25

STANDING COMMITTEE ON AGRICULTURE
(2020-2021)

SEVENTEENTH LOK SABHA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE
(DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)

DEMANDS FOR GRANTS (2021-22)

TWENTY FIFTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

March, 2021/Phalguna, 1942 (Saka)

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Presented to Lok Sabha on	09.03.2021
Laid on the Table of Rajya Sabha on	09.03.2021

LOK SABHA SECRETARIAT

NEW DELHI

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27. Shri R. Vaithilingam
28 Smt. Chhaya Verma
@29. Shri B.L. Verma
30. Shri Harnath Singh Yadav
*31. VACANT

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* *vice* Dr. Chandrapal Singh Yadav ceased to be a Member of the Committee on his retirement from Rajya Sabha w.e.f 25.11.2020 vide CB-I Note dated 06.10.2020.

@ Nominated to the Committee as Member w.e.f 23.12.2020 vide Bulletin Part-II No. 1835 dated 24.12.2020

SECRETARIAT

1.	Shri Shiv Kumar	-	Joint Secretary
2.	Dr. Vatsala J. Pande	-	Director
3.	Shri Nirantar Kumar Singh	-	Executive Officer

INTRODUCTION

I, the Chairperson, Standing Committee on Agriculture, having been authorized by the Committee to submit the Report on their behalf, present this Twenty Fifth Report on the Demands for Grants (2021-2022) of the Ministry of Agriculture and Farmers Welfare (Department of Agricultural Research and Education).

2. The Committee under Rule 331E(1)(a) of the Rules of Procedure and Conduct of Business in Lok Sabha considered the Demands for Grants (2021-22) of the Department of Agricultural Research and Education, which were laid on the table of the House on 09 February, 2021. The Committee took evidence of the representatives of the Department of Agricultural Research and Education at their Sitting held on 22 February, 2021. The Report was considered and adopted by the Committee at their Sitting held on 08 March, 2021.

3. For facility of reference and convenience, the Recommendations/Observations of the Committee have been printed in bold letters in Part-II of the Report.

4. The Committee wish to express their thanks to the Officials of the Department of Agricultural Research and Education for appearing before the Committee and furnishing the information that they desired in connection with the examination of Demands for Grants of the Department.

5. The Committee would also like to place on record their deep sense of appreciation for the invaluable assistance rendered to them by the officials of Lok Sabha Secretariat attached to the Committee.

NEW DELHI;
08 March, 2021
18 Phalguna, 1942 (Saka)

P.C. GADDIGOUDAR
Chairperson,
Standing Committee on Agriculture

ABBREVIATIONS

AE	Actual Expenditure
AICRPs	All India Coordinated Research Projects
ARYA	Attracting and Retaining Youth in Agriculture
AUs	Agricultural Universities
BE	Budget Estimates
CRAI	International Commission for Agricultural Research
CeRA	Consortium for e-Resources in Agriculture
CPWD	Central Public Work Department
CRIDA	Central Research Institute for Dryland Agriculture
CRM	Crop Residue Management
CSISA)	Cereal Systems Initiatives for South Asia
CSCs	Common Service Centers
CSIR	Council of Scientific and Industrial Research
CSR	Corporate Social Responsibility
CT	Conventional Tilling
CUs	Central Universities
DAC&FW	Department of Agriculture, Cooperation and Farmers Welfare
DAE	Department of Atomic Energy
DARE	Department of Agricultural Research and Education
DFMD	Directorate of Foot and Mouth Disease
DRDO	Defense Research and Development Organization
DST	Department of Science and Technology
DUs	Deemed-to-be-Universities
EARTH	Ecosystem Approach to Research, Technology Development and Agri-Habitats
EFC	Expenditure Finance Committee
FMS	Financial Management System.
FAO	Food and Agriculture Organization
GoI	Government of India
GDP	Gross Domestic Product
GHG	Green House Gases
GVA	Gross Value Added
HAEI	Higher Agricultural Educational Institutions
ICAR	Indian Council of Agricultural Research
ICMR	Indian Council of Medical Research
IEA	Institutional Eligibility for Accreditation
IFD	Internal Finance Division
IPMTT/C	Intellectual Property Management and Technology Transfer/ Commercialization
IVRI	Indian Veterinary Research Institute
INM	Integrated nutrient management

IEC	Information, Education and Communication
JFR	Junior Field Representative
KVK	Krishi Vigyan Kendra
LoI	Letter of Intent
LRI	Land Resource Inventory
LTFE	Long Term Fertilizer Experiments
MANAGE	National Institute of Agricultural Extension Management.
MSNP	Micro- and Secondary Nutrients and Pollutant Elements
MHA	Ministry of Home Affairs
MOF	Ministry of Finance
MS-Teams	Microsoft Teams
NABARD	National Bank on Agriculture and Rural Development
NAEAB	The National Agricultural Education Accreditation Board
NARS	National Agriculture Research System
NARI	Nutri-sensitive Agricultural Resources and Innovation
NAHEP	Implementing National Agricultural Higher Education Project
NEH	North Eastern Hill
NGOs	Non-Government Organizations
NPS	National Pension Scheme
NICRA	National Innovation In Climate Resilient Agriculture
NRM	Natural Resource Management
NRC	National Research Centre
NIHSAD	National Institute of High Security Animal Diseases
OC	Organic Carbon
ORPs	Operational Research Projects
PG	Post Graduate
RE	Revised Estimates
R&D	Research and Development
RKVY	Rashtriya Krishi Vikas Yojana
READY	Rural Entrepreneurship Awareness Development Yojana
SASCOF	South Asian Climate Outlook Forum
SAUs	State Agricultural Universities
SDGs	Sustainable Development Goals
SMDs	Subject Matter Divisions
SMSs	Subject Matter Specialists
STCR	Soil Test Crop Response
UC	Utilization Certificate
UG	Under Graduate
VCRMCs	Village Climatic Risk Management Committees
WHO	World Health Organization

REPORT

PART- I

CHAPTER - I

Introduction

1.1. Agriculture is a Major Sector in Indian economy and technological progress in Agriculture is crucial for overall economic development of the country. India's food grain production is increasing every year, and presently the country is among the top producers of several crops such as wheat, rice, pulses, sugarcane and cotton. It is the highest producer of milk and second highest producer of fruits and vegetables. Developing quality human resources in the field of Agriculture and Allied Sciences is a pre-requisite for Agricultural Development.

1.2. The Department of Agricultural Research and Education (DARE) was established in the Ministry of Agriculture, Government of India in December 1973 to coordinate and promote agricultural research and education in the country. DARE provides necessary Government Linkages for the Indian Council of Agricultural Research (ICAR), the Premier Research Organization for coordinating , guiding and managing research in areas including Crop Science, Horticulture Science, Natural Resource Management, Agricultural Engineering, Animal Science, Fisheries Science, Agricultural Education and Agricultural Extension in the country.

1.3. The Indian Council of Agricultural Research (ICAR) under Department of Agricultural Research and Education, Government of India, established in 1929, has recently entered the Centenary Decade of its existence. During the last nine decades

this Premier Organization has immensely contributed to Indian Agriculture. The Council has always been ahead of its times and visualizing the future agricultural scenario and accordingly developing appropriate futuristic technology solutions for farmers. ICAR is developing competent human resources and trained manpower and is reaching out to farmers to train them and demonstrate various technologies at their fields to ensure their adoption. The Council has been coordinating with various stakeholders to mitigate the challenges confronted by Indian Agriculture. During the past few years, the production of Food Grains and Horticultural Crops has climbed new heights.

1.4. Even during COVID-19 pandemic, India's Food Grain production expected to reach the record 298 Mt during the current year, Similarly, the production of Horticultural Crops touched an all-time high of 310.74 Mt during 2018-19 and is expected to touch 320.47 Mt during 2019-20. The Indian Council of Agricultural Research has proactively taken efforts to tackle the challenges arising out of the pandemic. Timely advisories and ground level support extended to farmers by ICAR institutes and the country wide KVK network proved to be of immense help to the farming community and earned the National and International recognition.

1.5. The ICAR has played a pivotal role in making agriculture sustainable through use of eco-friendly management and innovative technologies which helped the country to achieve the production of Food Grains four times, Horticultural Crops six times, Fish nine times and Eggs twenty-seven times since 1951. This enabled the Nation not only to be food and nutrition secure but also improved livelihood of

farmers. Since 1965, ICAR has developed 5,334 improved field crops varieties which include 2685 of cereals, 888 of oilseeds, 999 of pulses, 200 of forage crops, 395 of fiber crops, 129 of sugarcane and 38 of potential crops. It is an apex scientific research organization for planning, promotion, execution and coordination of agriculture research, education and extension in the country. It functions at a National level through networks of institutes, projects (All-India Coordinated/ Networks) under eight Subject Matter Divisions and has linkages with State Agriculture Universities and other Departments of the Central and State Governments. ICAR has been playing a leadership role towards building and nurturing future ready Agri-graduates and Skilled Human Resources, equipped with research as well as Entrepreneurial acumen. Support is provided for strengthening teaching, PG research, overall capacity building, skill development and quality assurance of higher agricultural education in agricultural universities across the country.

The Goal of ICAR is to promote sustainable and inclusive agricultural growth and development in the country by interfacing education, research and extension initiatives complemented with efficient and effective institutional, infrastructure and policy support, for ensuring livelihood and environmental security.

Organizational Set Up

The ICAR, as a vibrant organization, continues to generate technologies for sustainable development of agriculture. The ICAR is the guiding and monitoring entity of the country for National Agriculture Research System (NARS) consisting of 103 ICAR Research and Education Institutes, 74 Agricultural Universities and 722 Krishi

Vigyan Kendras spread across the country having responsibility of development of technologies in various fields of agriculture and allied sectors.

1.6. At present DARE/ICAR has 35 Ongoing Schemes and one Externally-Aided Project, which are proposed to be rationalized into 27 and one New Scheme under Natural Resources Management division "Ecosystem Approach to Research, Technology Development and Agri-Habitats (EARTH)" in next plan phase, *i.e*. 2021-22 to 2025-26.

1.7. ICAR has rationalized its Schemes, which have been organized into 35 Themes (Schemes) and 2 Non-schemes. The list of the Schemes/Non-schemes are as follows:

Sector (Outcome based Schemes)	**Sub-sector (Output based cost centers)**		**Theme/Scheme**
CENTRAL SECTOR SCHEMES			
1. Management of Natural Resources			
	1. Natural Resource Management including Agroforestry Research		
		1	**Soil Characterization and Management**
		2	**Water Harvesting, Conservation and Management**
		3	**Dryland Agriculture**
		4	**Sustainable Cropping and Farming System Research**
		5	**Management of Arid, Hill and Coastal Eco System**
	2. Climate Resilient Agriculture Initiative		
		6	**National Innovation in Climate Resilient Agriculture, Hyderabad**
	3. Agricultural Engineering		
		7	**Farm Mechanization**
		8	**Post production Mechanization and Value Addition**
		9	**Fiber Processing and Value Addition**
2. Crop Science			
	4. Crop Science		
		10	**Genetic Resource Management**
		11	**Basic and Strategic Research and Education**
		12	**Rice, Wheat and Barley Improvement**
		13	**Maize, Millet & Forage Crop Improvement and Hill Agriculture**
		14	**Pulse Improvement and Seed Research**
		15	**Oilseed Crop Improvement**

		16	Commercial Crop Improvement
		17	Plant Protection and Pollinator Research
	5. Horticulture Science		
		18	Tropical and Subtropical Horticulture
		19	Temperate Horticulture
		20	Vegetable Crops
		21	Plantation Crops and Island Ecosystem
		22	Arid Horticulture, Spices and Medicinal & Aromatic Plants
	6. National Agricultural Science Fund		
		23	National Agricultural Science Fund
3. Animal Science			
	7. Animal Science		
		24	Dairy Production and Technology
		25	Small Ruminants Production and Technology
		26	Animal Nutrition and Products Technology
		27	Animal Health Management
		28	Animal Genetic Resource Management, Production and Improvement
		29	Pig Production and Hill Animal Agriculture
	8. Fishery Science		
		30	Management of Marine and Coastal Fisheries and Aquaculture
		31	Management of Freshwater Fisheries and Aquaculture
		32	Fisheries Education and Genetic Resource Management
4 Agricultural Extension			
	9. Agricultural Extension		
		33	Krishi Vigyan Kendras (Includes ATARIs, ARYA, EMF, FF, Disaster Management) & Directorate of Knowledge Management in Agriculture, New Delhi
5 Agricultural Education			
	10. Agricultural Universities and Institution		
		34	Agricultural Universities and Institutions
			National Agricultural Higher Education Project(NAHEP) – New
	11. Economics, Statistics and Management		
		35	Economics, Statistics and Management
OTHER CENTRAL SECTOR COMPONENTS (NON-SCHEMES)			
			Secretariat Economic Service
		1	ICAR Headquarter
			National Academy of Agricultural Science
		2	Central Agriculture Universities

A. ANALYSIS OF DEMANDS

1.8. Demand No. 2 pertaining to the Department of Agricultural Research & Education for the year 2021-22 was presented to the Lok Sabha on 09.02.2021. The Allocations proposed for 2021-22 are as follows:—

SCHEME WISE OUTLAY FOR 2021-22

(Rs In crore)

MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEMAND NO. 2 - DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION

Major Head	**Budget Estimates 2020-21**	**Budget Estimates 2021-22**
Central Sector Schemes		
Natural Resource Management	174.00	195.00
Climate Resilient Agriculture Initiative	52.00	55.00
Agricultural Engineering	70.00	65.00
Crop Science	715.50	708.00
Horticulture	194.00	212.00
National Agricultural Science Fund	55.00	48.00
Animal Science	330.00	302.00
Fisheries Science	156.00	160.00
Agriculture Extension	242.50	328.00
Agricultural Universities and Institutions	480.00	355.00
Economics, Statistics & Management	30.00	33.00
National Agricultural Higher Education Project (EAP)	230.00	225.00
Total Sector Schemes	**2729.00**	**2686.00**
Non-Scheme (Establishment)		
Secretariat- Economic Service	13.85	14.08
ICAR Headquarter	5137.75	5322.02
Central Agricultural Universities	459.80	470.95
National Academy of Agricultural Sciences (DARE-NAAS & IAUA)	1.60	1.60
ASRB	20.58	19.00
Total Non-Scheme	**5633.58**	**5827.60**
Grand Total (Schemes + Non-Scheme)	**8362.58**	**8513.62**

1.9. When asked by the Committee about the reasons for increase in allocation at BE level during 2021-22 and as to how the Department Plans to utilize the increased BE for the year 2021-22, the Department submitted as follows-

> "The increase in allocation at BE level during 2021-22 is only an incremental increase on account of payment of salary and other establishment expenses.

