWR, Karnal (Haryana) 132 001</li> <li>2. <b>Dr Supradip Saha</b> Senior Scientist Division of Agricultural Chemicals IARI, New Delhi 110 012</li> <li>3. <b>Dr B.M. Naveena</b> Senior Scientist NRC on Meat, Hyderabad (Andhra Pradesh) 500 092</li> <li>4. <b>Dr Ranjay K. Singh</b> Senior Scientist (Agricultural Extension) Division of Technology Evaluation &amp; Transfer CSSRI, Karnal (Haryana) 132 001</li> </ol>
<b>Panjabrao Deshmukh Outstanding Woman Scientist Award 2013</b>	<ol style="list-style-type: none"> <li>1. <b>Dr Indu Sharma</b> Project Director DWR, Karnal (Haryana) 132 001</li> <li>2. <b>Dr P.D. Kamala Jayanthi</b> ICAR National Fellow Division of Entomology and Nematology IIHR, Bengaluru (Karnataka) 560 089</li> </ol>
<b>Bharat Ratna Dr C. Subramaniam Award for Outstanding Teachers 2013</b>	<ol style="list-style-type: none"> <li>1. <b>Dr Ashok Kumar Singh</b> Professor and Project Leader (Rice) Division of Genetics IARI, Pusa Campus, New Delhi 110 012</li> <li>2. <b>Dr R.K. Pannu</b> Dean College of Agriculture CCSHAU Hisar (Haryana) 125 004</li> <li>3. <b>Dr Venkateshwarlu Gudipati</b> Principal Scientist and Dean CIFE, Mumbai (Maharashtra) 400 061</li> </ol>

AWARDS	AWARDEES
<b>ICAR Award for Outstanding Interdisciplinary Team Research in Agricultural and Allied Sciences for Biennium, 2011-12</b>	4. <b>Dr Seema Jaggi</b> Principal Scientist Division of Design of Experiments IASRI, New Delhi 110 012
	1. <b>Dr G. Padmaja</b> Principal Scientist and Head, Division of Crop Utilization, CTCRI, Thiruvananthapuram (Kerala) 695 017
	2. <b>Dr R.S. Kurothe</b> Principal Scientist (Agricultural Engineering) and Head Research Centre, CSWCR&TI, Anand (Gujarat) 388 306
	3. <b>Dr Ashis Samanta,</b> Principal Scientist Feed Additives and Nutraceuticals Laboratory Animal Nutrition Division, NIANP Adugodi, Bengaluru (Karnataka) 560 030
<b>Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems 2013</b>	4. <b>Dr B. Shanthi</b> Senior Scientist Social Science Division, CIBA Chennai (Tamil Nadu) 600 028
	1. <b>Dr Bikash Das</b> Senior Scientist, Regional Research Centre, ICAR Research Complex for Eastern Region, Ranchi (Jharkhand) 834 010
<b>Jawaharlal Nehru Award for Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2013</b>	2. <b>Dr M. Sankaran</b> Senior Scientist Division of Horticulture and Forestry CIARI, Port Blair (A&N Islands) 744 101
	1. <b>Dr Vignesh Muthusamy</b> Scientist Division of Genetics IARI, Pusa, New Delhi 110 012
	2. <b>Dr Somanath Agasimani</b> No. 70 Shree Somanath Krupa, Near KUD Cross, Shreenagar Dharwad (Karnataka) 580 003
	3. <b>Dr Santhosh Kumar Gupta</b> 404, Udaigiri Tower, Kaushmabi, Ghaziabad (Uttar Pradesh) 201 010
	4. <b>Dr Dhruba Jyoti Sarkar</b> Scientist Division of Agricultural Chemicals, IARI, New Delhi 110 012
	5. <b>Dr Rakesh Kumar Ghosh</b> Division of Chemicals and Biochemical Processing, NIRJAF&T Kolkata (West Bengal) 700 040
	6. <b>Dr Mahajan Gopal Ramdas</b> Scientist (Soil Science) ICAR Research Complex for Goa North Goa (Goa) 403 402
7. <b>Dr Zahoor Ahmed Bhat,</b> Vil. Yaripor Anantnag Kashmir (J&K) 192 232	

AWARDS	AWARDEES
	<p>8. <b>Dr Sukadev Mangaraj</b> APPD, CIAE, Nabibagh Bhopal (Madhya Pradesh) 462 038</p> <p>9. <b>Dr Gnanavel Venkatesan</b> Division of Virology IVRI, Mukteswar Campus Mukteswar (Uttarakhand) 263 138</p> <p>10. <b>Dr B.M. Chandranalk</b> Scientist-2, IAH &amp; VB, Hebbal Bengaluru (Karnataka) 560 024</p> <p>11. <b>Dr (Mrs) Cizi Alexander</b> Directorate of Coldwater Fisheries Research, Bhimtal (Uttarakhand) 263 136</p> <p>12. <b>Dr Ram Datt</b> Asstt. Prof., Deptt. of Extension Education, BAU Sabour (Bihar) 813 210</p> <p>13. <b>Dr Saritha Hegde</b> Chief Tech. Officer (SMS.H.Sc.), KVK, CPCRI Kasaragod (Kerala) 671 124</p>
<p><b>Jagjivan Ram Abhinav Kisan Puruskar /Jagjivan Ram Innovative Farmer Award (National/Zonal) 2013</b></p>	<p>1. <b>National</b> <b>Sh. Mohammed Idris Ahmed Quadri</b> Bagdal Village Distt. Bidar (Karnataka) 585 226</p> <p>2. <b>Zone 1</b> <b>Shri Parma Ram Choudhary</b> Village Chhattar (Himachal Pradesh) 175 002</p> <p>3. <b>Zone 2</b> <b>Shri Lakshman Das</b> Village-Kaipur, North and Middle Andaman</p> <p>4. <b>Zone 3</b> <b>Shri Dipen Boruah</b> Village-Khonamukh, Charingia Gaon, Jorhat (Asom) 785 682</p> <p>5. <b>Zone 4</b> <b>Shri Rajpal Singh</b> Village Jaigehta Gurjar Saharanpur (Uttar Pradesh)</p> <p>6. <b>Zone 5</b> <b>Shri Katta Ramakrishna</b> Naguluppalapadu Post Prakasam District (Andhra Pradesh) 523 183</p> <p>7. <b>Zone 6</b> <b>Shri Nand Lal Dhakar</b> Village Jaishingpura Chittorgarh (Rajasthan)</p> <p>8. <b>Zone 7</b> <b>Shri Purna Chandra Mohanty</b> Bhubaneshwar (Odisha) 751 022</p> <p>9. <b>Zone 8</b> <b>Shri Malanna S. Nagaral</b> Distt. Bagalkot (Karnataka) 587 118</p>

AWARDS	AWARDEES
<b>N.G. Ranga Farmer Award for Diversified Agriculture 2013</b>	1. <b>Smt. Krishna Yadav</b> Village-Bajgheda Gurgaon (Haryana) 122 017
<b>Krishi and vigyan sambandhit takneeki pustako ke lekhan hetu Dr Rajendra Prasad Puruskar 2013</b>	1. <b>Dr D.R. Bhardwaj</b> Principal Scientist Indian Vegetable Research Institute Varanasi (Uttar Pradesh) 221 002  2. <b>Dr Anil Kumar Singh</b> Principal Scientist IISR Lucknow (Uttar Pradesh) 226 002  3. <b>Dr Avadh Bihari Pandey</b> IVRI Muketeswar (Uttarakhand) 263 138  4. <b>Dr V.K. Bharti</b> Chief Production Officer DKMA, ICAR New Delhi 110 012
<b>Vasant Rao Naik Award for Outstanding Research and Application in Dryland Farming systems 2013</b>	1. <b>Dr M. Madhu</b> Head & Principal Scientist CSWCRTI Research Centre, Koraput (Odisha) 763 002
<b>Swami Sahajanand Saraswati Outstanding Extension Scientist Award 2013</b>	1. <b>Dr Ashok Kumar Singh</b> Zonal Project Directorate Kanpur (Uttar Pradesh) 208 002  2. <b>Dr K. Suman Kalyani</b> Principal Scientist (Home Science) CTRI Rajamundry (Andhra Pradesh) 533 105
<b>Chaudhary Charan Singh Award for Excellence in Journalism in Agricultural Research and Development 2013</b>	1. <b>Shri Pallava Bagla</b> Science Editor New Delhi Television and Correspondent – Science New Delhi  2. <b>Shri Bhagwan Dass</b> Journalist, Patiala (Punjab) 147 004
<b>NASI-ICAR Award for Innovation and Research on Farm Implements 2013</b>	1. <b>Dr Krishna Pratap Singh</b> Sr. Scientist CIAE Bhopal (Madhya Pradesh) 462 038

## APPENDIX 12

### RESULTS-FRAMEWORK DOCUMENT FOR DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION (2013-2014)



**RFD**  
**Results-Framework Document**  
**for**  
**Department of Agricultural Research and Education**  
**(2013-2014)**

**Section I**  
**Vision, Mission, Functions and Objectives**

#### **Vision**

Harnessing science to ensure comprehensive and sustained physical, economic and ecological access to food and livelihood security to all Indians through generation, assessment, refinement and adoption of appropriate technologies.

#### **Mission**

Sustainability and growth of Indian agriculture by interfacing agricultural research, higher education and front-line extension initiatives complemented with institutional, infrastructural and policy support that will create efficient and effective science-harnessing tool.