However, scheme allocation at BE 2021-22 is Rs.2686.00 cr, which is less than the BE of 2020-21 that was 2729.00 cr."

1.10. On being queried regarding quantum of funds proposed by the Department for Fiscal Years 2020-21 and 2021-22 and the reasons for difference, if any, between funds proposed by the Department and funds allocated, the Department has stated:-

"The funds proposed by the Department for fiscal year 2020-21 and 2021-22 and the funds allocated by the Ministry of Finance is as under: -

(Rs in Crore)

Year	BE Proposed	BE allocated	RE Proposed	RE allocated
2020-21	10650.17	8362.52	8397.71	7762.38
2021-22	10241.68	8513.62	-	-

The funds proposed by the Department were based on the programs and the activities planned. The Ministry of Finance allocated funds less than that proposed by the Department."

B. FINANCIAL PERFOMANCE

1.11. A Consolidated Statement showing Financial Targets and Achievements in respect of plan Schemes for the fiscal years 2018-19, 2019-20 and 2020-21 is at Annexure-I. However, the details of allocations and expenditure, in brief, incurred on Central Sector Schemes being implemented by the department during the last two financial years viz., 2018-19 and 2019-20 and for the Current Fiscal are as under-

(Rs. in Crore)

Year	BE	RE	Expenditure	% Utilization of RE
2018-19	7800.00	7952.73	7615.71	98.20
2019-20	8078.76	7846.17	7653.49	97.50
2020-21	8362.58	7762.38	5128.10*	66.06*

*Up to Dec 2020.

1.12. It is evident from the above table that the Department has been able to utilize only out of total allocation of Rs. 7762.38Cr at RE Level i.e. around 66% up to Dec, 2020 during 2020-21. On being asked by the Committee to furnish reasons for less utilisation of funds, the Department submitted that -

> "Ministry of Finance has issued Cash Management Guidelines due to pandemic situation in the Country. As per Cash Management Guideline, this Department was allowed to draw only 54% of BE 2020-21 till November, 2020. However, these Guidelines were relaxed in the month of December, 2020 allowing the Department to draw funds to the extent of 75% of RE 2020-21. Hence, the expenditure was made as reported."

1.13. Regarding mechanism available in the Department to monitor and ensure full utilization of Budgetary Allocation and the quantum of funds spent by Department, quarter-wise during last three Fiscals in absolute terms and in terms of a percentage of the Budgetary Allocations, the Department has submitted:-

> "Department targets to fully utilize the allocated funds. DARE/ICAR has inbuilt mechanism to ensure qualitative and optimal utilization of target funds through efficient and effective monitoring and management of allocations, which are enforced throughout the year through Heads (Deputy Director Generals) of the schemes. Besides, real-time monitoring is being ensured through online Finance Management System. The quantum of fund spent by the Department, quarter-wise during the last three fiscal in absolute terms are,

(Rs. in Crore)

Quarter	2018-2019		2019-2020		2020-21	
	Exp	% w.r.t Budget Allocation	Exp	% w.r.t Budget Allocation	Exp	% w.r.t Budget Allocation
April-June	1683.23	21.17	1234.43	15.73	1648.75	21.24
July-Sep	2076.73	26.11	2396.16	30.54	1663.30	21.42
October-Dec	2006.63	25.23	2059.29	26.25	1816.05	23.40

January-March	1849.11	23.25	1969.75	25.10	-	-
TOTAL	7615.70	95.76	7659.63	97.62	5128.10	66.06*

* up to December, 2020

Allocation to the Departemnt*vis-à-vis*other Departments

1.14. The details and the proportion of Budgetary Allocations made in favour of the Department out of the total budget of thee Government of India during the last three financial years and their comparison with other important Ministries/Departments is given below:-

(Rs in Crores)

	2017-18 Revised Estimates			2018-19 Revised Estimates			2019-20 Revised Estimates		
Department/ Ministry	Outlay	Total Outlay	% of total Outlay	Outlay	Total Outlay	% of total Outlay	Outlay	Total Outlay	% of Total Outlay
D/o Agriculture, Cooperation & Farmers Welfare	41855.00	2146734.78	1.95	67800.00	2457235	2.76	101904.00	2698552.00	3.78
D/o Agricultural Research and Education	**6800.00**	**2146734.78**	**0.32**	**7952.73**	2457235	**0.32**	**7846.17**	**2698552.00**	**0.29**
M/o Fisheries, Animal Husbandry and Dairying	2371.00	2146734.78	0.11	3663.28	2457235	0.15	3880.27	2698552.00	0.14
D/o Atomic Energy	12461.20	2146734.78	0.58	23337.09	2457235	0.95	25095.51	2698552.00	0.93
D/o Fertilisers	70032.71`	2146734.78	3.26	73482.78	2457235	2.99	83515.00	2698552.00	3.09
D/o Food and Public Distribution	150504.69	2146734.78	7.01	228337.12	2457235	9.29	151240.39	2698552.00	5.60
D/o Drinking water and Sanitation	20010.79	2146734.78	0.93	25384.29	2457235	1.03	26110.36	2698552.00	0.97
Ministry of Food Processing Industries	800.00	2146734.78	0.04	1000.00	2457235	0.04	1042.79	2698552.00	0.04
D/o Health Research	1500.00	2146734.78	0.07	3190.58	2457235	0.13	1950.00	2698552.00	0.07
D/o Higher Education	33329.70	2146734.78	1.55	48816.22	2457235	1.99	47716.04	2698552.00	1.77
D/o Science and Technology	4817.27	2146734.78	0.22	5134.89	2457235	0.21	5501.03	2698552.00	0.20
D/o Biotechnology	2222.11	2146734.78	0.10	2411.53	2457235	0.10	2381.10	2698552.00	0.09
D/o Scientific and Industrial Research	4446.00	2146734.78	0.21	4572.84	2457235	0.19	4883.24	2698552.00	0.18
D/o Space	9093.71	2146734.78	0.42	11200.00	2457235	0.46	13139.26	2698552.00	0.49
D/o Water Resources, River Development and Ganga Rejuvenation	6887.00	2146734.78	0.32	7672.91	2457235	0.31	7608.73	2698552.00	0.28

1.15. As is evident from the above table, the allocations to Department of Agricultural Research & Education has been reduced from 0.32% in 2018-19 to

0.29% in 2019-20 and is receiving higher proportion of allocations vis-à-vis other Research Departments such as Dept of Health Research, Dept of Science and Technology, Dept of Scientific and Industrial Research. However, the allocations are far lesser vis-à-vis Dept. of Agriculture, Cooperation and Farmers' Welfare, Dept. of Higher Education, M/o Food & Public Distribution and D/o Fertilizers.

1.16. On being asked whether the Department have taken up this issue with the Ministry of Finance (Department of Expenditure) to ensure that their share in total allocation is brought at par with other Departments viz. Dept. of Higher Education, M/o Food & Public Distribution and Dept. of Fertilizers in the future , the Department in its written reply stated -

> "The Department had sought higher allocation while submitting proposal for Revised Estimate for the current year and Budget Estimate for the next year. The allocation made by the Ministry of Finance was less than that demanded by the Department.
>
> The proportion of Budgetary Allocation at RE stage in favour of Department of Agricultural Research and Education is 0.22% of total Central Plan Outlay in 2020-21."

1.17. Further, when asked as to how the Department of Agricultural Research and Education (DARE) works out the financial requirements for various activities, before and after finalization of the allocation for the Department, the Department submitted:-

> "The financial requirement in respect of each Scheme is assessed by the respective Subject Matter Division (SMD) based on an objective analysis of the on-going Research and Allied Activities in each of the Institute and Planned Research Activities and other Infrastructure Development Works and submits to Internal Finance Division (IFD) of DARE/ICAR. IFD then

consolidates the fund requirements under Scheme and Non-scheme Components and submits a proposal for funds to Ministry of Finance."

C. ALLOCATION UNDER SCHEME HEAD

1.18. The Year-wise Budget Estimate (BE), Revised Estimate (RE) and Actual Expenditure (AE) regarding expenditure under Scheme Head are as follows:

(Rs. in Crore)

Year	BE	RE	Actual Expenditure
2018-19	2914.77	2508.43	2271.41
2019-20	2699.00	2488.61	2369.83
2020-21	2729.00	2305.00	1098.60*
2021-22	2686.00	-	-

*Actual Expenditure upto Dec 2020

It is evident from the above table that the Department has been able to utilize less than 50% i.e. Rs 1098.60 cr of the allocated funds till Dec'2020.

1.19. During the course of examination, when the Committee wanted to know the specific reasons for the under utilization of the Budgetary Allocation under the Scheme-Head, the representative of the Department submitted:-

"Due to Covid, in every quarter we were given five per cent less up to a third quarter, which means, in three quarter 15 per cent of BE because we deduct the salary and pension. So, the whole thing was with regard to the research grant, the scheme budget, 15 per cent of it was cut. So, we did not receive it. The money that we received up to December, was 100 per cent utilised. The money which was restored in December-end, that additional fund which was cut, despite that more than Rs.600 crore was already cut, but some additional funds we received. So for the fourth quarter, we have money and we are utilising. Whatever the total budget which was provisioned in BE was not received during RE – more than Rs.600 crore was cut. Whatever we have received, we have spent up to 74 per cent already, another 26 per cent from February-March we would be able to spend. "

1.20. On being enquired by the Committee about reasons for reduction in Revised Estimate vis-à-vis the Budget Estimate in 2019-20 and 2020-21 and as to how the reduction of funds at RE Stage during the said fiscals has impacted the implementation of Schemes, the Department in its reply submitted:-

> "The reduced Revised Estimates for 2019-20 and 2020-21 *vis-à-vis* Budget Estimates is due to overall cut by Ministry of Finance. Reduced allocations at RE stage have led to downsizing of some of the programs and postponement of some activities for later years. Division has made efforts to ensure that activities/programs of high priority do not suffer due to reduced allocations and also made all efforts to achieve the set physical targets and set its priorities according to the available funds.
>
> Moreover, the Department had proposed allocation for Rs. 2512.40 cr. under Scheme Budget for the year 2020-21 at RE stage. However, the final RE allocation made by Ministry of Finance was Rs.2305.00 cr"

D. REVENUE RECEIPT

1.21. When asked about the Targets and Achievements of Revenue Generation through internal resources during last three years and target set for 2021-22, the Department has submitted the following information before the Committee:-

> "Targets set and targets achieved for generation of funds during the last three years and target for the year 2021-22 are as under:

(Rs in crores)

Year	Target Set	Target Achieved
2018-2019	89.976	73.15
2019-2020	91.675	76.46
2020-2021	91.675	-
2021-2022	Yet to be fixed	-

1.22. When asked to furnish details of fee received by all the Institutions of ICAR for Consultancy/Training services provided to other organizations during last three

fiscals alongwith details of utilization of revenue generated, the Department have informed as under-

"The revenue generated from consultancy services and training programme for the last three fiscals is as under: -

(Rs. in Crores)

Year	**Revenue generated**
2017-18	5.07
2018-19	5.46
2019-20	7.31

The details of utilization out of Revenue Generated for the last five years are as under:

(Rs in Crores)

Year	Utilization of revenue
2015-16	279.64
2016-17	11.92
2017-18	28.34
2018-19	147.40
2019-20	14.58

E. SURRENDER OF FUNDS

1.23. On being asked about the funds surrendered by the Department during the years 2018-19 and 2019-20, the Department in its reply has stated:-

"The unspent balance of Govt. Grant of Rs. 321.33 Crores for the financial year 2018-2019 was surrendered. The break-up of the surrendered amount is Rs.237.05 crore under Scheme and Rs.84.28 cr. under Non-Scheme. The unspent balance of Govt. Grant for the year 2019-20 is yet to be surrendered."

1.24. During the course of examination, when the Committee queried about the reasons for surrender of funds, the representative of the Department submitted that-

"As you had cited earlier also why we surrendered, in our case it was not a question of release and account; we have to release; we have to spend; we have to get SOE in UC; then we have to indicate that we have spent the

money. In our case, it is not just the release and then the account, and it is all done.

When the money comes late, obviously it becomes difficult for us to spend it. In some years, we get the money released towards the end of March. So, there are examples. Unless that aspect is taken care of, we would not be able to spend 100 per cent. But still, we are spending to the tune of 95-98 per cent despite all this. This is all under FMS – Financial Management System. Anybody who spends, it is reflected immediately in our account here because the system gives that. Every month we are monitoring, at my level, Deputy Director level, Finance Advisor level. We could not spend earlier because there was no money. So, a lot many expenditure aspects are pending; it is not that we initiate afresh, we should be able to spend it."

1.25. Elaborating further, the representative of the Department submitted: -

"Out of Rs.8,000, about Rs.200 or Rs.250 crore in the past have been surrendered, as you have rightly stated – Rs.237 crore in 2018-19. In the first year of the plan, our EFC approval takes time. What happens is that because of lack of EFC approval, we don't really get expenditure completely because of that we can't able to utilise that money. Subsequently, when the budget release takes place, particularly in the last quarterly, now it is quite streamlined, earlier this was the main problem that money obtained by us was very less. That is why we could not spend. Despite that, we have quite a hardship because of less budget. We have to follow JFR, we have to spend, and then submit of our UC, and that becomes very difficult; and we are constrained because of that."