#### **Functions**

- 1 To develop Public-Private-Partnerships in developing seeds, planting materials, vaccines, feed formulations, value added products, agricultural machinery etc.
- 2 To serve as a repository in agriculture sector and develop linkages with national and international organizations as per the needs and current trends.
- 3 To plan, coordinate and monitor research for enhancing production and productivity of agriculture sector.
- 4 To enhance quality of higher education in agriculture sector.
- 5 Technology generation, commercialization and transfer to end users.
- 6 Human resource development and capacity building.

#### **Objectives**

- 1 Improving natural resource management and input use efficiency
- 2 Development and strengthening of higher agricultural education
- 3 IP management and commercialization of technologies
- 4 Assessment and monitoring of fishery resources
- 5 Utilizing frontier research in identified areas/programmes for better genetic exploitation
- 6 Farm mechanization, post-harvest management and value addition
- 7 Development of diagnostics and vaccines
- 8 Frontline agricultural extension through technology assessment, refinement and demonstration
- 9 Knowledge management in agriculture
- 10 To develop and sustain excellence in basic and strategic research for providing knowledge support in the NARS for technology solution
  - \* Efficient functioning of the Results-Framework Document System
  - \* Transparency/Service delivery Ministry/Department
  - \* Administrative Reforms
  - \* Improving Internal Efficiency/Responsiveness.
  - \* Ensuring compliance to the Financial-Accountability Framework

## Section 2

### *Inter se* Priorities among Key Objectives, Success Indicators and Targets

Objectives	Weight	Action	Success	Unit	Weight 100%	Targets/Criteria Values				
						Excellent 90%	Very Good 80%	Good 70%	Fair 60%	Poor
[1] Improving natural resource management and input use efficiency	15	[1.1] Integrated nutrient management (INM)	[1.1.1] Technologies for improving soil-health and nutrient use efficiencies	Number	2.55	10	8	6	4	2
			[1.1.2] Developing INM packages for different agro-eco regions of the country	Number	2.55	16	14	12	11	10
		[1.2] Integrated water management (IWM)	[1.2.1] Technologies for enhancing water/ irrigation use efficiencies	Number	1.65	4	3	2	1	0
			[1.2.2] Technologies for water harvesting storage and groundwater recharge	Number	1.65	4	3	2	1	0
		[1.3] Climate resilient agriculture	[1.3.1] Awareness building amongst stake holders through trainings / demonstrations	Number	1.05	100	90	80	70	60
			[1.3.2] Programs organized for developing trained manpower in research and technology dissemination	Number	1.05	28	25	20	15	10
			[1.3.3] Testing crop varieties / breeds for climate resilience at different locations	Number	2.25	9	8	7	6	5
		[1.4] Soil resource characterization and mapping	[1.4.1] Soil resource maps including thematic maps developed at different scales	Number	2.25	22	19	16	14	12
[2] Development and strengthening of higher agricultural education	15	[2.1] Accreditation / Extension of accreditation of agricultural universities	[2.1.1] Universities granted accreditation / extension of accreditation	Number	1.50	8	6	5	4	3
		[2.2] Grant of ICAR International	[2.2.1] Fellowships awarded (subject to availability)	Number	2.25	15	14	13	12	11

Objectives	Weight	Action	Success	Unit	Weight 100%	Targets/Criteria Values					
						Excellent 90%	Very Good 80%	Good 70%	Fair 60%	Poor	
		fellowships to Indian and foreign students	of competent candidates)								
		[2.3] Grant of JRF and SRF to students	[2.3.1] Fellowships granted every year (subject to availability of competent candidates)	Number	3.00	645	640	630	625	620	
		[2.4] Establishment of experiential learning units	[2.4.1] Establishment of experiential learning units	Number	1.50	24	22	20	18	16	
		[2.5] Financial support and monitoring of progress	[2.5.1] Amount released as per BE	Rupees (in crores)	3.00	650	600	550	500	450	
		[2.6] Capacity building and faculty up-gradation	[2.6.1] Faculty trained	Number	2.25	1870	1850	1830	1810	1790	
		[2.7] Creation / continuation of the centres under Niche Area of Excellence (NAE)	[2.7.1] Continued support for the existing centres and establishment of new centres of NAE	Number	1.50	25	22	20	18	16	
[3] IP management and commercialization of technologies	7	[3.1] Partnership development including licensing of ICAR technologies	[3.1.1] Partners identified	Number	3.50	155	150	130	120	100	
		[3.2] Patents and other IPR titles	[3.2.1] Applications filed	Number	3.50	75	60	50	40	30	
[4] Assessment and monitoring of fishery resources	5	[4.1] Fish resources assessment and eco-system monitoring	[4.1.1] Number of explorations / surveys carried out	Number	5.00	125	120	115	110	100	
[5] Utilizing frontier research in identified areas / programs for better genetic exploitation	15	[5.1] Collection, characterization and conservation of genetic resources	[5.1.1] Germplasm conserved under long term storage (other crops)	Number	1.35	6,000	5,000	4,000	3,500	3,000	
			[5.1.2] Germplasm collected (horticultural crops)	Number	1.35	410	400	350	325	250	
		[5.2] Evaluation of genetic resources / improved varieties for suitable crop husbandry practices	[5.2.1] Germplasm / breeding lines evaluated	Number	1.35	37,000	35,000	33,000	30,000	27,500	

Objectives	Weight	Action	Success	Unit	Weight 100%	Targets/Criteria Values				
						Excellent 90%	Very Good 80%	Good 70%	Fair 60%	Poor
[6] Farm mechanization, post-harvest management and value addition	5	[5.3] Production of breeder seed, other seeds and planting materials	[5.3.1] Quantity of breeder seed produced (other crops)	Quintal	1.50	95,000	85,000	80,000	75,000	70,000
			[5.3.2] Quantity of breeder seed produced (horticultural crops)	Quintal	1.35	37,000	36,000	32,000	30,000	25,000
			[5.3.3] Planting materials produced annually	Number (in lakhs)	1.35	42	41	35	30	25
	[5.4] Development of improved varieties suited to diverse agro-ecologies	[5.4.1] Varieties identified by AICRP Varietal Identification Committees (food, fodder and cash crops)	Number	1.35	40	35	30	25	22	
		[5.4.2] Varieties identified by AICRP Varietal Identification Committees (oilseeds & pulses)	Number	1.35	18	15	13	12	10	
		[5.4.3] Varieties identified by AICRP Varietal Identification Committees (fruits, vegetables, flowers and spices)	Number	1.35	20	18	15	13	10	
	[5.5] Production of piglets (8-12 weeks of age)	[5.5.1] Provisioning of piglets to farmers and development agencies	Number	1.35	2,100	1,950	1,800	1,650	1,500	
	[5.6] Production of day old as well as 6 weeks old chicks	[5.6.1] Provisioning of day old / 6 weeks old chicks to farmers and development agencies	Number (in lakhs)	1.35	6.5	6	5.5	5	4.5	
	[6.1] Develop / refine equipment for crop production and processing	[6.1.1] Equipment developed / refined	Number	1.25	21	20	18	16	14	
	[6.2] Testing of commercial prototypes / technologies	[6.2.1] Commercial test reports	Number	1.25	13	12	11	10	9	
[6.3] Process protocols for product development, storage, safety and improved quality	[6.3.1] Process protocols developed	Number	1.25	14	12	10	9	8		

Objectives	Weight	Action	Success	Unit	Weight 100%	Targets/Criteria Values				
						Excellent 90%	Very Good 80%	Good 70%	Fair 60%	Poor
		[6.4] Development / refinement of agro-products	[6.4.1] Value-added products	Number	1.25	16	14	12	11	10
[7] Development of diagnostics and vaccines	6	[7.1] Development of diagnostic kits	[7.1.1] Diagnostic kits developed	Number	3.60	3	2	1	0	0
		[7.2] Development of vaccines against important animal diseases	[7.2.1] Vaccines developed	Number	2.40	3	2	1	0	0
[8] Frontline agricultural extension through technology assessment, refinement & demonstration	8	[8.1] Capacity building for technology application	[8.1.1] On-farm trials and frontline demonstrations conducted	Number	4.00	100,000	95,000	90,000	85,000	80,000
			[8.1.2] Trainings organized (farmers, rural youth, women and in-service extension personnel)	Number	4.00	50,000	45,000	40,000	30,000	25,000
[9] Knowledge management in agriculture	5	[9.1] Knowledge dissemination	[9.1.1] Print and electronic publication / products brought out	Number	5.00	250	238	226	214	202
[10] To develop and sustain excellence in basic and strategic research for providing knowledge support in the NARS for technology solution	4	[10.1] To create awareness of the need and nature of basic / strategic research in agriculture	[10.1.1] Success rate of concept notes submitted	Percent	1.20	20	18	16	14	12
			[10.1.2] Success rate of full proposals finally selected	Percent	1.20	85	67	60	53	46
		[10.2] Outcome of research done in the projects	[10.2.1] Technologies / methodologies developed	Number	1.60	5	4	3	2	1
* Efficient Functioning of the RFD System	3	Timely submission of Draft RFD 2014-15 for Approval	On-time submission	Date	2.00	05/03/2014	06/03/2014	07/03/2014	08/03/2014	11/03/2014
		Timely submission of Results for 2012-13	On-time submission	Date	1.00	01/05/2013	02/05/2013	03/05/2013	06/05/2013	07/05/2013
* Transparency/Service delivery Ministry/ Department	3	Independent Audit of implementation of Citizens'/Clients' Charter (CCC)	% of implementation	%	2.00	100	90	80	70	60

Objectives	Weight	Action	Success	Unit	Weight 100%	Targets/Criteria Values				
						Excellent 90%	Very Good 80%	Good 70%	Fair 60%	Poor
		Independent Audit of implementation of Public Grievance Redressal System	% of implementation	%	1.00	100	90	80	70	60
* Administrative Reforms	6	Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	1.00	100	95	90	85	80
		Implement ISO 9001 as per the approved action plan	% of implementation	%	2.00	100	95	90	85	80
		Identify, design and Implement major innovations.	Timely submission of Action Plan for enabling innovation	Date	2.00	15/05/2014	16/05/2014	19/05/2014	20/05/2014	21/05/2014
		Identification of core and non-core activities of the Ministry/Department as per 2nd ARC recommendations	Timely submission	Date	1.00	24/03/2014	25/03/2014	26/03/2014	27/03/2014	28/03/2014
* Improving Internal Efficiency/ Responsiveness.	2	Update departmental strategy to align with 12th Plan priorities	Timely updation of the strategy	Date	2.00	10/09/2013	17/09/2013	24/09/2013	01/10/2013	08/10/2013
* Ensuring compliance to the Financial Accountability Framework	1	Timely submission of ATNs on Audit paras of C&AG	Percentage of ATNs submitted within due date (4 months) from date of presentation of Report to Parliament by CAG during the year	%	0.25	100	90	80	70	60
		Timely submission of ATRs to the PAC Sectt. on PAC Reports.	Percentage of ATRS submitted within due date ( 6 months) from date of presentation of Report to Parliament by PAC during the year	%	0.25	100	90	80	70	60
		Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2013.	Percentage of outstanding ATNs disposed off during the year	%	0.25	100	90	80	70	60
		Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2013	Percentage of outstanding ATRS disposed off during the year	%	0.25	100	90	80	70	60

### Section 3 Trend Values of the Success Indicators

Objective	Weight	Action	Success indicator	Unit	Actual value FY 11/12	Actual value FY 12/13	Target value FY 13/14	Projected value for FY 14/15	Projected value for FY 15/16
1 Improving natural resource management and input use efficiency	15	[1.1] Integrated nutrient management (INM)	[1.1.1] Technologies for improving soil health and nutrient use efficiencies	Number	3	4	8	10	11
			[1.1.2] Developing INM packages for different agro-eco regions of the country	Number	4	9	14	15	15
		[1.2] Integrated water management (IWM)	[1.2.1] Technologies for enhancing water / irrigation use efficiencies	Number	4	5	3	4	6
			[1.2.2] Technologies for water harvesting storage and groundwater recharge	Number	6	8	3	3	3
		[1.3] Climate resilient agriculture	[1.3.1] Awareness building amongst stake holders through trainings / demonstrations	Number			90		
			[1.3.2] Programs organized for developing trained manpower in research and technology dissemination	Number	0	0	25	28	30
			[1.3.3] Testing crop varieties / breeds for climate resilience at different locations	Number			8		
		[1.4] Soil resource characterization and mapping	[1.4.1] Soil resource maps including thematic maps developed at different scales	Number	0	0	19	22	22
2 Development and strengthening of higher agricultural education	15	[2.1] Accreditation / Extension of accreditation of agricultural universities	[2.1.1] Universities granted accreditation / extension of accreditation	Number	5	8	6	7	8
		[2.2] Grant of ICAR International fellowships to Indian and foreign students	[2.2.1] Fellowships awarded (subject to availability of competent candidates)	Number	15	12	14	14	14

Objective	Weight	Action	Success indicator	Unit	Actual value FY 11/12	Actual value FY 12/13	Target value FY 13/14	Projected value for FY 14/15	Projected value for FY 15/16
		[2.3] Grant of JRF and SRF to students	[2.3.1] Fellowships granted every year (subject to availability of competent candidates)	Number	660	625	640	645	650
		[2.4] Establishment of experiential learning units	[2.4.1] Establishment of experiential learning units	Number			22		
		[2.5] Financial support and monitoring of progress	[2.5.1] Amount released as per BE	Rupees (in crores)			600		
		[2.6] Capacity building and faculty up-gradation	[2.6.1] Faculty trained	Number	1,000	900	1,850	1,870	1,890
		[2.7] Creation / continuation of the centres under Niche Area of Excellence (NAE)	[2.7.1] Continued support for the existing centres and establishment of new centres of NAE	Number	0	0	22	25	28
3	7	[3.1] Partnership development including licensing of ICAR technologies	[3.1.1] Partners identified	Number	136	149	150	155	160
		[3.2] Patents and other IPR titles	[3.2.1] Applications filed	Number	111	105	60	70	80
4	5	[4.1] Fish resources assessment and eco-system monitoring	[4.1.1] Number of explorations / surveys carried out	Number	60	128	120	130	140
5	15	[5.1] Collection, characterization and conservation of genetic resources	[5.1.1] Germplasm conserved under long term storage (other crops)	Number			5,000		
			[5.1.2] Germplasm collected (horticultural crops)	Number			400		
		[5.2] Evaluation of genetic resources / improved varieties for suitable crop husbandry practices	[5.2.1] Germplasm / breeding lines evaluated	Number			35,000		
		[5.3] Production of breeder seed, other seeds	[5.3.1] Quantity of breeder seed produced (other crops)	Quintals			85,000		

Objective	Weight	Action	Success indicator	Unit	Actual value FY 11/12	Actual value FY 12/13	Target value FY 13/14	Projected value for FY 14/15	Projected value for FY 15/16
		and planting materials							
			[5.3.2] Quantity of breeder seed produced (horticultural crops)	Quintals			36,000		
			[5.3.3] Planting materials produced annually	Number (in lakhs)			41		
	[5.4]	Development of improved varieties suited to diverse agro-ecologies	[5.4.1] Varieties identified by AICRP Varietal Identification Committees (food, fodder and cash crops)	Number			35		
			[5.4.2] Varieties identified by AICRP Varietal Identification Committees (oilseeds & pulses)	Number			15		
			[5.4.3] Varieties identified by AICRP Varietal Identification Committees (fruits, vegetables, flowers and spices)	Number			18		
	[5.5]		Production of piglets (8-12 weeks of age)	[5.5.1] Provisioning of piglets to farmers and development agencies	Number			1,950	
	[5.6]	Production of day old as well as 6 weeks old chicks	[5.6.1] Provisioning of day old / 6 weeks old chicks to farmers and development agencies	Number (in lakhs)			6		
6	5	[6.1] Develop / refine equipment for crop production and processing	[6.1.1] Equipment developed / refined	Number			20		
		[6.2] Testing of commercial prototypes / technologies	[6.2.1] Commercial test reports	Number	27	8	12	14	16
		[6.3] Process protocols for product development, storage, safety and improved quality	[6.3.1] Process protocols developed	Number	21	13	12	14	16
		[6.4] Development / refinement of agro-products	[6.4.1] Value-added products	Number	31	14	14	16	18

Objective	Weight	Action	Success indicator	Unit	Actual value FY 11/12	Actual value FY 12/13	Target value FY 13/14	Projected value for FY 14/15	Projected value for FY 15/16
7 Development of diagnostics and vaccines	6	[7.1] Development of diagnostic kits	[7.1.1] Diagnostic kits developed	Number	5	3	2	4	4
		[7.2] Development of vaccines against important animal diseases	[7.2.1] Vaccines developed	Number	3	2	2	3	3
8 Frontline agricultural extension through technology assessment, refinement & demonstration	8	[8.1] Capacity building for technology application	[8.1.1] On-farm trials and frontline demonstrations conducted	Number			95,000		
			[8.1.2] Trainings organized (farmers, rural youth, women and in-service extension personnel)	Number			45,000		
9 Knowledge management in agriculture	5	[9.1] Knowledge dissemination	[9.1.1] Print and electronic publication / products brought out	Number			238		
10 To develop and sustain excellence in basic and strategic research for providing knowledge support in the NARS for technology solution	4	[10.1] To create awareness of the need and nature of basic / strategic research in agriculture	[10.1.1] Success rate of concept notes submitted	Percent	0	0	18	25	30
			[10.1.2] Success rate of full proposals finally selected	Percent	0	0	67	85	90
			[10.2] Outcome of research done in the projects	[10.2.1] Technologies / methodologies developed	Number	0	0	4	7
* Efficient Functioning of the RFD System	3		Timely submission of Draft RFD 2014-15 for Approval	On-time submission	Date		06/03/2014		
			Timely submission of Results for 2012-13	On-time submission	Date		02/05/2014		
* Transparency/Service delivery Ministry/Department	3		Independent Audit of implementation of Citizens'/Clients' Charter (CCC)	% of implementation	%		95		
			Independent Audit of implementation of Public Grievance Redressal System	% of implementation	%		95		

Objective	Weight	Action	Success indicator	Unit	Actual value FY 11/12	Actual value FY 12/13	Target value FY 13/14	Projected value for FY 14/15	Projected value for FY 15/16
* Administrative Reforms	6	Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%			95		
		Implement ISO 9001 as per the approved action plan	% of implementation	%			95		
		Identify, design and Implement major innovations.	Timely submission of Action Plan for enabling innovation	Date			95		
		Identification of core and non-core activities of the Ministry/Department as per 2nd ARC recommendations	Timely submission	Date			15/10/2013		
* Improving Internal Efficiency/Responsiveness.	2	Update departmental strategy to align with 12th Plan priorities	Timely updation of the strategy	Date			17/09/2013		
* Ensuring compliance to the Financial Accountability Framework	1	Timely submission of ATNs on Audit paras of C&AG	Percentage of ATNs submitted within due date (4 months) from date of presentation of Report to Parliament by CAG during the year.	%			90		
		Timely submission of ATRs to the PAC Sectt. on PAC Reports.	Percentage of ATRS submitted within due date (6 months) from date of presentation of Report to Parliament by PAC during the year.	%			90		
		Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2013.	Percentage of outstanding ATNs disposed off during the year.	%			90		
		Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2013	Percentage of outstanding ATRS disposed off during the year.	%			90		