F. ALLOCATION FOR NORTH EASTERN AND HILL REGION

1.26. The Budgetary Provisions for North Eastern Hill Region during the years 2019-20, 2020-21 and 2021-22 are;

(Rs Crore)

Name of the Scheme	2019-20		2020-21		2021-22
	BE	**RE**	**BE**	**RE**	**BE**
Crop Science	48.59	33.00	35.12	30.05	67.20
Horticulture	4.87	17.18	19.40	18.17	32.00
Agricultural Extension	12.48	12.48	13.68	13.40	45.90
Agricultural Education	30.16	20.16	25.60	17.06	35.00
Agricultural Engineering	1.72	1.79	2.95	2.47	3.00
NRM Institutes	27.16	29.80	32.48	32.36	43.00
CRAI/NICRA	7.04	4.60	5.20	4.98	5.50
Animal Science	10.43	10.43	33.00	27.41	33.00
Fishries	1.01	1.01	3.60	3.36	4.00
ICAR Hqrs (Salary)	157.05	147.57	160.00	158.38	170.00
DARE - CAUs	185.93	184.62	203.90	190.00	210.00
Total	**486.44**	**462.64**	**534.93**	**497.64**	**648.60**

1.27. The allocation for NEH region for 2021-22 at BE level have been increased to the tune of Rs.113.67 crore in comparison to 2020-21. On being asked regarding reasons for this substantial increase and how this increase will be helpful in carrying out research activities and implementation of Schemes in NEH Region, the Department in its written submission has stated as follows-

> "The enhanced allocations of the Department at BE level for 2021-22 has impacted proportionate increase in the allocations for NEH regions. Enhanced allocation will be helpful in carrying out planned activities in a better way for development of Agricultural and Allied Fields of NEH community. "

1.28. Further, regarding utilization of funds meant for NEH Region, the following has been submitted by the Department-

> "The utilization during 2020-21 (upto December 2020) is Rs.373.23 cr. during 2019-20 was Rs. 462.63 cr. and during 2018-19 was Rs. 459.96 cr."

1.29. When asked about the criteria used for allocations of funds to various States under the Head for North Eastern Areas, the Department stated:-

"The allocation of funds is not made to the States directly by the Department. The allocated fund is utilized for betterment/ development of NEH region/community through improvement of agricultural and allied activities. "

G. IMPACT OF COVID-19 PANDEMIC ON AGRICULTURAL RESEARCH

1.30. Regarding impact of Covid-19 Pandemic on the Agricultural Research in the country , the Department has submitted that the ICAR institutes adopted the Standard Operating Procedures issued by MHA from time to time and accomplished all the essential activities during the COVID-19 Pandemic lockdown and after. The online mode of teaching and learning were adopted for the capacity building wherever necessary. Few preliminary studies on the Impact of Covid-19 on the Fisheries Sector estimated losses in fish landings due to lock down at 313.6 Tonnes (8.4% reduction over 2019) and Rs. 5939 crores (reduction of 11.5% over 2019). The Fishing Supply Chain was disrupted to a large extent. The Capacity Building Programmes to provide advance training to the Agricultural University Teachers and ICAR Institute Researchers were deferred. The fear of spreading infection affected fabrication, demonstration of agricultural machinery and outreach activities etc.

1.31. When asked about the efforts made by the Department to mitigate the impact of Pandemic on Agricultural Research and the steps undertaken by the Department to change difficult time into opportunity (*Aapda mein Avasar*), the Department in its reply submitted:-

"The ICAR- KVK system provided training to labourers under Garb Kalyan Rozgar Abhiyaan. The district levels plan was implemented by 705 KVKs and 62824 migrant labourers were trained to initiate rural and agricultural related employment. The eBook on advisories during COVID 19 pandemic containing

National and state-specific advisories reached to 5.58 crore farmers. Besides, ICAR also provided 52003 quintal seeds, 78.78 lakhs planting material, 13.0 lakh fish fingerlings to the farmers. The *Arogya Setu* Mobile App was promoted amongst 63.27 lakh farmers; 6711 Whats*app* Group -9.37 lakh farmers. The ICAR advisories issued during the COVID-19 earned the Global recognition by FAO and WHO.The Four ICAR Institutes- IVRI, NIHSAD, DFMD, NRC-Equines notified for COVID-19 Testing and tested over 4 lakh human samples.

Several International and National virtual webinars were conducted to discuss various mitigation measures on the impact of pandemic. This gave an opportunity to organize meetings with minimum expenditure. Issued series of advisories to cope up with the pandemic based on scientific and technical meetings organized in online mode. Curricula delivery through e-learning: all e-resources of agricultural education were made available to all the students free of cost. Remote Access Facility was extended to all the end users (all researchers, teachers and students) to make online accesses of Consortium for e-Resources in Agriculture (CeRA) 24x7. On-line academic-manufacturer meet for multiplication and popularization of the new equipment/machines, real time advisories to farmers for carrying out agricultural practices and for mitigating the impact of pandemic."

H. ATMANIRBHAR BHARAT ABHIYAN

1.32. In the Address by The President of India to the Joint Sitting of two Houses of Parliament, Hon'ble President said:

"Atmanirbhar Bharat Abhiyan is not just confined to manufacturing in India, but is also a campaign aimed at elevating the standard of living of every Indian as well as boosting the self-confidence of the country.Our goal of an Atmanirbhar Bharat will be further strengthened by self-reliance in agriculture."

1.33. On being asked regarding role of the Department envisaged to fulfill the objectives of Atmanirbhar Bharat Abhiyan, the Department in its written reply has submitted:-

"DARE/ICAR is orienting its research, education and extension activities to address government recommendations under "*Atmanirbhar Bharat Yojana*" through: i) development of supply chain and management in all agriculture and allied products, apart from post-harvest measures, ii) to facilitate Micro Food Enterprises, with focus on 'Vocal for Local with Global Outreach.' through technical up gradation of farmers and farming organizations and connecting them with the retail sectors; iii) to fill in the gaps between the supply chain of which fishermen are a part; iv) to facilitate private investments in the Dairy Processing and cattle feed industry and v) to promote herbal farming and bee keeping;

Activities undertaken to fulfill the objectives of Atmanirbhar Bharat Abhiyan includes training of 68136 migrated labours by organizing 1922 training programmes in 6 states by KVKs under Garib Kalyan Rojgar Abhiyan, entrepreneurship development on Custom Hiring of Agricultural Machinery, showcasing of the technology/equipment facilitated adoption process through industrial liasioning in 17 states, organized 100 Entrepreneurship development programs and 74 specialized farmers' trainings on processing and value addition in different production catchment. Approximately 4,961 farmers were trained and established 42 Agro processing centres for processing and value addition of agricultural commodities.

Department is concerned with capacity building for organic farming, developing integrated farming systems and nutritional profiling of biofortified varieties, developing processable varieties and regional crop plans for promoting the exports in order to achieve the local to global andhelp utilise the potential of local food systems for bringing the food and nutritional security. To achieve these, ICAR has developed 60 integrated farming systems prototypes and 51 organic farming practices for different agro-climatic conditions and

resource endowments. The capacity building of organic growers is being addressed for intensive skilling in niche areas. To popularize, the organic farming practices, the cluster demonstrations of 50 ha each on organic farming systems were conducted by 411 KVKs. Besides, KVKs Organized 60,672 training programmes benefiting 16.82 lakh farmers including organic farmers, farmwomen and rural youths.

The nutritional profiling of 50 bio fortified varieties is the step toward nutritional and quality improvement of crops for providing the country early mover position. The regional crop plans for 5 export potential crops completed and 9 processable varieties released (potato -1, tomato -3, onion – 3, grape -1, barley-1) to help import substitution of raw material for food processing industries. In order of import substitution of edible oils, the high yielding varieties of oilseeds have been developed and notified. So far 24 new HYV oilseeds (Rapessed& Mustard-8, safflower-2, sunflower-1, soybean-2, Linseed-3, sesame-, Groundnut -6 and castor-1) were released."

CHAPTER - II

ANALYSIS OF SECTORAL SCHEMES

2.1. The Schemes under ICAR are being operationalised under five major outcome based themes. The Schemes have been rationalized and organized into 35 Schematic theme and two Non- Schemes. The research, extension and education in ICAR are organized under eight subject matter divisions (SMDs). They include Natural Resource Management, Agricultural Engineering, Crop Science, Horticulture Science, Animal Science, Fisheries Science, Agricultural Education and Agricultural Extension. These SMDs are entrusted with the overall responsibility for the preparation, scrutiny, review, technical supervision and guidance of the Schemes and Programs/Projects within their respective Disciplines. They are supported with a network of Research Institutes/Schemes in their respective areas and have well placed Institutional Mechanism of linkage with the State Agricultural Universities.

A. MANAGEMENT OF NATURAL RESOURCES

2.2. Under the Head of Management of Natural Resources (Natural Resource Management including Agroforestry Research), the allocation for 2021-22 at BE stage for sub-head Natural Resource Management including Agroforestry Research has been increased. The details of status of allocation and utilization of funds is as follows:-

(Rs. in crore)

YEAR	BE	RE	Actual Expenditure
2018-19	174.39	148.24	135.72
2019-20	159.48	158.83	155.81
2020-21	174.00	173.38	75.56*
2021-22	195.00	-	-

***Upto Dec, 2020**

2.3. It can be seen from the above table that the Department during 2020-21 has been able to expend only Rs. 75.56 Cr (less than 50%) upto Dec,2020 out of total allocation of Rs.173.38 at RE Stage. When asked to furnish reasons for less utilization and steps undertaken by the Department for optimum utilization of the allocated funds, the Department submitted :-

> "The less utilization of funds was due to less release. Now that the release has increased, therefore utilization is also increased. Money is to be paid to CPWD and there are a number of recurring expenses. The latest utilization up to January, 2021 is Rs. 84.58 Cr.
>
> To ensure effective and optimum utilization of funds, NRM division is reviewing and monitoring the physical and financial progress of all subordinate units regularly, issues if any, are addressed immediately."

2.4. On being queried regarding plan of the Department to utilize the increased allocation during 2021-22, the Department in its reply stated:-

> "Increased allocation would be utilized effectively on account of the increased cost of agricultural inputs and number of works are in advanced stage for which expenditure would be met out from the Capital head Rs. 215.2 Crores were proposed by the Department for this sub head under this Division"

2.5. Natural Resources Management Division covers the area of sustainable management of natural resources. Division is conducting research in farmers' participatory mode addressing issues at ground level to develop location specific, cost effective, eco-friendly, climate resilient technologies keeping in view the farmers' resource availability, traditional/ indigenous technology knowhow and grass-root farm innovations to enhance agricultural production, productivity and profitability in the country. Major achievements during the current year appertains to development of

Land Resource Inventory (LRI) Map on 1:10000 Scale; delineation of potential area for rice and oil palm in the country; development of “Ekcel-CompostR” and “Ekcel-ShredR” for rapid decomposition of waste biomass; development drip fertigation schedule for various cropping system; development of IFS models for Andhra Pradesh, Gujarat and Rajasthan; organic farming package of practices, growth promoting value added microbial formulations for vegetables, and new climate resilient rice genotype IET 24306 (Swarna SamriddhiDhan) and NICRA Aerobic Dhan1.

2.6. On being asked regarding shift in Agricultural Activities observed in the country due to Change in Climatic Pattern or Weather Fluctuation and the efforts made by the Department during the last three years for soil conservation and enhancing water holding capacity to enhance resilience of soil towards climate variability in the country, the Department in its reply has submitted the following:-

> "There is shift in sowing time, replacement of crops/ crop varieties in the event of change in climate pattern or weather fluctuation in the country. The Council has developed bio-engineering measures of soil and water conservation, in-situ soil moisture conservation techniques and rainwater harvesting technologies to address the issues of soil conservation and enhancing water holding capacity to enhance resilience of soil towards climate variability in the country.'

2.7. Moreover, on the query regarding Programme for balanced use of fertilisers and the progress made by the Department in this regard, the following reply has been submitted-

"Department is implementing programs on Soil Test Crop Response (STCR), Micro- and Secondary Nutrients and Pollutant Elements (MSNP) in soils and Plants, Long Term Fertilizer Experiments (LTFE) and Network Project on Soil Biodiversity-Biofertilizers are addressing researchable issues related to soil health/fertility and balanced use of fertilizers. Program provides technological backstopping to various developmental schemes including National Mission on Soil Health Card being implemented in the country to facilitate balanced fertilization. The progress and salient achievements includes the development of soil-test based INM recommendations for major and minor crops, soil fertility maps of 173 districts covering nineteen states, e-Atlas of micro & secondary nutrients deficient areas in various states, color atlas for micronutrient deficiency symptoms, established critical limits of major and micronutrients for various crops, technologies to prepare various types of organic manures such as phosphorcompost, vermi-compost, municipal solid waste compost, bio-enriched compost etc. from various organic wastes, improved and efficient strains of biofertilizers specific to different crops and soil types, liquid biofertilizer technology with higher shelf life, Consortia of biofertilizers, portable soil test kit, Identified Zinc and potassium solubilizing bacteria for use as biofertilizers. During 2021-22 the Department will focus on soil test based balanced & integrated nutrient management encompassing use of both organic and inorganic sources of fertilizers, enhancement of nutrient use efficiencies and improvement of soil health."

2.8. During the course of examination when the Committee desired to know about the main objectives of Soil Testing and whether these objectives have been fulfilled or not, the Department submitted :-

"The main objective of the soil testing is to provide soil test-based fertilizer recommendation to facilitate balanced fertilization and to prepare maps at district/block level for monitoring of soil health/fertility. ICAR provides technological backstopping to National Mission on Soil Health Card being

implemented in the country. The Government in the 1st Cycle (2015-16 & 2016-17), distributed 10.74 crore soil health cards to farmers and in the 2nd Cycle (2017-18 onwards), 11.87 crore soil health cards have been distributed to farmers."

2.9. Further, the Department informed the Committee as follows: -

"The Council has developed portable soil test kit (Mridaparikshak) /mini lab to bring soil testing facilities at block/village level. The kit meets the requirements of National Mission on Soil Health Card, providing soil testing service at farmers' doorstep along with soil test based fertilizer recommendations. So far, 11343 kits have been sold. Most of the KVKs at district levels have been equipped with such facilities to make analysis of soil samples."

National Innovation In Climate Resilient Agriculture (NICRA)

2.10. The details of status of allocation and utilization of funds under NICRA are as follows:-

(Rs. in Crore)

YEAR	BE	RE	Actual Expenditure
2018-19	52.00	44.21	38.36
2019-20	47.56	46.00	38.45
2020-21	52.00	49.83	27.86*
2021-22	55.00		

***Upto Dec, 2020**

2.11. It is evident from the above Table that the Department has been able to utilize only Rs. 27.86 Crore (upto Dec'20) as against the allocation of Rs. 49.83 Crore at RE Level during 2020-21. When asked by the Committee to furnish latest utilization figures for 2020-21and the reasons for less utilization, the Department in its reply has stated: -

"The utilization upto January 2021 is Rs.31.32 crore, 74.89% of RE allocation has been utilized, remaining will be utilized in preceding months of 2020-21. Less utilization has been due to less funds release and of the prevailing pandemic situation."