## Section 4

**Acronym to Section 4**

AH	Animal Husbandry		
AICRP	All India Coordinated Research Project	IPR	Intellectual Property Rights
AUs	Agricultural Universities	IWM	Integrated Water Management
BE	Budget Estimate	JRF	Junior Research Fellow
DAC	Department of Agriculture and Cooperation	KVK	Krishi Vigyan Kendra
DADF	Department of Animal Husbandry, Dairying and Fisheries	MoAs	Memorandum of Agreements
DAE	Division of Agricultural Extension	MoRD	Ministry of Rural Development
DBT	Department of Bio Technology	MoUs	Memorandum of Understandings
DKMA	Directorate of Knowledge Management in Agriculture	MoWR	Ministry of Water Resources
DST	Department of Science and Technology	NAE	Niche Area of Excellence
DU	Deemed University	NARS	National Agricultural Research System
FACE	Free Air Carbon-dioxide Enrichment	NFBSFARA	National Fund for Basic, Strategic and Frontier Application Research in Agriculture
FATE	Free Air Temperature Enrichment	NGOs	Non-Governmental Organizations
FLD	Front line Demonstration	NHB	National Horticulture Board
ICAR	Indian Council of Agricultural Research	NHM	National Horticulture Mission
ICMR	Indian Council of Medical Research	OFT	On-Farm Trial
ICT	Information and Communication Technology	PG	Post-Graduate
INM	Integrated Nutrient Management	SAUs	State Agricultural Universities
IP	Intellectual Property	SRF	Senior Research Fellow
IPNS	Integrated Plant Nutrient Supply System	SVUs	State Veterinary Universities
		UG	Under Graduate

### Description and Definition of Success Indicators and Proposed Measurement Methodology

S. No.	Success indicator	Description	Definition	Measurement	General Comments
1	[1.1.1] Technologies for improving soil health and nutrient use efficiencies	The nutrient use efficiency in the country is very low and fertilizer being a costly input, this has to be increased to reduce the use of fertilizer vis-à-vis cost of production	Nutrient efficiency can be defined in agronomic, economic, or environmental terms with an aim to get maximum yield benefit with reduce rate of application without harming the environment	Nutrient use efficiency is measured in terms of partial factor productivity ( kg crop yield per kg nutrient applied) or agronomic efficiency ( kg crop yield increase per kg nutrient applied) or apparent recovery efficiency ( kg nutrient taken up per kg nutrient applied); and physiological efficiency ( kg yield increase per kg nutrient taken up)	Augmenting nutrient use efficiency will facilitate reduction in use of costly chemical fertilizer, fertilizer subsidy burden and environmental pollution
2	[1.1.2] Developing INM packages for different agro-eco regions of the country	Integrated nutrient management is practiced encompassing conjunctive use of both chemical and organic nutrient sources for improving soil health & sustaining higher productivity	Integrated nutrient management refers to the maintenance of soil fertility and plant nutrient supply at an optimum level for sustaining the desired productivity through optimization of the benefits from all	Developing integrated plant nutrient supply systems (IPNS) for different crops / croppings	To ensure balance fertilization and sound soil health

## APPENDICES

S. No.	Success indicator	Description	Definition	Measurement	General Comments
			possible sources of organic, inorganic and biological components in an integrated manner		
3	[1.2.1] Technologies for enhancing water / irrigation use efficiencies	Improving irrigation/water use efficiency is aimed to save water bringing more area under irrigation	Irrigation efficiency is the index of irrigation performance while water use efficiency is defined as yield/ unit of crop water use	To be measured in terms of irrigation water use and evapo-transpiration	This will increase the crop water productivity
4	[1.2.2] Technologies for water harvesting storage and groundwater recharge	Rainwater is harvested through bio engineering measures and used for augmenting ground water level	Groundwater recharge is a hydrologic process where water moves downward from surface water to groundwater	Groundwater recharge measurement will be studied through development of location specific filter systems	Groundwater recharge technique shall help in minimizing surface run-off and augmenting groundwater table
5	[1.3.1] Awareness building amongst stake holders through trainings / demonstrations	The knowledge and skills of primary and secondary stakeholders shall be enhanced by organizing exposure visits to on-farm trials/ demonstrations conducted by SAUs and KVKs	Exposure to advanced techniques in understanding and managing climatic risks	Number of programmes	Skill enhancement of primary and secondary stakeholders
6	[1.3.2] Programs organized for developing trained manpower in research and technology dissemination	Staff of NARS and NGOs will be exposed to state-of-art facilities/ techniques /tools developed within the country/ abroad for pursuing advance research and technology dissemination	Enhancing the knowledge of scientists and officials in understanding climatic variability and coping strategies	Number of training programmes	Human capital development in coping with changing climatic scenario
7	[1.3.3] Testing crop varieties / breeds for climate resilience at different locations	State of art facilities like phenomics, FACE and FATE and other advanced techniques will be employed in identifying the germplasm / varieties/ livestock breeds/ fisheries species tolerant to biotic and abiotic stresses	Germplasm/ varieties/ livestock breeds / fisheries species that can tolerate biotic and abiotic stresses	Number of germplasm/ varieties/ livestock breeds / fisheries species	With increased frequency of occurrence of weather aberrations have necessitated the need for identifying tolerant germplasm/ varieties/ livestock breeds / fisheries species

## APPENDICES

S. No.	Success indicator	Description	Definition	Measurement	General Comments
8	[1.4.1] Soil resource maps including thematic maps developed at different scales	Soil resource inventory & characterization is prerequisite for developing land use planning	Soil resource maps are the record of soil units delineated on the basis of similar properties in a readable format	Mapping will be done at different scale using geo reference data	This will ensure effective monitoring and judicious use of land resources
9	[2.1.1] Universities granted accreditation / extension of accreditation	Educational quality and reforms are to be measured from the number of universities accredited and need based reforms undertaken	Accreditation is periodically undertaken to ensure education quality by Accreditation Board, ICAR	Number	
10	[2.2.1] Fellowships awarded (subject to availability of competent candidates)	International fellowships to both Indian and foreign students are awarded in cutting edge areas for showcasing strength of Indian agriculture	Fellowships are awarded in competitive mode based on merit	Number	
11	[2.3.1] Fellowships granted every year (subject to availability of competent candidates)	JRF/SRF fellowships are awarded for attracting and retaining talented youths towards higher agricultural education through All India Examination	JRF/SRF (PGs) fellowships are meant for Master and Doctoral programme respectively in Agriculture and Allied Sciences in competitive mode	Number	
12	[2.4.1] Establishment of experiential learning units	Experiential learning units are being established across Agricultural Universities for providing hands on training and developing entrepreneurship skills amongst youth at UG level	Experiential learning unit are in different areas of Agriculture and Allied Sciences at college level for Under Graduate students	Number	
13	[2.5.1] Amount released as per BE	ICAR provides grant for development and strengthening of higher agricultural education to Agricultural Universities for the infrastructure development including students'	ICAR development grant to Agricultural Universities emphasizes quality education, its relevance and usefulness	₹ (in crore)	

S. No.	Success indicator	Description	Definition	Measurement	General Comments
		amenities and facilities, modernization of laboratories and classrooms and to facilitate course-curriculum delivery and quality assurance with enabling environment and ICT support on yearly basis			
14	[2.6.1] Faculty trained	Capacity building and faculty up-gradation in need based areas of agriculture and allied sciences to be measured from the number of trained personnel through summer-winter schools/ short courses, Centres of Advanced Faculty Trainings and niche area centres	Training programmes are key to sustain quality of agricultural education through updating of knowledge and skill of faculty	Number	
15	[2.7.1] Continued support for the existing centres and establishment of new centres of NAE	Creation/ continuation of Niche Area of Excellence for scaling up of research capabilities of the universities and promote human resource development	Basic elements of Niche Areas of Excellence are quality of human resource, adequate infrastructure, access to latest information and well developed educational technology system	Number	
16	[3.1.1] Partners identified	With respect to commercialization of technologies and services for promoting partnerships with both public and private sector agencies, it is envisaged to bring commercial ethos in agricultural research system. The increasing numbers of partnerships over the years points towards emphasis on transfer of knowledge, skills and	Partnership development, includes licensing of ICAR's technologies and/ or services	Number	

## APPENDICES

S. No.	Success indicator	Description	Definition	Measurement	General Comments
		technologies, thereby contributing to improved socioeconomic impact from contribution of ICAR			
17	[3.2.1] Applications filed	Filing of patents and other IPR titles for protection of IP	Protection of IPs in the form of patents and other IPR titles	Number	
18	[4.1.1] Number of explorations / surveys carried out	Explorations/ surveys carried out to identify new fishery resources and locating potential fishing zones	Newer fishery resources and potential fishing areas identified	Per cent increase in fish production and productivity	
19	[5.1.1] Germplasm conserved under long term storage (other crops)	Diverse germplasm is the basic requirement to bred new improved varieties	Basic genetic resource for crop improvement	Number of germplasm samples/ accessions	
20	[5.1.2] Germplasm collected (horticultural crops)	Germplasms are genetic resources of horticultural crops which are source for genetic variability	Germplasm is collection of cultivars, landraces, wild species etc. for conservation and utilization	Number	Germplasm material serves as base for utilization in crop improvement programs for breeding new varieties
21	[5.2.1] Germplasm / breeding lines evaluated	Source material for the improved varieties to be evaluated	Material generated from the basic germplasm	Number of breeding lines evaluated	
22	[5.3.1] Quantity of breeder seed produced (other crops)	Produce from nucleus and breeder seed is the starting point in seed chain of producing quality seeds for farmers	Breeder seed is the starting point in seed chain which is multiplied/ converted into foundation / certified seed	Quantity produced (Quintals)	Quantity may vary as per indent from DAC
23	[5.3.2] Quantity of breeder seed produced (horticultural crops)	Propagating material directly controlled by the originating or sponsoring plant breeder of the breeding program or institution	Breeder seed, whose production is personally supervised by a qualified plant breeder and is source for foundation and certified seeds	Weight in Quintals	Breeder seed shall be genetically so pure as to guarantee that in the subsequent generation
24	[5.3.3] Planting materials produced annually	Production of planting material of vegetatively propagated horticultural crops	It is a process of vegetative means by which new individuals arise without production of seeds or spores	Number of saplings/plants (in lakhs)	In a wider sense, planting material arise from vegetative propagation include cutting, vegetative apomixis, layering,