2.12. Moreover, on being queried regarding allocation proposed by the Department and as to how the Department to utilize the increased allocation during 2021-22 under the Head, the following submission has been made-

"The funds proposed during 2020-21 were Rs.4983 Lakhs. and during 2021-22is Rs.6941 Lakhs. Increased allocations shall bring in identifying and operationalizing new projects under Competitive Grants of NICRA. Climate change research infrastructure established at different locations will be upgraded. The NICRA /clusters/villages will be expanded to other risk prone districts in the country based latest risk analysis. It is also proposed to establish new Eddy Covariance towers (for creating India Flux) for precise estimation of GHG emissions from different production systems at landscape level."

2.13. On being asked regarding Programme of Demonstration and Upscaling of Climate Resilient Technologies, the progress so far achieved and the Action Plan drawn up for the year 2021-22 under the Scheme, the Department in its written reply has submitted :-

"Technology demonstration was started with 121 villages five years ago and now it has been expanded to 426 villages in 151 vulnerable districts in the country. Proven resilient practices (1927) including climate resilient crop varieties (902), natural resource management technologies (513) and livestock interventions (512) were demonstrated in the NICRA villages based on the climatic vulnerability. 1000 Rain Water Harvesting structures were constructed/ renovated resulting in improvement in the cropping intensity up to

130% in NICRA villages, In-situ moisture conservation measures and improved planting methods demonstrated which improved the soil moisture and productivity of crops by 15-30%, .drought and flood tolerant varieties were demonstrated in the NICRA villages resulting in yield advantages in Soybean (22-37%), Pigeonpea (23-33%), Pearl millet (10-21%), Paddy (5-14%), Sesame (20-28%) and Chickpea (14-39%). Intercropping systems improving yields ranging from 12-20%, paddy crop residue management for early sowing demonstrated and 535ha of area covering 114 farmers was taken up sowing of wheat with happy seeder, Poultry cum- fish integrated farming system was demonstrated which provided additional returns to the tune of Rs. 27,640 to the farmer compared to single monoculture of fish, 122 custom hiring centers, 67 seed banks and 34 fodder banks are functional in NICRA villages, 121 VCRMCs (Village Climatic Risk Management Committees) are established and organised 16,958 capacity building programs benefiting 4.28 lakh personnel of the Country. NICRA interventions helped farmers to reduce the yield losses and enhanced their adaptive capacity against climatic variability. In the year 2021-22 the NICRA villages will be expanded to other vulnerable districts in the country (109 very highly risk prone + 201 highly risk prone districts)."

2.14. Further, when asked regarding activities undertaken by the Department under NICRA in the different parts of the country, the Department submitted that-

"Every year based on the advanced weather forecast by SASCOF in the month of April, the districts which are prone to weather fluctuations are identified. Sensitization workshops for district contingency planning are being organized involving senior officer in the line departments of respective states. A real time contingency tool has been placed in CRIDA website for the planners to implement contingency planning including advice to the farmers and selection of different resilient practices. The seed banks and fodder banks established in NICRA villages will cater the needs of climate smart seeds and fodder in the NICRA and the neighboring villages.

During the past five years, NICRA Project was implemented in 41 ICAR institutes covering different sectors viz., Crop improvement, Natural Resource Management, Horticulture, Animal Science & Fisheries for undertaking climate change research. Besides these, 26 institute projects under competitive grants component and 2 projects under sponsored grants component were awarded mostly to State Agricultural Universities, IITs, NGOs and traditional universities. Further 18 more projects were identified by the NICRA expert committee for funding for next five years to address important issues of climate change in agriculture."

2.15. When queried regarding target set for training of farmers to create awareness on successful climate resilient practices and technologies under NICRA projects, the Department stated:-

"Approx. 1500 training programs covering 60,000 farmers and other stakeholders are being conducted every year. In the coming years the targets have been set to conduct 2,000 training programs and cover more than one lakh farmers every year."

Crop Residue Management

2.16. The KVKs (60) are implementing the Information, Education and Communication (IEC) component of the Scheme on Promotion of agricultural mechanization for *in situ* management of crop residue in the state of Punjab, Haryana, Uttar Pradesh and NCT of Delhi to educate the farmers and other stakeholders about ill effects of crop residue burning. *In situ* management of crop residue was the prime focus of Government of India and ICAR during 2019. A total of 410 machines were procured by the KVKs in this period out of which Happy seeder assumed the lead role followed by zero till drill and rotavator, etc. Under this

component 44 Kisan melas were organized in which 3.96 lakh participants were educated on the significance and urgency of CRM followed by 650 awareness programs targeting 71,392 participants, 543 schools and colleges mobilizing 46,386 students through essay, debate and painting competitions; 12,469 demonstrations focusing on 17,239 farmers; 194 training programs benefitting 7,423 participants; 175 exposure visits of 4,777 participants and 183 field/ harvest days to demonstrate results to 8,535 persons. Other activities under IEC initiative of CRM project include distribution of 4.11 lakh publicity material (leaflets/ pamphlets etc.); placing 20,553 posters/ banners; 3,672 wall paintings; fixing of 1,187 hoardings at mandi/ road side/ market/ schools/ petrol pumps/ Panchayats, etc.; publication of 431 articles and newsitems in the newspapers and magazines; 292 advertisements in the print media; and 81 TV programmes/ panel discussions on Doordarshan/ DDKisan and other private channels.

2.17. The Committee have also been informed that in order of having efficient crop residue management to reduce crop residues burning, instrument and implements have been provided for farmers on subsidies. For faster decomposition of straw, Pusa Decomposer, a microbial consortium consisting of *Aspergillus awamori, Phlebia radiata, Aspergillus nidulans, Aspergillus clavatus, Aspergillus flavus, Trichoderma viride* and *Aspergillus fumigatus* has been developed, which accelerates the decomposition of paddy straw and makes the field ready for next crop sowing in 20-25 days following conventional tilling (CT) practices. CT is one of the major activities in the Govt. funded Crop Residue Management (CRM) scheme. Its use enriches the soil with organic carbon (OC) and nutrients while improving the soil biological

properties. The technology has been licensed for commercialization to six companies and efforts are being made to up-scale further.

B. CROP SCIENCE

2.18. Under the Head Crop Science, the following are details of allocation and utilization of funds-

(Rs in crore)

YEAR	BE	RE	Actual Expenditure
2018-19	776.00	651.99	601.71
2019-20	701.53	635.00	624.11
2020-21	715.50	612.25	235.71*
2021-22	708.00	-	-

***Uptodecember 2020**

2.19. It is clear from the above data that the funds under Crop Science have been reduced at RE stage during the last three fiscals and the allocation for 2021-22 at BE Level vis-à-vis 2020-21 has been reduced from Rs. 715.50 cr to Rs.708 cr. Moreover, the Department has been able to utilize only 38.4% (upto Dec'20) of the total allocation at RE Level during 2020-21. When asked to furnish reasons for decrease in allocation at RE Stage and less utilization during the current fiscal, the Department in its reply submitted:-

> "Cut of Rs. 103.25 crore of Crop Science Division is due to overall reduction in DARE/ICAR budget due to Covid 19 pandemic. It was ensured that the reduced in allocation do not impact the high priority programs/ activities of different schemes and therefore priorities were revisited, all efforts were made to achieve the targets.Rs. 420.10 crore have been utilized up to January 2021. Expenditure has been low due to prevailing pandemic.However, Division shall be able to utilize allocated BE during preceding months of the fiscal."

2.20. Crop Science Division undertakes research programs in the areas of management of genetic resources, crop improvement, crop management (production and protection). The genetic resource programs include plant, microbial and insect genetic resources. The focus of crop science programs are on genetic enhancement of field crops for yield, tolerance to biotic and abiotic stresses and quality, and that released 345 high yielding stress tolerant varieties in different field crops. During the period, 17 biofortified varieties of different field and horticultural crops have also been released and dedicated to the nation by Hon'ble Prime Minister on the occasion of World Food Day on 16 October, 2020. A total of 117 genetic stocks of 54 species of field and horticultural crops have been registered with specific traits like resistant to various biotic and abiotic stresses, quality etc. Different management measures for controlling insect-pests damage in crops have been devised and various molecules are identified, tested and recommended for plant protection. Package of practices for control of Fall Army Worm, a devastating pest in maize has been recommended. The emphasis is on the development of nutrient and water use-efficient genotypes in different field crops using modern tools of genomics and phonemics. In addition, Post graduate teaching in agricultural, basic and social sciences is also an important component. Technologies developed for various crop-based programs were carried to Farmer's field through various extension programs and activities.

2.21. When the Committee queried about the steps undertaken by the Department for bringing about improvement in the Seeds of various types of crops like pulses, food grains and oilseeds so as to achieve self-sufficiency in the production of

Agricultural Produce during last five years, the Department in its written rely submitted :-

> "During the last five years, the varietal improvement programme has been expedited and a total of 1366 varieties including cereals (644), oilseeds (200), pulses (214), forage crops (89), fibre crops (158), sugarcane (51) and other crops (10) have been developed which include 62 biofortified varieties. Out of 1366 varieties, 1109 varieties have resilience to one or the other biotic and abiotic stresses. Use of genomic tools has also been demonstrated successfully by breeding 51 varieties with improved stress tolerance and quality traits."

2.22. On being enquired by the Committee regarding number of Bio-fortified Varieties of different crops have been developed and released during last three years target was set for the development of Bio-fortified Seeds by ICAR, the Department submitted :-

> "Total 63 bio-fortified field crops varieties have been developed out of which 47 varieties have been released since 2018-19. A target of 30 varieties was set which has been achieved successfully during last three years."

2.23. To a reply regarding commercialization of Bio-fortified seeds developed by ICAR and efforts made by ICAR to enhance awareness about Bio-fortified Seeds among farmers, the Department replied as follows:-

> "First set of biofortified varieties in case of wheat, rice and mustard was released during 2015-16 and some of the varieties were put under the breeder seed production during 2016-17. The certified seed of these varieties has been made available for commercial cultivation by the farmer during 2019-20. Presently 18 varieties of wheat, five varieties of rice, four hybrids of pearl millet, two varieties of lentil and two varieties of mustard are in seed chain and 7466 q of breeder seed has been produced since 2016-17. This seed is being

converted to certified seed by the various seed producing agencies in different states to make biofortified seed available to the farmers in coming years. Further, the biofortified varieties of wheat, rice, maize, mustard and soybean have been licensed to more than 300 private seed companies, which produce and market the quality seed of these varieties."

2.24. During the course of evidence, on the query of the Committee regarding yield of different bio-fortified varieties, the representative of the Department submitted as under-

"बायोफोर्टिफाइड जो वेरायटी है, उनके यील्ड के बारे में आपने जिक्र किया है। हमारी अलग-अलग वेरायटीज़ अलग-अलग इलाकों के लिए हैं। उनमें जो फोर्टिफिकेशन की है, पंजाब तथा हरियाणा में किसान जो चाहते हैं, उनमे पैदावार ज्यादा रहता है। वहाँ के लिए हमने जो बायोफोर्टिफाइड किस्म बनाया है, उसका पैदावार आठटन से ज्यादा है। उस सीड का इतना डिमांड है, इसका डिमांड बड़े पैमाने पर हो रहा है। यह करीब 4 मीलियन हेक्टेयर तक चला गया है। यह इस साल का हिसाब है और एक बहुत बड़ी उपलब्धि है। बाकि जहाँ पर पैदावार कम है, उस रीजन के लिए अलग किस्म है।"

2.25. In the Economic Survey 2020-21, it has been stated that the Council has produced 115707 quintals of Breeder Seed of 1330 Varieties of 51 Field Crops. These were distributed to various Public and Private Seed Production Agencies for multiplication of Foundation and Certified Seeds. In case of vegetatively propagated field crops, fruits, vegetables and plantation crops, 169 Lakh Planting Materials and 8.0 Lakh Tissue Culture Plantlets were also produced for farmers.

2.26. On being asked to furnish details of production of Crop Varieties and Hybrids which were released by ICAR Institutes during the last three years, the Department submitted :-

> "ICAR through its breeder seed production programme produces the breeder seed as a first step for making quality seed available to the farmers through various central/state and private seed producing agencies. The seed availability is ensured to different schemes of various departments like DAC&FW for RKVY, Mini-kits, Cluster demonstrations; Ministry of Women and Child Development through its POSHAN Abhiyan and on farm demonstrations by KVKs. States are apprised of these varieties well in advance before finalization of breeder seed and public and private seed agencies are encouraged to indent for biofortified varieties. KVKs have launched a programme called NARI (Nutri-sensitive Agricultural Resources and Innovation) which creates awareness on Nutri Sensitive Agriculture among farming community through capacity development and different level of interfaces; promotes biofortified crop varieties for nutritional security among farm women and Children; promotes Nutri Garden, Nutri Thaali, and Nutri Villages; develops entrepreneurship among youth by producing nutritional products and promotes Nutri Sensitive Innovative Practices and Value Chain development."

2.27. When during the course of examination, the Committee wanted to know about the efforts made by the Department tin developing Seed Varieties while maintaining natural and intrinsic qualities of traditional varieties of seeds, the representative of the Department replied as follows:-

> **"यह जो नेचुरल टेस्ट की बात कही है, यह बहुत जरूरी है और इस दिशा में बॉयो फोर्टीफाइड क्रॉप हम बना रहे हैं और विशेष रूप से हमारी जो लोकल वैराइटीज हैं और जैसा माननीय प्रधानमंत्री जी ने 'वोकल फॉर लोकल' का नारा दिया है, उसके ऊपर काफी जोर दिया जा रहा**

है। पहले हम पैदावार बढ़ाने में लगे थे, क्योंकि देश को इसकी आवश्यकता थी। अब हम लोकल वैराइटी की गुणवत्ता बनाए रखते हुए पैदावार बढ़ा रहे हैं"

2.28. When further enquired about the procedure for distribution/ sale of Seeds produced by the ICAR and mechanism of price discovery of Seeds and revenue earned from sale of Seeds during the last five years, the Department in its written reply submitted:-

> "Production of Breeder seed is done based on the indents received by the DAC&FW and distribution is done according to the allotment made by Seed Section of DAC&FW. ICAR Institutes are producing the truthfully labelled seed through the Farmers Participatory Seed production programme. The price of Breeder Seed is fixed by the DAC&FW on the recommendation of ICAR and the price of other quality of seed is fixed by a Committee operating in each ICAR institutes. The criteria of fixing the price of truthfully labeled or foundation seed is based on the price of breeder seed and cost of inputs. Farmers interest of affordability is always kept in mind while fixing the prices of seeds of various crop varieties. Institutes under crop science division have generated revenue of Rs 5642.06 lakh from sale of seed during last five years."