S. No.	Success indicator	Description	Definition	Measurement	General Comments
					division, budding, grafting and tissue culture
25	[5.4.1] Varieties identified by AICRP Varietal Identification Committees (food, fodder and cash crops)	Breeding lines tested along with checks in multi-location trials through All India Coordinated Research Projects and the best performing entries compared to checks are identified as new improved varieties for release	Best performing entries identified as a new variety for release	Number of such varieties identified	Targets for varieties identified given in Section 2 and their respective trend values in Section 3 may vary as the identification of varieties depend upon the availability of superior material with respect to yield, biotic and abiotic resistance/ tolerance over the existing varieties
26	[5.4.2] Varieties identified by AICRP Varietal Identification Committees (oilseeds & pulses)	Breeding lines tested along with checks in multi-location trials through All India Coordinated Research Projects and the best performing entries compared to checks are identified as new improved varieties for release	Best performing entries identified as a new variety for release	Number of such varieties identified	Targets for varieties identified given in Section 2 and their respective trend values in Section 3 may vary as the identification of varieties depend upon the availability of superior material with respect to yield, biotic and abiotic resistance/ tolerance over the existing varieties
27	[5.4.3] Varieties identified by AICRP Varietal Identification Committees (fruits, vegetables, flowers and spices)	Varieties/ cultivars produced by careful breeding and selection for desirable characteristics	A variety/cultivar is a plant or group of plants selected for desirable traits	Number	Varieties are result of breeding improvements can include high yield, quality, better disease resistance, drought tolerance, fruit size, etc.
28	[5.5.1] Provisioning of piglets to farmers and development agencies	The provisioning of piglets will depend on high reproductive efficiency (preferably with a pregnancy rate not less than 70%) of the sows (female pigs), and other inputs like quality	The piglets being provisioned will serve as the basic unit (seed) for production, reproduction, maintenance and preservation	Number	The piglets supplied will be used by the farmers as means of nutritional security and economic returns and by the State AH Departments for enhancing production / productivity on

S. No.	Success indicator	Description	Definition	Measurement	General Comments
		management, balanced feed, health cover for optimum growth to be monitored initially weekly weights up to weaning and thereafter fortnightly monitoring of weight and growth rate till the piglets are ready for sale to farmers / development agencies			their farms and for multiplication and production of quality germplasm
29	[5.6.1] Provisioning of day old / 6 weeks old chicks to farmers and development agencies	Provisioning of day old / 6 weeks old chicks would require production of more than 70% fertile eggs from the breeding population and thereby hatchability of 75%. The target can be successfully reached if the standard management practices, quality feeding schedule, health schedule with closed monitoring of the environment and management standards is done during the growth period of the chicks and of the parent population	The chicks/ fertile eggs/ being provisioned will serve as the basic unit (seed) for production, reproduction, maintenance and preservation	Number (in lakhs)	The chicks supplied will be reared by the farmers for egg / meat production. The chicks of parent line provisioned to government farms will serve as the replacement stock for enhancing production / productivity and for multiplication and production of quality germplasm
30	[6.1.1] Equipment developed / refined	Development of need based farm equipment	R&D work on farm mechanization	Number	
31	[6.2.1] Commercial test reports	Type of machinery	Equipment or products for testing	Number of reports as per BIS standards	
32	[6.3.1] Process protocols developed	Methodology to carry out a process	Development of methods to complete a process	Quality of process	
33	[6.4.1] Value-added products	Development of new products from the raw agro-produce	Development of different products from agro-produce	End-product	
34	[7.1.1] Diagnostic kits developed	The development of diagnostic kits would involve	To develop sensitive tests for detection of	Number	Development of new diagnostics will be need

## APPENDICES

S. No.	Success indicator	Description	Definition	Measurement	General Comments
		delineation of process (processes) for detection of specific diseases of livestock and thereby denoting a specific number for field testing / validation through various institutes, State AH Departments, NGOs, private production houses/industry	causative agents for specific diseases of livestock and poultry		based dependent on occurrence / emergence / prevalence / severity of a disease likely to result in high economic loss
35	[7.2.1] Vaccines developed	The development of vaccines would involve delineation of process (processes) and thereby denoting a specific number for field testing / validation through various institutes, State AH Departments, NGOs, private production houses/industries	Vaccine is a prophylactic agent rendering immunity against specific disease through scheduled active immunization(s)	Number	Development of a new vaccine will be need based dependence on occurrence / emergence / prevalence / severity of a disease likely to result in high economic loss
36	[8.1.1] On-farm trials and frontline demonstrations conducted	Trials and demonstrations conducted for technology testing and proving the technology potential production	On-farm trials aims at testing new technologies under farmers condition and management, by using farmers own practice as control. Frontline demonstration is the field demonstration conducted on farmers field under the close supervision of scientists	Number	
37	[8.1.2] Trainings organized (farmers, rural youth, women and in-service extension personnel)	Capacity building activities related to knowledge and skill improvement/ development programmes conducted for farmers, rural youth and extension personnel	Training is a process of acquisition of new skills, attitude and knowledge in the context of preparing for entry into a vocation or improving productivity in an organization or enterprise	Number	
38	[9.1.1] Print and electronic publication / products brought out	Dissemination of knowledge products like books, periodicals,	No. of publications like newsletters, reports, journals, books and electronic products	Number	

S. No.	Success indicator	Description	Definition	Measurement	General Comments
39	[10.1.1] Success rate of concept notes submitted	journals etc. published through print, electronic mode etc. By creating awareness through workshops it is expected that the participants of workshop and through them their colleagues will be encouraged to submit more meaningful research concepts which will lead to increase in percent of submitted concept notes that are selected for full project development		Number of concept notes received	
40	[10.1.2] Success rate of full proposals finally selected	Based on the selected concept notes full proposals are developed. The proponents are actually helped by NFBSFARA in full proposal development. Thus, the percent reflects the success of efforts of NFBSFARA and the awareness of the proponents		In per cent	
41	[10.2.1] Technologies / methodologies developed	Certain ideas and technologies may be directly developed from the project which is reflected in patents filed and usable technology and methodology developed		Number	

**Section 5****Specific Performance Requirements from other Departments**

Location Type	State	Organisation Type	Organisation Name	Relevant Success Indicator	What is your requirement from this organisation	Justification for this requirement	Please quantify your requirement from this Organisation	What happens if your requirement is not met
Central Government		Departments	Department of Agriculture and Cooperation	[5.3.1] Quantity of breeder seed produced (other crops)	Indent for quantity of breeder seed	Variety wise indent for breeder seed	Quantity of breeder seed is produced as per the indent	Less or more quantity of breeder seed will be produced

## Section 6

### Outcome/Impact of activities of department ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
1 Enhanced agriculture productivity	DADF, DAC, Planning Commission, Ministry of Environment & Forests, Ministry of Panchayati Raj, Ministry of Rural Development and State Governments	Increase in agriculture productivity	%	2	2	2	2	2
2 Enhanced milk, egg meat & fish productivity	DADF, Ministry of Panchayati Raj, Ministry of Rural Development, State Governments and NGOs	Increase in milk productivity	%	3.8	4	4	4	4
		Increase in egg productivity	%	2	2	2	2	2
		Increase in meat productivity	%	2.5	2.5	2.5	2.5	2.5
		Increase in fish productivity	%	4	4	4	4	4
3 Enhanced availability of quality human resources for agricultural research & development activities	SAUs, SVUs, Ministry of Panchayati Raj, Ministry of Rural Development and State Governments	Increase in Graduates / PG students passed out and capacity building	%	5	5	5	5	5
4 Enhanced rural livelihood security	DAC, DADF, SAUs, SVUs, Ministry of Panchayati Raj, Ministry of Rural Development, Ministry of Fertilizers and State Governments	Decrease in rural poverty	%	1	1	1	1	1
		Increase in farm income	%	3	2	2	2	2
5 Improved nutritional security	DST, DBT, ICMR, Ministry of Food Processing, Ministry of Panchayati Raj, Ministry of Rural Development and State Governments	Increase in per capita availability of agricultural products	%	1.6	0.8	0.8	0.8	0.8
6 Enhancing frontier research / programmes		Technical papers published in recognized journals	Number	4,000	4,500	5,000	5,000	5,000
		New varieties developed	Number	60	70	80	80	80
7 Commercialization of technologies	SAU/DU	Research converted into commercialized technology	Number	10	10	10	10	10