2.29. In a reply to the query regarding involvement of Private Firm(s) in production of breeder, foundation, certified, truthful labeled seed and planting material to meet the demand as provided by the Department of Agriculture, Cooperation and Farmers Welfare, the Department stated:-

> "Approx. 540 Private Seed Companies including Indian Origin and Multinationals are operating in the country, out of which around 80 Companies have their own Research and Development Programmes. Rest of the Companies are producing and marketing the seed of public sector varieties. These Companies are not involved in the breeder seed production. However,

most of the Private Seed Companies are involved in the production of foundation and certified/ truthfully labelled seed. Details of quality seed produced in the country by Public and Private Sector Agencies during past three years are given as under:

Year	Quantity (million tonnes)		Quantity of seed (million tonnes) produced by	
	Availability	Requirement	Public sector	Private Sector
2017-18	4.19	3.71	1.79 (42.72 %)	2.40 (57.28 %)
2018-19	3.99	3.54	1.71 (42.77%)	2.28 (57.23%)
2019-20	4.31	3.87	1.64 (37.98%)	2.67 (62.02%)
2020-21	4.84	4.43	1.72 (35.54%)	3.12 (64.46%)

[Source: Agricultural Statistics, DAC & FW, GOI]

However, based on the primary data collected by ICAR, 53.25% share of the Public Sector and 46.75% of Private Sector is in the total formal system of seed supply. Most of the varieties multiplied and marketed by Private Sector Companies are from Public Sector. In case of wheat, rice, maize and mustard more than 300 Companies have Licensed the varieties developed by ICAR and quality seed of newly released varieties is being made available to the farmers at a faster rate. In case of wheat, rice, soybean, groundnut, pulses, millets all the varieties being multiplied and marketed by Private Seed Companies are from Public Sector."

C. AGRICULTURE EXTENSION

2.30. Agricultural Extension Division is carrying out on-farm testing to identify the location specificity of agricultural technologies, frontline demonstration to demonstrate the production potential of different crops, training of farmers and extension personnel on knowledge and skills improvement, and creating awareness on improved technologies among farmers of the country through a network of 722 Krishi Vigyan Kendras (KVKs) spread all over the country. A total of 28.30 lakh farmers and other stakeholders benefitted through various extension activities. Mera

Gaon- Mera Gaurav program was implemented in 13,500 villages to provide information on newer technologies to the farmers. Attracting and Retaining Youth in Agriculture (ARYA) has been implemented in 25 districts of 25 States and 4280 rural youth were empowered for various Agri-enterprises in Agriculture, allied and service sector for sustainable income and gainful employment. More than 311.28 lakh farmers either used mKisan portal or received SMS from KVKs on improved package of practices of various crops and allied enterprises, weather based advisories and information on various Government schemes provided to farmers through messages utilizing services of mKisan portal.

2.31. Under the head of Agriculture Extension, the allocation for 2021-22 at BE stage has been increased in comparison to last three fiscals. The details of status of allocation and utilization of funds is as follows:-

(Rs. in Crore)

YEAR	BE	RE	Actual Expenditure
2018-19	241.81	205.53	197.81
2019-20	221.15	221.15	195.55
2020-21	242.50	237.49	83.31*
2021-22	328.00	-	-

***Upto Dec, 2020**

2.32. On being asked regarding reasons for substantial increase at BE stage for the year 2021-22, the Department in its reply has submitted: -

> "RE of 2020-21 was 237.49 crore and allocation for 2021-22 is Rs. 318.00 crore with increase of about 38 % of the RE of 2020-21. The more allocation is proposed in view of increasing number of KVKs, creating the required infrastructure for setting up new KVKs and strengthening of infrastructure in the old KVKs. Rs. 221.15 crore and Rs. 242.50 crore were proposed during 2019-20 and 2020-21, respectively."

2.33. Krishi Vigyan Kendras (KVKs), part of frontline extension system, are mandated for technology assessment and demonstration for its application and capacity development under different farming situations across the country. During the reported year, 12 new KVKs were established taking the total number of KVKs to 722 in the country. Besides lab-to-land activities for outreach, important programmes such as Farmers FIRST, Attracting and Retaining Youth in Agriculture (ARYA), Cluster Frontline Demonstration of pulses and oilseeds, Cereal Systems Initiatives for South Asia (CSISA), National Innovations in Climate Resilient Agriculture (NICRA), Pulses Seed hubs, Mera Gaon Mera Gaurav and Awareness creation on government schemes, etc. were taken up to address various challenges of engaging youth in agriculture, brining self-sufficiency in production of pulses and oilseeds, sustainable agriculture, etc.

2.34. On the query of the Committee regarding number of new KVKs opened during the last three years and how many of these new KVKs have been opened in a district – in addition to existing KVK, the Department submitted:-

> "A total of 41 new KVKs have been opened during the last three years. Out of these new KVKs, one additional KVK has been opened in 27 districts where a KVK already existed."

2.35. When further queried regarding criteria for opening a KVK in a District and as to how the Department assesses the requirement of an additional KVK in a District, the Department stated:-

> "It has been decided by the Government that one KVK is to be sanctioned in each of the rural districts. The districts for more than one KVK are decided

based on a composite index with the average of three indices viz. geographical area, rural population and net sown area."

2.36. On being further enquiring by the Committee about the availability of adequate infrastructure in the existing KVKs and how the inadequate infrastructure is hampering the work of KVKs, the Department in its written reply have furnished as under-

"Out of 722 KVK, all KVKs have instructional farms, 663 KVKs have administrative buildings and 563 KVKs have farmers' hostels. The KVKs which do not have adequate infrastructure are supported by the respective host organizations through sharing of infrastructure of nearby research station/KVK/college, etc. till creation of infrastructure in the particular KVKs.

The Department has also submitted that there is a provision of one Senior Scientist and Head and six Subject Matter Specialists (SMSs) in each KVK. There are 196 vacant posts of Senior Scientist and Head and 1214 vacant posts of SMSs. The filling of posts is the responsibility of Host Organizations. The Host Organizations are requested time to time to fill up the vacant posts. In spite of vacancies in KVKs, it is emphasized that the mandated activities are organized as per approved action plan with the help of staff deputed by the Host Organizations."

2.37. During the course of examination, when the Committee queried about the steps undertaken to fill up the vacant posts in KVKs, the representative of the Department submitted:-

"In KVKs more than 1,000 positions are still vacant, particularly subject-matter specialists. The problem is, many State Governments don't give approval for appointments. I have written to all the Chief Secretaries about it, wherever there are problems. The State Agricultural Universities are administering the KVKs. The rules of State Universities apply to them because host institutions'

rules apply. Under that, they seek the approval of the State Governments and in many instances, they don't get approvals. That keeps pending. The total is 722 and in every KVK we have six positions; we have more than 4,500 subject matter specialists are there. These many positions are pending. We are working very hard. We hope we would be able to convince the authorities to do the needful. We continue our effort."

2.38. When asked about the efforts made to make the KVKs more productive in terms of Extension Programs and outreach to maximize benefit to the farming population in their area, the Department has submitted:-

"KVKs are using the services of mKisan Portal of Department of Agriculture, Cooperation & Farmers' Welfare to send the advisories and alerts to 5.36 crore farmers. KVKs have also formed different commodity based whatsapp groups to reach large number of farmers. Besides, the KVKs have been linked with 3.5 lakh Common Service Centers (CSCs) established at Gram Panchayat level for providing technological solutions to the farmers visiting CSCs with agriculture related technological problems."

2.39. Further, during the evidence, the representative of the Department supplemented as follows: -

"अगर हम एक प्रगतिशील किसान को ट्रेनिंग देते हैं तो वह और दस किसानों को उसके बारे में बताता है। इस प्रकार से एक्सटेंशन का प्रिंसिपल यह है कि अगर पूरे किसानों तक पहुँचने की आवश्यकता नहीं है और एक किसान को ट्रेनिंग देंगे तो वह अपने आस-पड़ोस के छह-सात किसानों को अपने खेत में दिखाकर प्रशिक्षण दे ही देगा। यह एक प्रिंसिपल है, लेकिन यह काम प्रत्येक वर्ष होता है। एक टाइम पीरियड में हमारा प्रयास यही रहता है कि वह सायकल कंप्लीट हो जाए।"

2.40. Replying to a query regarding availability of Toll Free Numbers in KVKs to address the problems of the farmers without visiting the KVKs, the representative of the Department submitted:-

"आपने कृषि विज्ञान केंद्र के लिए टोल फ्री नम्बर का सुझाव दिया है। माननीय प्रधानमंत्री जी का भी सुझाव है कि जिस प्रकार टेली मेडिसिन होता है, उसी प्रकार टेली एग्रीकल्चर की व्यवस्था की जाए। उसके ऊपर हम काम कर रहे हैं। हम उसको आगे और बढ़ावा देंगे। जो भी किसान चाहेगा, वह फोन करके एक्सपर्ट से सलाह ले सकता है। यह व्यवस्था जल्द हो जाएगी। जो भी कॉमन सैंटर्स हैं, उनके साथ हमारा सम्पर्क हो गया है, लिंक हो गया है। कॉमन सर्विस सैंटर में जाकर वे कर सकते हैं; लेकिन यह व्यवस्था हो जाएगी, तब वे अपने घर बैठकर भी कर सकते हैं।"

2.41. When further enquired by the Committee regarding efforts made by the KVKs in the country to attract and retain the rural youth towards agriculture, the Department submitted :-

"Entrepreneurial development and vocational trainings are provided to rural youth in various enterprises like mushroom cultivation, beekeeping, poultry farming, goat farming, dairy farming, vermi-compost production, nursery management, processing and value addition of minor millets, fruits and vegetables etc. so that they can start their enterprise at village level. Implemented 'Attracting and Retaining Youth in Agriculture (ARYA)" project in 100 KVKs of the country to provide the rural youth the income generating opportunities and engage them in agriculture. Approx. 400 KVKs/ICAR Institutes/Agricultural Universities are also organizing National Skill Qualification Framework aligned skill development training programs for the rural youth with funding support from the Department of Agriculture, Cooperation and Farmers' Welfare; GoI."

D. AGRICULTURAL EDUCATION

2.42. The Agricultural Education Division, ICAR through its Plan Scheme supports and enables 74 Agricultural Universities (AUs), viz. State Agricultural Universities (63 SAUs), Deemed-to-be-Universities (4 DUs) and Central Universities (4 CUs) with Agricultural faculties under the National Agricultural Research and Education System (NARS), to maintain quality higher agricultural education through accreditation, periodic course updation/revision, attracting talented students, capacity building of faculty in challenging areas, as well as through promotion of holistic higher education.

2.43. The Year-wise Budget Estimate (BE), Revised Estimate (RE) and Actual Expenditure (AE) under Agriculture Education Division is as follows:

(Rs. in Crore)

YEAR	BE	RE	Actual Expenditure
2018-19	618.70	525.59	445.54
2019-20	565.61	450.00	432.57
2020-21	480.00	319.90	153.42*
2021-22	355.00	-	-

***Upto Dec, 2020**

2.44. It is evident from the above Table that the allocation at BE level and RE level has decreasing trend since 2018-19. When asked about the reasons for decrease in allocation from 2018-19 to 2021-22, the Department in its written submission stated:-

> "Reduction imposed by Ministry of Finance on allocations of the Department at BE and RE levels from 2018-19 to 2021-22 impacted the proportionate reduction in allocations of the Division"

2.45. Agriculture Research in the Country is led by National Agricultural Research System, which comprises research Institutes, Central and state Agricultural

Universities, Deemed-to-be Universities and agricultural colleges. Country has a network of 103 Research and Education Institutes, 74 Agricultural Universities and 722 Krishi Vigyan Kendras spared across the country. These Establishments have adequate agricultural research resources including laboratories, research farm land, water and human resources to cater the agriculture research, education and extension need of the country.

2.46. The Department has submitted the following data regarding number of applicants for admission in UG/PG courses in Agriculture Stream and number of candidates selected for admission from 2008-09 to 2020-21-

	2008-09 to 2013-14		2014-15 to 2020-21	
	Number of Applicants	Candidates admitted	Number of Applicants	Candidates Admitted
UG	262675	10487	1118179	15255
PG	107344	12895	211406	19938

2.47. During the course of evidence, when the Committee queried about less enrollment in Agricultural Universities for UG/PG courses, the representative of the Department submitted follows:-

"आपने एग्रीकल्चर एजुकेशन के बारे में बात की है कि इसमें कम एडमिशन हो रही है। हम लोग आईसीएआर की तरफ से जो नेशनल टेस्ट करते हैं, वह पूरे देश में सारे यूनिवर्सिटीज के लिए होता है। मात्र 15 **प्रतिशत छात्रों को हमारे जरिए एडमिशन मिलता है, बाकी राज्य अपने ही करते हैं। उसमें एडमिशन देने के लिए उन्होंने** 15 **प्रतिशत से ज्यादा एलाऊ नहीं किए हैं। हमारे जोनेशनल टेस्ट है, उसमें हम सारे विश्वविद्यालय के लिए देते हैं। बाकी बच्चे अपने-अपने यूनिवर्सिटी में अलग से उनका** 85 **प्रतिशत स्थान होता है। ग्रेजुएशन में करीब** 24-25

हजार बच्चे विभिन्न विश्वविद्यालयों को लेकर एडमिशन लेते हैं। यह करीब 24-25 **हजार है, जो ग्रेजुएशन के लिए है। उसका** 15 **प्रतिशत हम नेशनल टेस्ट के जरिए कराते हैं। इसी तरह का करीब** 12-15 **हजार एमएससी, पीएचडी में एडमिशन लेते हैं। उसका** 25 **प्रतिशत के लिए हमारे कॉमन टेस्ट के जरिए एडमिशन होता है, लेकिन यह सच्चाई है कि प्रतियोगिता बहुत ज्यादा है। बहुत बच्चे इसमें इंट्रेस्टेड हैं और वे आना भी चाहते हैं। ज्यादातर लोगों के लिए राज्य सरकार अलग से जो एग्जाम करती हैं, हम अभी प्रपोजल करते हैं कि एक ही एग्जाम करेंगे, लेकिन अभी वे अलग से एग्जाम करते हैं और एडमिशन देते हैं। यही बच्चे फिर वहाँ पर भी एग्जाम देते हैं, यह राज्यों में अलग-अलग विश्वविद्यालयों के है। यह एक प्रक्रिया है, इसलिए यह ज्यादा दिखता है। मैं आप से सहमत हूँ कि आज इसको बढ़ाने की आवश्यकता है।"**

2.48. On being asked about steps undertaken by the DARE/ICAR during the last five years to maintain and develop quality standards in Higher Agricultural Education in the Institutes/Universities of the country, the Department in its written reply has submitted:-

"To maintain and develop quality standard in higher agricultural education in the NARS Institute and universities, the course curricula have been restructured and reoriented, to develop skills and entrepreneurial mind-set among the graduates to take up self-employment, to sustainably enhance rural livelihood security, and to propel agricultural transformation through science informed policy options and actions. Introduced Student READY (Rural Entrepreneurship Awareness Development Yojana) programme in all the Agricultural Universities as an essential prerequisite for the award of degree to ensure hands-on experience and practical training. To maintain quality of higher agricultural education, accreditation has been linked with the release of

grants to agricultural universities. The grading system has also been evolved based on accreditation parameters. Ranking of Agricultural Universities has been initiated by ICAR in 2017 with a larger objective to drive the universities towards improving quality standards and enhance their visibility to the stakeholders. Implementing National Agricultural Higher Education Project (NAHEP)" to strengthen the national agricultural education system in India to provide more relevant and high-quality education to agricultural university students."

2.49. On being enquired by the Committee regarding mechanism under DARE/ICAR for accreditation of Agricultural Universities/Institutions including State Agricultural in the country, the Department in its written reply has stated:-

"DARE/ICAR has a mechanism for accreditation of Agricultural universities/ Institutions in the country. At first, the Higher Agricultural Educational Institutions (HAEI) shall submit a Letter of Intent (LoI) in prescribed proforma for the Institutional Eligibility for Accreditation (IEA) and Statement of Compliance to the NAEAB Secretariat. The National Agricultural Education Accreditation Board (NAEAB) Secretariat examines eligibility and basic requirements for accreditation. Thereafter, if qualifies, the institutions asked to submit Self Study Report to the respective Regional Center of the NAEAB. Regional Center examines the Self Study Report. If found suitable, NAEAB Secretariat will constitute a Peer Review Team for on-spot verification to the HAEI, which shall be completed within one month of the constitution of the Peer Review Team. The Peer Review Team submits the report immediately, the report along with the comments of the NAEAB Secretariat is placed before the NAEAB next meeting for final decision on the grant of accreditation to HAEI for its Programmes, Colleges (also called as Schools, Faculties, Institutes) and Agricultural Universities. After approval of the proceedings of the NAEAB Meeting, letters/certificate are issued to the HAEI conveying the decision of the Board.

Parameters for accreditation for programme Faculty strength, technical and Supporting staff, Class rooms and laboratory, conduct of Practical and Hands-on- Training, Number of students being supervised by Faculty in case of Masters /Ph D Program, feedback of stakeholders and ICT application in curricula delivery. For College parameters are college administration, faculty, learning resources, student development, physical facilities, research facilities and outcome/output. Parameters for University are governance, academic support, research support, extension support, faculty and staff development, student development, infrastructure, financial resource management and accomplishments.

Provision of guidelines for accreditation of Higher Agricultural Educational Institutions in India are applicable for both State Agricultural Universities (SAUs) and Private Universities. A total of 66 State Agricultural Universities (including Colleges/Schools) and 7 Private Universities have been accredited during the last five years.

The grading system is provided in accreditation. There shall be four types of grades namely, A+, A, B and C. If the institution scores 2.49 or less, it shall not qualify for accreditation. The grading shall be accorded as per the following: Score Grade; 2.50 to 2.74 Grade “C”, 2.75 to 2.99 Grade “B”, 3.00 to 3.49 Grade “A” and 3.50 or higher Grade “A+”."

2.50. On being further enquired regarding action has been taken for merging of research institutes, right sizing of ICAR (HQ) etc in the view of the recommendations of PRC, the Department in its reply has submitted:-

"As a measure of restructuring and right sizing the system to reduce overheads and divert the savings towards operational activities, the Council has reviewed the AICRP system recently and closed 6 AICRPs, 10 AINPs and 3 ORPs. The number of AICRPs/NPS/ORPs has been reduced by 21.7% along with re-appropriation of AICRP staff of about 2550. This could result in a saving of about Rs.100.0 crores annually. Besides, a comprehensive review

with respect to the meaningful outcomes of the ICAR Institutes vis-a-vis budgetary spending by the respective entities has been carried out recently by a committee constituted under the Chairmanship of Dr. Deepak Pental, Former Vice Chancellor, Delhi University. NITI Aayog, GOI has also reviewed the research schemes of ICAR focused on R&D for national economic products & recommended the continuance of ICAR research schemes to MOF. Following a comprehensive Cadre Review Exercise undertaken by ICAR recently, a decision to close some of the regional centres of ICAR Research Institutes, having limited utility is also under consideration in the Council. However, reduction of total number of institutions to 75 at a time when we are looking at expanding R&D activities to several new/frontier areas to address the food and nutritional requirements, generate exportable surplus, increase farmers' incomes and contribute towards making India a 5 trillion USD economy may need careful examination."

2.51. When the Committee desired to know about the impact ofCovid-19 Pandemic on Research and Education Activities and strategy of the Department to compensate for the loss occurred to Research and Education Activities due to Pandemic, the Department submitted:-

"The COVID-19 pandemic has posed an unprecedented situation and new challenges for agricultural research and education. The ICAR has taken several immediate measures to ensure continuity in teaching- learning process. As a part of these initiatives, curricula delivered through e-learning: all e-resources of agricultural education available with ICAR made available to all the students free of cost. Consortium for e-Resources in Agriculture (CeRA) facilitated 24x7 online accesses of select journals in agricultural and allied sciences to all researchers, teachers and students, Remote Access Facility was extended to all the end users to make use of these resources from anywhere. The teaching and training activities were undertaken through on-line mode (using MS-Teams), Field oriented work such as survey/sample

collections, etc., were greatly impacted. Collection of data was mainly done using mobile apps and other ICT tools. Advisories were provided to all stakeholders, official meetings, examinations, research progress and reviews were conducted through virtual mode."

2.52. The Finance Minister in her Budget Speech (2021-22) has stated as follows:-

"In my Budget Speech of July 2019, I had announced the National Research Foundation. We have now worked out the modalities and the NRF outlay will be of `50,000 crores, over 5 years. It will ensure that the overall research ecosystem of the country is strengthened with focus on identified national-priority thrust areas."

2.53. On being asked about role envisaged by ICAR/DARE in National Research Foundation and the modalities that have been worked out for Agricultural Research, the Department replied the following-

"DARE/ICAR is in the process of formulation of Action Plan under National Research Foundation for financial support and implementation for strengthening agricultural research, education and extension."

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CHAPTER-III

PRIVATE INVESTMENT IN AGRICULTURAL RESEARCH

3.1. In view of the Ministry of Corporate Affairs notification G.S.R 776 (E) dated 11-10-2019 amending therewith the specific portions of Schedule VII of the Act to include “Contribution to incubators funded by Central Government or State Government or any agency or Public Sector Undertaking of Central Government or State Government, and contributions to public funded Universities, Indian Institute of Technology (IITs), National Laboratories and Autonomous Bodies (established under the auspices of Indian Council of Agricultural Research (ICAR), Indian Council of Medical Research (ICMR), Council of Scientific and Industrial Research (CSIR), Department of Atomic Energy (DAE), Defense Research and Development Organization (DRDO), Department of Science and Technology (DST), Ministry of Electronics and Information Technology) engaged in conducting research in science, technology, engineering and medicine aimed at promoting Sustainable Development Goals (SDGs)"as eligible to approved CSR funding modes mandated under Section 135 of the Act, the ICAR prepared a Guideline for seeking support for research and outreach projects under CSR.

3.2. On being asked about efforts made by the Department to tap funding under CSR for Agricultural Research and funds so received till date, the Department in its written reply has submitted that-

> "The ICAR has entered into MOUs with a number of Agencies and Private Entities to explore the possibility of private funding to research and farmers outreach. Agrinnovate India Limited a registered Company, was established

by Government of India in Department of Agricultural Research and Education (DARE) commercialized over 150 technologies & products to Private Companies in the last two years (2018-19 to 2020-21) and has earned gross realization of over Rs 3 crores."

3.3. Further, when the Committee enquired about the steps taken by the Department to encourage Private Investment in the Agricultural Research during last three years, the Department stated:-

"ICAR has revised and reoriented its guidelines to work closely with wider community including private and public sector by implementing i.e. ICAR Rules and Guidelines for Professional Services Functions (Training, consultancy, contract Research and Contract Service) 2014 and ICAR Guidelines for Intellectual Property Management and Technology Transfer/Commercialization (IPMTT/C) revised 2018. Further, to accelerate dissemination of innovative technologies, Agrinnovate India Limited a registered Company, was established by Government of India in Department of Agricultural Research and Education (DARE). It aims to work on the strengths of ICAR and promote the development and spread of Research and Development outcomes through intellectual property rights protection, commercialization and forging partnerships both in the country and outside for the public benefit."

Part-II

Observations/Recommendations of the Committee

Budgetary Allocation

1. The Committee note that there is a huge gap between the funds proposed by the Department and the funds allocated to the Department. The Department has proposed Rs. 10650.17 cr as against allocation of Rs. 8362.52 Cr at BE Level during 2020-21 and Rs.10241cr as against allocation of Rs. 8513.62 Cr at BE level during 2021-22. Moreover, the proposed allocation at RE level during 2020021 8397.71 was further reduced to Rs.7762.38 Cr. The proportion of Budgetary Allocation at RE Stage in favour of Department of Agricultural Research and Education is 0.22% of total Central Plan Outlay in 2020-21.The Committee have been informed that the Department had sought higher allocation while submitting proposal for Revised Estimate for the Current year and Budget Estimate for the next year. The allocation made by the Ministry of Finance was less than that demanded by the Department. The Committee also note that the allocations to Department of Agricultural Research & Education has been reduced from 0.32% in 2018-19 to 0.29% in 2019-20 and the Department however, is receiving higher proportion of allocations *vis-à-vis* other Research Departments such as Dept of Health Research, Dept of Science and Technology, Dept of Scientific and Industrial Research. However, the allocations are far lesser *vis-à-vis* Dept. of Agriculture, Cooperation and Farmers' Welfare, Dept. of Higher Education, M/o Food & Public Distribution and D/o Fertilizers. Though the Budgetary allocation at BE

Level for the fiscal year 2021-22 has been increased in comparison to Fiscal Year 2020-21 but as informed by the Department the increase in allocation at BE level during 2021-22 is only an incremental increase on account of payment of Salary and other establishment expenses. However, Scheme-Allocation at BE 2021-22 is Rs. 2686.00 Cr, which is less than the BE of 2020-21 that was 2729.00 Cr. The Committee are of view that there is need for huge investment in the Agricultural Research and Education Sector if the Government wants to pursue vigorously primary objective of improvement in the living conditions of the farmers with much more purposeful Welfare Orientation. However, the Committee are distressed to note that there is stagnation in the allocations to the Sectors over a period of time. The Committee in their earlier Reports had also been stressing on the enhancement in allocations to the DARE/ICAR in order to strengthen the Agriculture Research Sector. The Committee, therefore, reiterate their earlier recommendation and strongly recommend the Department to pursue the matter at highest level with the Ministry of Finance in order to enhance allocations to the DARE/ICAR during the fiscal year 2021-22 at RE Level and further.

<u>Optimum Utilization Of Funds</u>

2. The Committee are deeply concerned to find that the Department has surrendered unspent balance of Govt. Grant of Rs. 321.33 Cr for the Financial year 2018-19. The surrendered amount comprises of Rs. 237.05 Cr under Scheme and Rs .84.28 Cr. under Non-Scheme. And more importantly, the unspent balance of Govt. Grant for the year 2019-20 is yet to be surrendered.

During the course of examination, the Committee have been informed that in the first year of the plan, EFC approval takes time and because of lack of EFC approval, the Department don't really get expenditure completely and because of that it can't utilise that money. Subsequently, when the Budget release takes place, particularly in the last quarter, fund utilization is difficult but however now it is quite streamlined, earlier this was the main problem. The Committee are not convinced with such state of affairs and are of the considered view that the reasons cited by the Department are not acceptable in the light of the fact the Department has surrendered funds for 2018-19 and for 2019-20 the funds are yet to be surrendered. The Committee urge the Department to spruce up its machinery to prepare realistic, plans in order to make optimum use of its Budgetary Grants to achieve the intended outcomes.

<u>Allocation Under Scheme Head</u>

3. The Committee are aware of the fact that out of total allocation of funds, around 70-75 Percent are spent on salaries, pensions, etc by the Department and merely 25-30 percent of the total allocation is earmarked for Scheme Head. The Committee have been informed that though the total Budgetary Allocation for 2021-22 has been increased in comparison to 2020-21on account of payment of salary and other establishment expenses, the allocation under the Scheme Head is less than the Budget of 2020-21. During the year 2020-21, the funds allocated under Scheme Head at BE stage was Rs. 2729 Cr which was further reduced to Rs. 2305.00 Cr at RE Stage. The Committee are however displeased to note that the Department has been able to utilize less than 50

percent *i.e* Rs.1098.60 Cr (till December 2020) during the fiscal year 2020-21. Moreover, for the year 2021-22, the allocation under Scheme Head at BE level has further been reduced to Rs. 2686.00 Cr, which is lowest in comparison to allocation made during the last three Fiscals. In this regard, the Department has informed that the reduced Revised Estimates for 2020-21 *vis-à-vis* Budget Estimates is due to overall cut by Ministry of Finance. Reduced allocations at RE Stage have led to downsizing of some of the Programs and postponement of some activities for later years. Due to Covid, in every quarter, the Department was given five per cent less up to the Third Quarter, which means, in three quarter 15 per cent of BE was deducted. As there can't be deduction in salary and pension, the deduction was with respect to the Research Grant only, the Scheme Budget, 15 per cent of it was cut. The reduction of funds under Scheme Head is simply not acceptable to the Committee because it adversely affects the implementation of the Schemes. The Committee express their displeasure over the fact that instead of enhancing the allocation of funds under Scheme Head, the same have been considerably reduced. The Committee are of the considered view that the allocation of funds under the Scheme Head should not be reduced at any Stage so that the Department does not have to downsize or postpone different Schemes. The Committee strongly recommend the Department to take up the matter with the Ministry of Finance. The Committee would like to be apprised of the efforts made by the Department to make sure the same.