# Acronyms

AAU	: Anand Agricultural University	CSKHPKRV	: CSK Himachal Pradesh Krishi Vishwa Vidyalaya
ADF	: Acid Detergent Fibre	CSML	: Coloured Synthetic Male Line
AFLP	: Amplified Fragment Length Polymorphism	CSWRI	: Central Sheep and Wool Research Institute
AI	: Artificial Insemination	CTMC	: Central Technology Management Committee
AINP	: All-India Network Project	CPC	: Corn Protein Concentrate
AKC	: Agribusiness Knowledge Centre	CPR	: Common Property Resource
AKI	: Agricultural Knowledge Initiative	CWM	: Chicken Waste Meal
AKMU	: Agricultural Knowledge Management Unit	DAT	: Days After Transplanting
ALV	: Avian Leukosis Virus	DUS	: Distinctive, Uniformity, Stability
AM	: Arbuscular mycorrhiza	ECM	: Electronic Control Module
APAARI	: Asian Pacific Association of Agriculture Research Institutions	EEZ	: Exclusive Economic Zone
APSIM	: Agricultural Production Systems Simulator	EGC	: East Ganga Canal
AR4D	: Agricultural Research for Development	EIA	: Enzyme Immuno Assay
ASABE	: American Society of Agricultural and Biosystems Engineers	EICA	: Egyptian International Centre for Agriculture
ASEAN	: Association of South-east Asian Nations	ELISA	: Enzyme-linked Immunosorbent Assay
ASM	: Age at Sexual Maturity	ENVI	: Environment, Public Health and Food Supply
ASRB	: Agricultural Scientists' Recruitment Board	EO	: Essential Oils
ATIC	: Agricultural Technology Information Centre	EPN	: Entomopathogenic Nematode
ATK	: Anytime KVK	ETL	: Economic Threshold Level
AUTM	: Association of Universities for Technology Management	EXPSS	: Expert System on Seed Spices
BAIF	: Bhartiya Agroindustrial Foundation	FAO	: Food and Agriculture Organization
BAU	: Bihar Agricultural University	FCR	: Feed Conversion Rate
BBF	: Broad Bed and Furrow	FEC	: Faecal Egg Count
BCM	: Billion Cubic Metres	FOCARS	: Foundation Course for ARS
BHU	: Banaras Hindu University	FMD	: Foot-and-Mouth Disease
BMSCs	: Bone-marrow derived allogenic mesenchymal stem cells	FSH	: Follicle-stimulating Hormone
BOD	: Biochemical Oxygen Demand	FYM	: Farmyard Manure
BPD	: Business Planning Development	GADVASU	: Guru Angad Dev Veterinary and Animal Sciences University
BTV	: Bluetongue Virus	GBNV	: Groundnut Bud Necrosis Virus
BVDV	: Bovine Viral Diarrhoea Virus	GBPUAT	: Govind Ballabh Pant University of Agriculture and Technology
CAFT	: Centres of Advanced Faculty Training	GC-FAME	: Gas Chromatography-Fatty Acid Methyl Ester
CIARI	: Central Inland Agricultural Research Institute	GDD	: Growing Degree Days
CA	: Conservation Agriculture	GDP	: Gross Domestic Production
CAU	: Central Agricultural University	GEF	: Global Environmental Facility
CAV	: Canine Adino Virus	GHG	: Greenhouse Gases
CAZRI	: Central Arid Zone Research Institute	GIS	: Geographical Information System
CeRA	: Consortium for e-Resources in Agriculture	GPA	: Global Plan of Action
CFT	: Complement Fixation Text	GPS	: Global Positioning System
CGIAR	: Consultative Group on International Agricultural Research	GRD	: General Recommended Dose
CGM	: Corn Gluten Meal	HAPA	: Hybridization-supplemented Apomixis Components Partitioning Approach
CHLCV	: Chilli Leaf Curl Virus	HDPE	: High Density Polyethylene
CIFE	: Central Institute of Fisheries Education	HF	: Holstein Friesian
CIPHET	: Central Institute of Post-Harvest Engineering and Technology	HPTLC	: High Performance Thin Layer Chromatography
CIMMYT	: Centro Internacional de Mejoramiento de Maize Trigo	HSP	: Heat Shock Protein
CLCuV	: Cotton Leaf Curl Virus	IAA	: Integrated Agri-aquaculture
CMFRI	: Central Marine Fisheries Research Institute	IBR	: Infectious Bovine Rhinotracheitis
CMS	: Cytoplasmic Male Sterile	ICARDA	: International Centre for Agricultural Research in Dry Areas
CN	: Chitosan	ICMV	: Indian Cassava Mosaic Virus
CND	: Compositional Nutrient Diagnosis	ICRISAT	: International Crops Research Institute for Semi-Arid Tropics
CP	: Crude Protein	ICT	: Information and Communication Technologies
CPE	: Cumulative Pan Evaporation	IFS	: Integrated Farming System
CSFL	: Coloured Synthetics Female Line		

ACRONYMS

ILWIS	: Integrated Land and Water Information System	PME	: Priority Setting, Monitoring and Evaluation
INM	: Integrated Nutrient Management	PPGSE	: Plausible Potato Growing Seasons Estimator
IPGRI	: International Plant Genetic Resources Institute	PPR	: Peste des Petits Ruminants
IPM	: Integrated Pest Management	PSE	: Pale Soft Exudative
IPR	: Intellectual Property Rights	PTO	: Power Take Off
ISRO	: Indian Space Research Organism	RAJUVAS	: Rajasthan University of Veterinary and Animal Sciences
JCI	: Jute Corporation of India	RAWE	: Rural Agricultural Work Experience
JNKVV	: Jawaharlal Nehru Krishi Vishwa Vidyalaya	RDF	: Recommended Dose of Fertilizers
KVAFSU	: Kerala Veterinary, Animal Sciences and Fisheries University	RE	: Revised Estimate
KVK	: Krishi Vigyan Kendra	RFD	: Results-Framework Document
LCV	: Leaf Curl Virus	RFLP	: Restricted Fragment Length Polymorphism
LDPE	: Low Density Polyethylene	RH	: Relative Humidity
LMU	: Land Management Unit	RMP	: Research Management Positions
MAb	: Monoclonal Antibody	RNFE	: Rural non-farm Employment
MAS	: Molecular Marker-assisted Selection	SAARC	: South Asian Association for Regional Co-operation
MDV	: Marek's disease virus	SAUs	: State Agricultural Universities
MoU	: Memorandum of Understanding	SCAR	: Sequence Characterized Amplified Region
MPP	: Methane Production Potential	SCSMV	: Sugarcane Streak Mosaic Virus
MSCs	: Mesenchymal Stem Cells	siRNA	: Small interfering RNA
MW	: Molecular Weight	ShRNA	: Small hairpin RNA
NABG	: National Agricultural Bioinformatics Grid	SMA	: Single Marker Analysis
NAE	: Niche Area of Excellence	SNP	: Single Nucleotide Polymorphism
NAIP	: National Agricultural Innovation Project	SOC	: Soil Organic Carbon
NARD	: National Agricultural Research Database	SOD	: Superoxide Dismutase
NARS	: National Agricultural Research System	SRF	: Senior Research Fellowship
NBSS&LUP	: National Bureau of Soil Survey and Land Use Planning	SSD	: Surface and Subsurface Drainage
NDF	: Non-detergent Fibre	SRI	: System of Rice Intensification
NDRI	: National Dairy Research Institute	SSH	: Suppression Subtractive Hybridization
NEH	: North-eastern Hills	SWYMOD	: Surface Water Yield Model
NET	: National Eligibility Test	TANUVAS	: Tamil Nadu University of Veterinary and Animal Sciences
NFBSFARA	: National Fund for Basic, Strategic and Frontier Application Research in Agriculture	TDN	: Total Digestible Nutrient
NGOs	: Non-Government Organizations	TFP	: Total Factor Productivity
NIABI	: Network of Indian Agri-business Incubators	THI	: Temperature Humidity Index
NICRA	: National Initiative on Climate Resilient Agriculture	TLCV	: Tomato Leaf Curl Virus
NISAGENET	: National Information System on Agricultural Education Network	TLR-1	: Toll Like Receptor-1
NISM	: National Information Sharing Mechanism	TNAU	: Tamil Nadu Agricultural University
NPV	: Nuclear Polyhedrosis Virus	TOT	: Transfer of Technology
NRC	: National Research Centre	TSP	: Tribal sub-Plan
NRCC	: National Research Centre on Citrus	TSS	: Total Soluble Solids/Sugars
NTS	: National Talent Scholarship	UAS	: University of Agricultural Sciences
OBCs	: Other Backward Classes	UG	: Under-graduate
OMP	: Outer Membrane Protein	UGC	: University Grants Commission
OTCs	: Open-top Chambers	UV	: Ultra Violet
OUAT	: Orissa University of Agriculture and Technology	VACV	: Vaccinia Virus
PAGE	: Polyacrylamide Gel Electrophoresis	VPKAS	: Vivekananda Parvatiya Krishi Anusandhan Sansthan
PCR	: Polymerase Chain Reaction	VTCC	: Veterinary Type Culture Centre
PCV	: Packed Cell Volume	WB	: Western blot test
PFZ	: Potential Fishing Zone	WNV	: West Nile virus
PG	: Post-graduate	WUE	: Water-use Efficiency
		WPR	: Workforce participation rate
		YLD	: Yellow Leaf Diseases