Allocation for North Eastern Hill Region

4. The Committee are unhappy to note that the Department has not been able to fully utilize its Budgetary Allocation meant for North East Region (NER) in each of the last three Fiscal Years. The Committee also note that though the allocation of funds for NEH Region is steadily increasing but the Department is not able to utilize it optimally. Under utilization of allocated funds, defeats the very purpose of having a separate Sub-allocation for NEH Region. The Committee are of the view that it is the responsibility of the Department to ensure optimal utilization of funds allocated to NEH Region in a time bound manner for various activities meant for development of the Region. The issue needs to be addressed through coordinated approach amongst all stakeholders involved in the process removing basic constraints which hinder optimum utilization of funds. The Committee, therefore, desire the Department should study the loop holes and a full proof mechanism be evolved to address the issue ensuring optimum utilization of funds earmarked for North Eastern and Hill Region. The Committee would like to be informed of the fresh initiatives by the Department in this regard.

Soil Testing Facilities

5. The Committee note that the Department is implementing Programs on Soil Test Crop Response (STCR), Micro- and Secondary Nutrients and Pollutant Elements (MSNP) in soils and Plants, Long Term Fertilizer Experiments (LTFE) and Network Project on Soil Biodiversity- Biofertilizers are addressing researchable issues related to soil health/fertility and balanced use of

fertilizers. The Committee have been informed that the main objective of the Soil Testing is to provide Soil Test-based Fertilizer Recommendation to facilitate balanced fertilization and to prepare maps at District/Block Level for monitoring of soil health/fertility. ICAR provides technological backstopping to National Mission on Soil Health Card being implemented in the country. The Council has developed portable Soil Test Kit (Mridaparikshak) /Mini Lab to bring Soil Testing facilities at Block/Village level. The Kit meets the requirements of National Mission on Soil Health Card, providing Soil Testing Service at farmers' doorstep along with Soil Test Based Fertilizer Recommendations. So far, 11343 Kits have been sold. Most of the KVKs at district levels have been equipped with such facilities to make analysis of soil samples. The Committee are aware that unbalanced and indiscriminate use of chemicals fertilisers particularly in the States of Punjab and Haryana over the years has resulted in depletion of soil fertility and Multi Nutrient Deficiency especially the soil there being under intensive cropping. The rampant use of fertilizers has not only affected the soil health but also affecting human and animal health. They feel that this is mainly due to the ignorance on the part of the farmers about the quality of soil. The Committee, therefore recommend the Department to coordinate with DAC&FW to facilitate Soil Testing at the village level. In this context, the Committee further recommend the Department to organise an extensive Campaigns in order to create awareness among farmers about the benefits of Soil Testing and also about improvement of soil health, besides exploring the possibility of providing Mobile Soil Testing Vehicle at

Village Level so as to facilitate farmers on this count as the same would also make available results of the Soil Testing to farmers instantaneously.

Crop Residue Management

6. The Committee feel that *in situ* Management of Crop Residue in the states of Punjab, Haryana, Uttar Pradesh and NCT of Delhi has been a matter of concern for years. The Committee note that in order to have an effective Crop Residue Management Instruments and implements have been provided for farmers on subsidies. For faster decomposition of straw, Pusa Decomposer, a Microbial Consortium consisting of *Aspergillus awamori, Phlebia radiata, Aspergillus nidulans, Aspergillus clavatus, Aspergillus flavus, Trichoderma viride* and *Aspergillus fumigatus* has been developed, which accelerates the decomposition of paddy straw and makes the field ready for next crop sowing in 20-25 days following conventional tilling (CT) practices. CT is one of the major activities in the Govt. funded Crop Residue Management (CRM) scheme. Its use enriches the soil with Organic Carbon (OC) and nutrients while improving the soil biological properties. The Committee were of the opinion that Pusa decomposer developed by the Department is a welcome step and efforts be made to make the decomposer more and more effective as an effective solution to address concerns of the farmers to this effect. The Committee strongly recommend the use of PUSA decomposer in large scale to minimize pollution caused by parali. The Department should also take further steps to make it economically viable and cost effective.

National Innovation in Climate Resilient Agriculture (NICRA)

7. The Committee observe that the Department has been able to utilize only Rs. 27.86 Crore (up to Dec'20) as against the allocation of Rs. 49.83 crore at RE Level during 2020-21. The allocation of funds at BE level has been increased from Rs. 52 cr in 2020-21 to Rs. 55 crore for 2021-22. The Department has informed that less utilization has been due to less funds release and of the prevailing Pandemic Situation. The Committee have been informed that increased allocations shall bring in identifying and operationalizing New Projects under Competitive Grants of NICRA. Climate Change Research Infrastructure established at different locations will be upgraded. The NICRA /clusters/villages will be expanded to other Risk Prone Districts in the country based latest risk analysis. It is also proposed to establish new Eddy Covariance Towers (for creating India Flux) for precise estimation of GHG emissions from different production systems at landscape level. The Committee, therefore, recommend the Department to allocate adequate funds so that the research activities and preparedness for facing challenges that Climate Change will pose to Indian Agriculture are not hampered. The Committee feel that the proposal of establishing new Eddy Covariance Towers for precise estimation of GHG emissions is a welcome step and desire the Department to apprise the Committee regarding progress made in this regard.

Further, regarding target set for training of farmers to create awareness on successful Climate Resilient Practices and Technologies under NICRA Projects, the Committee have been informed that approx. 1500 Training

Programs covering 60,000 farmers and other stakeholders are being conducted every year. In the coming years the targets have been set to conduct 2,000 Training Programs and cover more than one lakh farmers every year. The Committee are of the considered view that the number of Training Programms conducted by the Department every year are quite less and with such pace it would be quite impossible to cover considerable number of farmers. The Committee, therefore, recommend the Department to take urgent steps to increase the frequency and number of Training Programmes so that more and more farmers could be made aware and get benefitted and make an Annual Plan covering all Agro Climatic Zones. The Committee also recommend the Department to start awareness campaign to educate farmers about Climate Resilient Practices and technologies through the Print and Electronic Media.

<u>Crop Science</u>

8. The Committee note that the Crop Science Division undertakes Research Programs in the areas of management of Genetic Resources, Crop improvement, Crop Management (production and protection). The focus of Crop Science Division Programs are on genetic enhancement of field crops for yield, tolerance to biotic and abiotic stresses and quality, and it has released 345 High Yielding Stress Tolerant Varieties in different Field Crops. 17 Bio-Fortified Varieties of different Field and Horticultural Crops have also been released and dedicated to the Nation by Hon'ble Prime Minister on the occasion of World Food Day on 16 October, 2020. The Committee have been informed that during the last five years, the Varietal Improvement Programme

has been expedited and a total of 1366 Varieties including Cereals (644), Oilseeds (200), Pulses (214), Forage Crops (89), Fibre Crops (158), Sugarcane (51) and other crops (10) have been developed which include 62 Biofortified Varieties. Out of 1366 Varieties, 1109 varieties have resilience to one or the other biotic and abiotic stresses. Use of Genomic Tools has also been demonstrated successfully by breeding 51 varieties with improved stress tolerance and quality traits. The Committee were further informed that the first set of biofortified varieties in case of wheat, rice and mustard was released during 2015-16 and some of the varieties were put under the Breeder Seed Production during 2016-17. The Certified Seeds of these varieties have been made available for commercial cultivation by the farmer during 2019-20. Presently eighteen varieties of Wheat, five varieties of Rice, four Hybrids of Pearl Millet, two varieties of Lentil and two varieties of Mustard are in Seed chain and 7466 q of Breeder Seed has been produced since 2016-17. The Seeds are being converted to Certified Seed by the various Seed Producing Agencies in different states to make Bio-Fortified Seeds available to the farmers in coming years. Further, the Bio-Fortified Varieties of wheat, rice, maize, mustard and soybean have been licensed to more than 300 Private Seed Companies, which produce and market the quality seed of these varieties. According to the Department, different bio-fortified seeds have been developed for different Regions. The emphasis is also being given on development of Local Varieties. Earlier the stress was on increase in production but now it is on increase of yield with preserving the qualities of local and traditional varieties. The

Committee appreciates the efforts made by the Department and at the same time, desire the Department to take further steps and redouble its efforts to achieve self-sufficiency in production of Pulses and Oilseeds so that import dependency be minimized. The Committee note that since Pulses are a major source of protein for majority of people in India and availability of adequate quantity of Pulses at reasonable prices is a way to deal with the problem of malnutrition in the country. The Committee also desire that efforts be made to maintain natural and intrinsic qualities of Local and Traditional Seeds while developing new seeds. The Committee further desires that Local Endemic Varieties of crops should also be propagated and preserved alternate Cropping patterns should be encouraged by way of preparing an Action Plan to this effect.

Krishi Vigyan Kendras

9. The Committee have time and again emphasized the importance of KVKs in the Scheme for Agricultural Extension. Krishi Vigyan Kendras (KVKs), part of Frontline Extension System, are mandated for Technology Assessment and Demonstration for its application and capacity development under different farming situations across the country. The Committee are pleased to note that the allocation for Agriculture Extension for the year 2021-22 at BE Level has been substantially increased. The Department has informed that RE for 2020-21 was 237.49 crore and allocation for 2021-22 is Rs. 318.00 crore with increase of about 38 % of the RE of 2020-21. The more allocation is proposed in view of increasing number of KVKs, creating the required infrastructure for setting up

new KVKs and strengthening of infrastructure in the old KVKs. The Committee are however, distressed note that more than 100 KVKs do not have farmers' hostel and more than 50 KVKs do not have Administrative Buildings. And importantly, more than 1000 posts at different Levels are vacant in KVKs .The Committee are of the view that sufficient funds, inadequate infrastructure, vacant positions are defeating the very purpose of establishment of KVKs. The Committee, therefore, recommend the Department to expedite the work related to filling up of vacant posts in KVKs in consultation with different stakeholders and the infrastructural inadequacies be completed as early as possible. The Committee would like to be apprised about the action taken by the Department in this regard.

<u>Opening of Additional KVKs</u>

10. The Committee have been informed that one KVK is to be sanctioned in each of the rural Districts. The Districts for more than one KVK are decided based on a composite index with the average of three indices viz. geographical area, rural population and net sown area. During the last three years, 41 New KVKs have been opened. Out of these New KVKs, one additional KVK has been opened in 27 districts where a KVK already existed. In the opinion of the Committee, one KVK in a district is not sufficient to cater to the requirements of farming population in most of the rural districts of the country and as such, the Committee are of the considered opinion that to maximise the outreach of KVKs to the framers, feasibility of opening of Sub-kendras/Centres of KVKs at Tehsil/Block level be explored. Moreover, the Committee also recommend the

Department to address the problems being faced by the farmers, the facility of Toll Free Numbers in KVKs be launched so that the farmers can get solution of their problems without visiting the KVKs.

Agricultural Education

11. Agriculture Research in the Country is led by National Agricultural Research System, which comprises Research Institutes, Central and State Agricultural Universities, Deemed-to-be Universities and Agricultural Colleges. The Country has a net work of 103 Research and Education Institutes, 74 Agricultural Universities and 721 Krishi Vigyan Kendras spared across the country. However, the Committee are distressed to note that the allocation at BE level and RE level has a decreasing trend since 2018-19. The allocation at BE level and RE Level was Rs.618 Cr and Rs. 525 Cr respectively during 2018-19 whereas the allocation of funds at BE level and RE level for the year 2020-21 was Rs. 480 Cr and Rs. 319 Cr respectively. Not only this, the allocation of funds at BE level for 2021-22 has been further reduced to Rs. 355 Cr. The Department has informed that the reduction imposed by Ministry of Finance on allocations of the Department at BE and RE Levels from 2018-19 to 2021-22 impacted the proportionate reduction in allocations of the Division. The Committee express their deep concern over the matter and are not able to comprehend rationale behind reduction of funds for Agricultural Education over the years. The Committee, therefore, strongly recommend that allocation made to the Division may be reviewed at RE Stage and the matter may be taken up with the M/o Finance at RE stage for allocation of adequate funds at RE

stage so as to ensure effective and efficient implementation of its various activities/Research programmes.

The Committee also note that there is huge difference between number of applicants and number of candidates selected for admission in UG/PG Courses in Agriculture from 2008-09 to 2020-21. The Department has informed that ICAR Admission Test for UG/PG courses in Agriculture and Allied Sciences are conducted under the aegis of ICAR. However, only 15 percent of successful candidates are admitted through ICAR in different Universities/ Institutes and rest of them are admitted in the State Agricultural Universities. The State Governments conduct State Level entrance exams for admission in State Agriculture Universities. The Committee are of the considered opinion that the Department in consultation with all stake holders explore the feasibility for conducting Common Admission Test at All India Level for admission in UG /PG Level in Agriculture and Allied Sciences and simultaneously propose to increase the number of seats in different Colleges/Universities

<u>Private Investment in Agricultural Research</u>

12. The Committee have been informed that in order to encourage Private Investment in the Agricultural Research ICAR has revised and reoriented its Guidelines to work closely with wider community including Private and Public Sector by implementing i.e. ICAR Rules and Guidelines for Professional Services Functions (Training, consultancy, contract Research and Contract

Service) 2014 and ICAR Guidelines for Intellectual Property Management and Technology Transfer/Commercialization (IPMTT/C) revised 2018. Further, to accelerate dissemination of innovative technologies, Agrinnovate India Limited a Registered Company, was established by Government of India in Department of Agricultural Research and Education (DARE). The Committee are of the view that there is tremendous scope for commercialisation of products and technologies of ICAR Institutes both in domestic and International Market. The Committee feel that to give fillip to Agricultural Research more and more Investment is required and therefore desire that initiatives be taken by the Department to increase Private Investment in this Sector by making Policy changes wherever further necessary for attracting the Private Investment.