□

# Index

---

- Abiotic stress tolerance in *Catla catla* 143  
 acidophilus 91  
 Administration 131  
 adulterants and contaminants in fruit-juices and milk 144  
 Advisories 22  
 Advisory Committee 142  
 Aflatoxin 71  
 Agassaim 125  
 Agricultural biomass 144  
 Agricultural Economics 104  
     Marketing and Statistics 6, 104  
     Human Resource Development 6  
     Technology Information Centres 117  
 Agriculturally  
     important insects 27  
     important microorganisms 27  
 Agri-Innovation Conclave 149  
 AgriInnovate India Limited 8, 128, 139  
 Agrobacterium 100  
 Agroforestry system 16  
 Agro-forestry value-chain 148  
 AICRP 118  
     Home Science, on 119  
 Alternate feed resources 71  
 Altimeter 125  
 ALV typing 74  
 AM fungi 59  
 American Society of Agricultural & Bio systems  
     Engineers 81  
 Animal  
     nutrition 70  
     physiology 72  
     power operated equipments 82  
 arid zone fruit crops 28  
 ARS Examination 152  
 Artificial Neural Network approach 107  
 Artocarpus  
     *altilis* 140  
     *heterophyllus* 140  
 ASHOKA 106, 146  
*Aspergillus* 58  
 atypical plant lesions 143  
 Awards 8  
 Azolla 71  
  
 bacterial gill disease 79  
 bacterial isolates 69  
*Bacteroides* 97  
*Bactrocera dorsalis* 98  
 Barley 37  
 Basic and strategic research achievements 150  
 Belahi cattle 31  
*Beuveria* 95  
 Bihar hairy caterpillar 64  
 biofertilizer consortia 62  
 biofertilizers 13  
 Biofuel 143  
 Biological control 65  
  
 biopesticides 146  
 Bio-products 115  
 biosafety compliant national referral laboratory 146  
 Biotechnology 42, 150  
 blastocyst production 73  
 blast-resistant basmati rice lines 150  
 Blueprint of bread-wheat genome 44  
*Bos*  
     *indicus* 99  
     *taurus* 99  
 Botanical cake 69  
 bovine brucellosis 76  
 BPD units 147  
 Brinjal 49  
 Bruchid management 64  
*Bt-cry* gene diversity 27  
*Bubalus bubalis* 99  
 Buffalo 53  
     improvement 53  
*Butyrivibrio* 97  
  
 Camel 71, 74  
     rumen liquor 71  
 canal water 13  
 candidate marker vaccine 76  
 CaneDES 65  
 Capacity development 113  
 Capsicum seeds 68  
 Captive breeding of minor carps 57  
 Carbon  
     balance study 23  
     life cycle assessment 22  
     neutral households 16  
 cashew selections 123  
 castor germplasm 25  
 Cattle 73  
 CAU, Imphal 128, 138  
 CAZRI soil moisture calculator 13  
 CeRA 110  
 Cereals 36, 58, 112  
     millets, and 62  
 CGIAR Centres 145  
*Chaetomium globosum* 98  
 Changing pattern of employment in rural India 106  
*Channa striatus* 94  
 Chilika lagoon 22  
*Chlorophytum borivillanum* 98  
 climate 21  
     change 2, 19, 20  
     impact 22  
 cloned  
     female calf 52  
     male buffalo 52  
 cloning technique 150  
*Clostridium* 97  
 Commercial crops 41, 60, 64, 112  
 Commercialization of technologies 147  
 Communication 108

- Compassionate Fund of ICAR 132  
 complete feed blocks 71  
 Complete mitochondrial genome sequence of ladybird 46  
 Composite flours 100  
 composts 14  
 Conception rate 32  
 Conservation  
   agriculture 16  
   animal genetic resources, of 31  
   Sangemneri goats, of 55  
 Consultancies 139  
 Copyrights 129  
 Crop  
   health management 62  
   Improvement 3, 35  
   Management 4, 58  
 crop seed preservation 20  
 cropping system 122  
 CSR BIO 12  
 Curcumin 92  
 curve pattern 32  
 cyclone Phailin 22  
 Cytogenetic screening 33  
 cytokines 33
- Dairy equipment 85  
 Decision support system 14, 58  
 Demonstrations on climate resilient technologies 116  
 Designed sirna 74  
 Diagnostic kits 63  
 Diagnostics 75  
 dipteran toxic genes 27  
 Direct recruitment 152  
 Directorate of Extension 117  
 diseases informatics 74  
 Distinctiveness, uniformity and stability 30  
 DNA  
   chip 34  
   fingerprinting 46  
*Dolabrifera dolabrifera* 124  
 Drenching 69  
 drought 19
- Eastern Himalayas 123  
 Eco-friendly bird management 67  
 economic swine production 71  
 economically important livestock diseases 74  
 e-courses 148  
 e-governance in ICAR 132  
 e-Kapas network 60  
 e-publishing platform 110,148  
 Effective rodenticides 65  
 elevated CO<sub>2</sub> 20  
 embryonic stem cells 143, 150  
 Empowered Committee 142  
 Empowering Women in Agriculture 7  
 endophytic  
   bacteria 60  
   *Beauveria bassiana* 65  
 Environmental flow estimates 14  
 Epidemiology 74  
 epithelial cell line 150  
 Equines 74  
*Eubacterium* 97  
*Eublemma amabilis* 89  
 Expert Committees 142  
*Ex-situ* conservation 32
- Extension  
   personnel 113  
   programmes 114
- Facebook page of ICAR 132  
 Family farming model 15  
 Farm mechanization 113  
 Farm pond technology 19  
 Farmers and farm women 113  
 Farming System 2, 15  
   approach 17  
 FATI facility 58  
 fecundity gene 73  
 feed  
   conversion efficiency 70  
   quality and safety 71  
 feeding module 70  
*Fenneropenaeus merguensis* 101  
 fertility restorer (Rf) gene in sorghum 42  
 Fertilizer imbalance in India 104  
*Fibrobacter* 97  
 Field  
   Experience Training 102  
   progeny testing programme 53  
 FIGARCH model 107  
 Filters 12  
 Finance and Audit 9  
 Financial Management System 106  
 Fish 34  
   bio-diversity 124  
   shellfish viral diseases, and 78  
   wastes 57  
 fisheries 22  
   development 14  
   equipment 85  
*Flectobacillus roseus* 94  
 Flower crops 30  
 flubendiamide 89  
 fluorescent pseudomonads 60  
 Fodder crops 112  
 Fodder from wastelands 58  
 Food Safety and Standards Authority of India 114  
 Foot and mouth disease 76  
 Forage crops 42, 58, 72  
 Foreign  
   Collaborative Projects 135  
   deputation 137  
 Foundation Course for ARS 102  
 Frontline demonstrations 111  
 Fruit crops 28  
 functional genomics 33  
 fungal formulation 68
- gastrointestinal nematodes 74  
 Gender and work participation scenario in agriculture 118  
 General equipments 80  
 Genetic  
   characterization 33  
   engineering of sugarcane 45  
   Resources 2, 10, 15, 24, 128, 142  
   stock identification 34  
 genome sequence of *Mangrovibacter* 34  
 genotyping and phenotyping facility 146  
 Germplasm 24  
   Exchange 137  
   registration 25  
 Glanders 74

- Global Environmental Facility 145  
 Goat 54  
 Gojri buffalo 32  
 grain mold 62  
 grapes 13  
   progenies 47  
 Green fishing 144  
 greenhouse gas 19  
 Groundnut lines 24  
 groundwater recharge 17  
 growth hormone 73  
 growth rate 104  
 guava hybrid 47
- Hailstorm 23  
 Hampshire-Ghungroo crosses 55  
 Hapa culture of rohu 57  
 Harringhata Black chicken 32  
 Heat shock proteins 72  
 heavy metals 14  
 Heera—A high protein rice variety 36  
 Heliconia 125  
 Herbal medicine 76  
 herbarium specimens 24  
*Herviella mietta* 124  
 high-density genetic map 45  
 horn curves 32  
 Horsegram mutant 41  
 Horticultural crops 16, 21, 112  
*HSP 70* 73  
 Hudhud advisories 23  
 hybrid-rice seed 142  
 Hybrids 112  
 Hydroponics 61
- ICT applications 145  
 Identification of natural plant sources as fibres 120  
 Impact  
   climate change, of 105  
   information on returns from farming, of 105  
 INM, of 122  
 Improvement of  
   indigenous cattle 52  
   poultry for eggs 55  
   poultry for meat 55  
*in vitro* fertilization (IVF) 99  
 income-generating activities 149  
 Indian Council of Agricultural Research 111  
 Indian Livestock Feed Portal 70  
 INFOCROP-Wheat 58  
 Information 108  
 Information, Communication and Publicity Services 7, 108  
 Inhibition of methanogenesis 70  
 Innovative jute-retting 60  
 Insect bioassays 142  
 insect pests, management of 65  
 Integrated Farming System 71, 149  
 Integrated nutrient management 61  
 Integrated Pest Management 66  
 Integrated  
   poultry/pig-fish-vegetable model 149  
   rice-fish-poultry model 149  
   rice-fish-vegetable model 149  
 Intellectual Property Portfolio Management 8  
 Intercropping 16  
 international trial material 24  
 inter-specific spine gourd 48  
 introgression of fecundity gene 53  
 IP Protection 129  
 IPGRI descriptors 29  
 IPM module 64  
 Island and Coastal Region 123  
 Ivy gourd 49
- Jute  
   Corporation of India 81  
   fabric 144  
   -based biocomposites 144
- Kakrol 49  
 Kalamkari Handblock Printing 146  
 Kalparasa 81  
 Kalrumpscale 32  
 Kamdhenu University, Amreli 93  
 Kartoli 49  
*Kerria lacca* 89  
 khoonphal 48  
 Kisan mobile advisory 115  
*Klebsiella pneumoniae* 88  
*Klyuveromyces* 143  
 knowledge dissemination 149  
 Krishi Vigyan Kendras 111
- Labeo rohita* 100  
 Lac integrated farming system 89  
*Lactobacilli acidophilus* 91  
 land management unit maps 10  
 Land resource inventory 10  
   land use planning, for 10  
*Leptin* gene 32  
 linear measurements 32  
*Listeria monocytogenes* 91  
 litchi air-layers 61  
*Litopaeneus vannamei* 94  
 Livelihood improvement of rural women through  
   horticulture 118  
 Livestock 31  
   fisheries and other enterprises 113  
   Improvement 4, 52  
   management 5, 70  
   migration 56  
   protection 74  
   poultry and fish fingerlings 115  
   traceability database 33
- Magnaporthe oryzae* 143  
 Maize 37  
   hybrids 38  
 makhana 30  
 male specific genes of yak 33  
 Management Information System 106  
 mango  
   cultivars 28  
   genome sequencing 44  
 Manipuri cattle 31  
 Marine capture fisheries 78  
 Market sustainable value-chains 147  
 Marketing 104  
   Statistics, and 104  
 Mechanization and Energy Management 6, 80  
 Medicinal and aromatic plants 30  
 medium-density planting 47



- Mega Sheep Seed Project 54  
*Meloidogyne*  
*graminicola* 101  
*incognita* 101  
 Memoranda of Understandings 135  
 Metagenomic analysis 72  
*Metarizium* 95  
 Methane emission 70  
 micro watersheds 12  
 Microarray chip 63  
 Microbes for abiotic stress management 59  
 Microbial  
   diversity 13  
   ethanol 144  
 micro-irrigation system 12  
 Micronutrient enriched fish 57  
 Millets 112  
 Mineral supplementation 72  
 Minor millets 37, 58  
 Mitogenome 34  
 Molecular characterization 28  
   Pathogens, of 76  
 Molecular  
   diagnostics of *Colletotrichum truncatum* 64  
   genetic characterization 32  
 Monitoring agro-ecosystem 19  
 motility/fertility markers 73  
 Mud crab broodstock development 57  
 multi-nutrient blocks 72  
 Multiple breeding in pearl spot 57  
*Murranya koenigii* 92  
 Mushroom 30  
 muskmelon genotype 29  
 mycotoxigenesis 71  
 NAIP 128  
   technologies 146  
 nano-pesticide 150  
 nano-silver formulation 57  
 Nanotechnology 150  
 National  
   Agricultural Innovation Project 8, 145  
   Eligibility Test 152  
   Fund for Basic Strategies and Frontier Application  
     Research in Agriculture 8,142  
   Gene bank 24  
   Herbarium of Cultivated Plants 24  
   Initiative on Climate Resilient Agriculture 116  
   Marine Fish Brood Bank 57  
   Microbial Culture Collection 27  
 naturally-ventilated polyhouse 61  
 Nematode root-specific promoters 150  
 Network Project on Sheep Improvement 54  
 Newcastle disease virus (NDV) 94  
 Newer insecticide 63  
 Next Generation Rice 42  
 NGO partners 145  
 noni 123  
 non-orthodox species 24  
 Nosema disease 66  
 nuclear male sterility 142  
 Nuclear polyhedrosis viruses 143  
 Nutrient management 13  
 obligate halophile 43  
 Oilseeds 37, 59, 112  
 oleic acid in safflower 46  
 on-farm trials (OFTs) 111  
 Online  
   examination system 152  
   knowledge resources 148  
 Opacification 79  
 Orchids 30  
 Organic farming 62, 121, 127  
 Organization and Management 128  
 Ornithology 67  
*Oryza rufipogon* 24  
 ovarian function 73  
  
*Pangasius* 94  
*Parabacteroides* 97  
 Parthenogenetic goat 143  
   embryos 73  
 particulate matters (PMs) 87  
 Partnership and Linkages 8, 135  
 pashmina yield 149  
 Patent Applications Filed 129  
 Patent Number 130  
 Patents 129  
 Pea 49  
 Pepo 49  
 Personal protective equipments 84  
*Peste des petits ruminants* (PPR) 94  
*Phanerophthalmus smaragdinus* 124  
 Phenomics 142  
 Phenotypic characterization 31  
 phytate mineralizing fungal consortium 58  
*Phytophthora parasitica* 101  
 Pig 55, 71, 74  
 Plant quarantine 63  
 Plantation crops 29  
 Planting materials 115  
 pod blight management 63  
 Pod-borer resistant transgenic pigeonpea 142  
 Pointed Gourd 49  
 Pollen inserts 66  
 Pollinator garden 66  
 Pollinators 66, 67  
 polycross trials 107  
 polymer 13  
 porcine circovirus 74  
 porcine parvo virus 74  
 Post-emergence herbicides 16  
 Post-harvest Management and Value-addition 6, 86  
 Potential Fishing Zone (PFZ) Advisories 150  
 Poultry 71, 74  
   Seed Project 56  
*Pratylenchus coffeae* 101  
 prawn production 22  
 Prebiotic 71  
 Precision feeding 70  
*Prevotella* 97  
 Processed *karanj* cake 71  
 processing technologies 147  
 progeny testing 53  
 Promising  
   introductions 24  
   rice genotypes 43  
 Promotion of excellence 96  
*Prosopis cineraria* 84  
*Pseudohypatopa pulverea* 89  
*Pseudomonas aeruginosa* 94

- Publicity Services 108  
*Puccinia graminis* 143  
Pulses 37, 60, 112  
    varieties/hybrids 40  
*Punica granatum* 88
- Quality seed production 47
- Radopholus similis* 101  
Rainwater harvesting 115  
*Raj Bhasha* 132  
*Ralstonia solanacearum* 124, 125  
rambutan collections 28  
Rani Lakshmai Bai Central Agricultural University 128, 138  
red-rot pathogen 46  
registered germplasm 25  
Renewable Energy Equipment 83  
Research capacity 146  
Research for Tribal and Hill Regions 7, 121  
Resource  
    conservation technologies 59  
    recycling 15  
Revised Career Advancement Scheme 152  
rice 20  
    blast resistance gene 45  
    landrace 123  
    varieties 35  
rivers 14  
Rodent  
    control 65  
    management technologies 65  
RTSV genome 62  
Rumen 72  
    biotechnology 72  
    bypass 70  
    microbiome 72  
*Ruminococcus* 97  
runoff sampler 12  
rural  
    poultry 56  
    youth 113  
rust resistance in wheat 42
- Saccharomyces cerevisiae* 100  
Safflower transformation 45  
*Salmonella* 92  
salt tolerant 28  
Sanchoi cattle 31  
Satellite telemetry studies 78  
Satputia 49  
Science Resource Management 152  
scrotal skin fold 73  
sea cage farming 17  
Seabass rearing 78  
Seed 115  
    production 122  
    technology 46  
Semen  
    conservation 53  
    doses 73  
semialata 89  
Sheep 53, 74  
Short Message Service (SMS) 115  
Short-neck clam 78  
signature fatty acids 59  
signature sequence 74
- Small Scale Industry 117  
social media 108  
Soil and Water Productivity 1, 10  
soil  
    fertility maps 11  
    resource map 10  
    water and plant analysis 115  
soybean  
    genotypes 45  
    productivity 20  
sperm mediated gene transfer (SMGT) 99  
Spices 30  
Sponsored training 114  
Sri Karan Narendra Agriculture University, Jobner 93  
Staff Welfare fund scheme 132  
*Staphylococcus aureus* 88  
    mastitis 140  
statistical computing portal 107  
Statistics 104, 106  
stem cell 74  
    lines 150  
    research 76  
Stem inoculation technique 64  
sugarcane  
    disorders 65  
    varieties 41  
sulphur deficiency 13  
Surface Plasmon Resonance (SPR) 94  
surrogate carp 57  
Surti goats 55  
Sustainable Land and Ecosystem Management Country  
    Partnership programme 145
- Tail rot 78  
Technologies Commercialized 131  
Technology  
    assessment and refinement 7, 111  
    Commercialization 130  
    products 115  
    Transfer 130  
    week 115  
*Terminalia arjuna* 90  
testes-mediated gene transfer 99  
thiamethoxam formulations 63  
thornless cactus 72  
Tillage management 59  
Tomato 49  
total factor productivity 105  
Traditional herbs 74  
trait-specific high-yielding crop varieties 35  
transgenic events of *Brassica juncea* 46  
Tray-nursery technique 60  
tree fodder 71  
Tribal Sub Plan (TSP) Programmes 118, 126  
*Trichoderma* 58, 95  
tropical seas 144  
Trout farming 127  
*Trypanosome* 74  
Tuber crops 29
- underutilized genotypes 28
- vaccines 75  
varieties of barley 37  
Varieties/hybrids of  
    forage crops 42

## INDEX

- Varieties/hybrids of
  - millets 39
  - minor millets 39
  - oilseeds 39
- vegetable crops 14, 28, 48, 124
- vermi-compost technologies 117
- Vermiculture technology 73
- Veterinary Type Culture Collection 77
- Viral diseases management 64
- Virgibacillus* sp. 43
  
- walnut germplasm 47
- wastewater treatment facility 58
- Water
  - footprints 22
  - harvesting 12
  - productivity 13
  
- Water
  - use efficiency 17, 59
- Watershed interventions 17
- Wax moth traps 67
- web portal 27
- weed 20
- wheat
  - rust resistance in 42
  - varieties 36
- White grub management 66
- white rust resistance in mustard 46
- wildlife 76
- Women's empowerment in agriculture index 118
- Work Plans 135
  
- Ziziphus mauritiana* 88

□



# INDIAN COUNCIL OF AGRICULTURAL RESEARCH

## Agricultural Universities





Shri Narendra Modi, Hon'ble Prime Minister of India  
on the occasion of ICAR Foundation Day & Award Ceremony