New Delhi
08 March, 2021
18 Phalguna, 1942 (saka)

P.C. GADDIGOUDAR
Chairperson
Standing Committee on Agriculture

Annexure-I

SCHEME-WISE ALLOCATION AND EXPENDITURE

		2019-20			2020-21		
		BE	RE	Actual	BE	RE	Actual Up to Dec 20)
Sl. No.	**Name of Schemes (After rationalisation)**						
	CENTRAL SECTOR SCHEMES						
1	**Natural Resource Management**						
1	**Soil Characterization and Management**	**2651.74**	**2963.68**	**2931.51**	**3340.59**	**3645.33**	**1677.24**
	Indian Institute of Soil Science, Bhopal	413.44	494.15	526.59	534.61	596.61	220.87
	AICRP on Micro and Secondary Nutrients & Pollutant Elements in Soils and Plants, Bhopal	105.16	120.39	120.38	120.01	412.01	62.63
	AINP on Soil Biodiversity - Biofertilizer, Bhopal	45.71	45.74	41.90	49.84	61.14	20.19
	AICRP on Soil Test Crop Response, Bhopal	97.82	103.82	102.36	108.57	123.57	55.95
	AICRP on Long Term Fertilizer Experiments, Bhopal	73.14	77.29	75.34	93.77	132.67	46.47
	CRP on Conservation Agriculture, Bhopal	288.98	288.98	288.95	314.97	327.74	141.03
	Central Soil Salinity Research Institute, Karnal	762.38	836.99	835.48	939.76	945.53	529.21
	AICRP on Salt Affected Soils & use of Saline Water, Karnal	60.36	60.36	6.30	65.78	115.78	31.88
	National Bureau of Soil Survey and Land Use Planning, Nagpur	804.75	935.96	934.20	1113.28	930.28	569.01
2	**Water Harvesting, Conservation and Management**	**2649.11**	**2648.50**	**2508.54**	**2986.30**	**2965.69**	**1357.59**
	Indian Institute of Water Management, Bhubaneshwar	337.92	298.76	290.97	356.74	271.74	144.34
	AICRP on Irrigation Water Management, Bhubaneshwar	93.21	93.21	93.14	101.9	319.9	41.08
	CRP on Water, Bhubaneshwar	353.98	294.24	166.27	354.91	384.91	145.3
	Indian Institute of Soil and Water Conservation, Dehradun	1012.95	1131.1	1128.04	1251.26	1122.26	611.79

	ICAR Research Complex for Eastern Region, Patna	851.05	831.19	830.11	921.49	866.88	415.08
3	**Dryland Agriculture**	**2438.37**	**2057.44**	**1998.24**	**2540.20**	**2022.85**	**940.09**
	Central Research Institute of Dryland Agriculture, Hyderabad	930.73	835	834.75	1003.47	667.08	404.32
	AICRP Dryland Agriculture, Hyderabad	349.20	339.2	339.20	380.62	345.62	200.25
	AICRP on Agrometeorology, Hyderabad	111.76	112.25	56.77	122.34	155.44	50.9
	National Institute of Abiotic Stress Management, Baramati, Maharashtra	1046.68	770.99	767.53	1033.77	854.71	284.62
4	**Sustainable Cropping and Farming System Research**	**2911.88**	**2641.90**	**2598.81**	**2828.57**	**2866.76**	**1067.22**
	Indian Institute of Farming System Research, Modipuram	391.70	407.26	391.26	463.56	346.56	165.99
	AICRP on Integrated Farming System, Modipuram	372.44	402.06	382.97	418.68	668.68	177.5
	Network Programme on Organic Farming, Modipuram	157.29	164.17	159.59	169.12	204.12	77.5
	Central Agroforestry Research Institute, Jhansi	348.49	316.88	315.22	356.76	321.76	157.84
	AICRP on Agroforestry, Jhansi	300.32	225.44	225.41	327.33	247.52	117.66
	Directorate of Weed Research, Jabalpur	420.27	439.99	438.83	478.45	423.45	195.98
	AICRP on Weed Management, Jabalpur	119.06	119.06	118.74	129.75	169.75	69.12
	Mahatma Gandhi Integrated Farming Research Institute, Motihari	802.31	567.04	566.79	484.92	484.92	105.63
5	**Management of Arid, Hill and Coastal Eco System**	**5296.90**	**5571.48**	**5544.31**	**5704.34**	**5837.37**	**2513.42**
	Central Arid Zone Research Institute, Jodhpur	1142.91	1163.59	1151.27	1274.75	1319.75	667.65
	ICAR Research Complex for NEH Region, Barapani	3519.09	3748.93	3760.72	3645.54	3690.82	1383.89
	Central Coastal Agricultural Research Institute Goa	634.90	658.96	632.33	784.05	826.8	461.88
	TOTAL	**15948.00**	**15883.00**	**15581.42**	**17400.00**	**17338.00**	**7555.56**
2	**Climate Resilient Agriculture Initiative**						
6	**National Innovation in**	4756.00	4600	3845.44	5200	4983	2786.68

	Climate Resilient Agriculture, Hyderabad						
			.				
3	**Agricultural Engineering**						
7	**Farm Mechanisation**	**2403.07**	**2300.65**	**2288.29**	**2535.51**	**1957.09**	**1089.16**
	Central Institute of Agricultural Engineering, Bhopal	1086.46	1042.36	1041.86	1096.46	805	434.83
	AICRP on Farm Implements and Machinery, Bhopal	294.90	288.03	288.03	320	288	147.11
	AICRP on Ergonomics and Safety in Agriculture, Bhopal (ESA)	121.30	122.8	122.80	172.5	140	79.14
	AICRP on Energy in Agriculture and Agro based Industries , Bhopal (EAAI)	425.01	385.01	385.01	420	255.88	189.14
	AICRP on Animal Energy System, Bhopal (earlier UAE)	213.58	186.14	186.14	202.8	171.41	90.61
	CRP on Farm Mechanisation and Precision Farming, Bhopal	151.75	150.8	139.40	197.5	170.55	91.4
	CRP on Energy from Agriculture, Bhopal	110.07	125.51	125.04	126.25	126.25	56.93
	Network project on Engineering Intervention in Micro irrigation system for Improving Water Productivity						
8	**Post production Mechanisation and Value Addition**	**2688.17**	**2728.37**	**2665.05**	**2867.99**	**2662.28**	**1117.17**
	Central Institute on Post harvest Engineering and Technology, Ludhiana	951.45	750.08	644.21	796	748	279.53
	AICRP on Plasticulture Engineering and Technology, Ludhiana	117.40	216.65	251.82	240.08	167.9	108.55
	AICRP on Post Harvest Engineering and Technology, Ludhiana	536.44	536.44	587.71	560.13	513.13	225.72
	CRP on Health Food, Ludhiana					0	0
	CRP on Secondary Agri., Ludhiana	98.98	91.91	94.41	114	92.7	43.24
	Indian Institute of Natural Resins and Gums, Ranchi	657.57	761.26	733.37	742	777.3	283.23
	Network project on Processing and Value Addition of Natural Resins &	151.87	171.88	164.01	165.25	165.25	77.45

	Gums, Ranchi						
	Network Project on Conservation of Lac Insect Genetic Resources, Ranchi	174.46	200.15	189.53	250.53	198	99.45
9	**Fibre Processing and Value Addition**	**1310.76**	**1372.98**	**1369.35**	**1596.50**	**1235.63**	**585.75**
	Central Institute of Research on Cotton Technology, Mumbai	738.02	811.26	811.20	805	645	332.57
	CRP on Nature Fibre, Mumbai	72.75	90	88.75	127	42	42.22
	National Institute of Natural Fibre Engineering and Technology, Kolkata	499.99	471.72	469.40	664.5	548.63	210.96
	ICAR IFAD - new Project						
	TOTAL	**6402.00**	**6402.00**	**6322.68**	**7000.00**	**5855.00**	**2792.08**
4	**Crop Science**						
10	**Genetic Resource Management**	**5436.99**	**4992.13**	**4869.60**	**5460.00**	**4657.19**	**2361.12**
	National Bureau of Plant Genetic Resources, New Delhi	3181.18	2814.11	2804.64	3155	2513.24	1291.46
	All India Network Project (AINP) on Potential Crops, New Delhi	185.00	180	178.42	195	170	125.7
	Consortium Research Project (CRP) on Agrobiodiversity	362.36	362.36	348.77	385	299.88	205.65
	National Bureau of Agricultural Insect Resources, Bengaluru	609.25	584.26	493.26	605	449.57	189.49
	National Bureau of Agriculturally Important Microorganisms, Mau	747.20	691.4	691.40	750	854.5	322.57
	Application of Micro-organisms in Agriculture and Allied Sectors (AMAAS)	352.00	360	353.10	370	370	226.25
11	**Basic and Strategic Research and Education**	**28427.67**	**25165.79**	**24876.83**	**30767.00**	**24265.62**	**7984.50**
	Indian Agriculture Research Institute, New Delhi	17417.95	16880.88	16880.54	17758	13541.23	6561.34
	Network Project on Functional Genomics and Genetic Modification in Crops, NIPB, New Delhi	427.00	425.05	391.25	430	433	170.84
	National Institute for Plant	779.00	777.89	787.24	800	870.78	195.56

	Biotechnology, New Delhi						
	CRP on Hybrid Technology, New Delhi	585.98	609.09	554.43	620	532	265.16
	CRP on Molecular Breeding, New Delhi	450.12	474.09	415.54	480	419.2	185.78
	Indian Institute of Agricultural Biotechnology, Ranchi	1946.34	2408.79	2408.79	2880	4314.39	518.44
	Indian Agriculture Research Institute, Jharkhand	4520.98	2190	2039.14	4892	2070.02	6.25
	Indian Agriculture Research Institute, Assam	2300.30	1400	1399.90	2907	2085	81.13
12	**Rice, Wheat and Barley Improvement**	**8685.75**	**7226.42**	**7143.30**	**7787.00**	**6640.32**	**3057.89**
	National Rice Research Institute, Cuttack	2925.12	2370.41	2672.37	2579	1886.29	960.09
	CRP on Biofortification, Hyderabad	640.73	663.97	574.65	690	690	343.55
	Incentivizing Research in Agriculture, Cuttack	1510.00	1375.39	1219.43	1300	1020	389.74
	Indian Institute of Rice Research, Hyderabad	1196.25	1041.3	902.17	1235	1245	496.85
	AICRP on Rice, Hyderabad	930.00	735	740.34	720	720	335.27
	Indian Institute of Wheat and Barley Research, Karnal	1128.15	834.86	834.85	975	790.93	420.74
	AICRP on Wheat & Barley, Karnal	355.50	205.49	199.50	288	288.1	111.65
13	**Maize, Millet & Forage Crop Improvement and Hill Agriculture**	**6678.87**	**6051.66**	**5857.58**	**6636.56**	**5323.96**	**2218.65**
	Indian Institute of Maize Research, Ludhiana	1411.25	1341.07	1308.98	1474	1194.3	320.76
	AICRP on Maize, Ludhiana	480.62	450.46	459.39	402.56	402.56	172.09
	Indian Institute of Millets Research, Hyderabad	940.75	895.87	896.89	975	1040	426.94
	AICRP Sorghum, Hyderabad	195.00	195	99.36	200	200	87.39
	AICRP on Pearl Millets, Jodhpur	470.00	390.2	366.21	450	450	224.47
	AICRP on Small Millets, Bengaluru	115.00	120	115.00	100	100	50.08
	Indian Grassland and Fodder Research Institute, Jhansi	1040.00	908.46	895.28	950	884	428.71
	AICRP on Forage Crops and Utilization, Jhansi	265.00	233.95	231.14	235	210	110.58
	Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora	1761.25	1516.65	1485.33	1850	843.1	397.63

14	**Pulse Improvement and Seed Research**	**4415.83**	**4358.86**	**4210.77**	**4265.23**	**3819.55**	**1416.70**
	Indian Institute of Pulses Research, Kanpur	1695.00	1892.05	1892.96	1785	1272.06	298.79
	AICRP on Chickpea, Kanpur	270.00	248	248.00	233	221	42.57
	AICRP on MULLaRP, Kanpur	302.00	250	249.99	252.54	226.50	81.56
	AICRP on Pigeon Pea, Kanpur	210.00	159.39	159.39	168.09	173.09	74.96
	AINP on Arid Legumes, Kanpur	82.98	85	86.35	85	90	27.13
	Indian Institute of Seed Science, Mau	579.33	534.95	534.23	550	730.95	271.72
	AICRP NSP(Crops), Mau	460.25	379.4	358.38	410	317.95	236.77
	Seed Production in Agricultural Crops, Mau	816.27	810.07	681.47	781.6	788	383.2
15	**Oilseed Crop Improvement**	**4260.92**	**4108.10**	**4060.14**	**4061.60**	**3899.14**	**1878.05**
	Indian Institute of Oilseeds Research, Hyderabad	898.52	1009.94	1009.93	861	754.56	341.7
	AICRP on Oilseed, Hyderabad	261.00	207	207.00	185	171.26	89.59
	AICRP on Linseed, Kanpur	162.18	162.6	161.46	119.6	106	51.12
	AICRP on Sesame and Niger, Jabalpur	132.77	127	127.00	110	100.25	45.95
	Directorate of Groundnut Research, Junagarh	797.50	859	814.23	905	981.75	465.24
	AICRP on Groundnut, Junagarh	351.00	256.84	256.83	261	261	130.7
	Indian Institute of Soybean Research, Indore	508.00	415.11	414.29	510	548.06	237.35
	AICRP on Soybean, Indore	250.00	200.35	199.43	190	190.4	81.78
	Directorate of Rapeseed - Mustard Research, Bharatpur	606.87	586.7	586.40	620	569.91	303.06
	AICRP on Rapeseed & Mustard, Bharatpur	293.08	283.56	283.56	300	215.95	131.56
16	**Commercial Crop Improvement**	**7467.81**	**7082.32**	**6888.49**	**7159.19**	**6305.25**	**3108.19**
	Indian Institute of Sugarcane Research, Lucknow	2520.00	2545.56	2505.56	2595	2177.89	1000
	Sugarcane Breeding Institute, Coimbatore	1195.43	1140.27	1140.27	1115	973.37	533.44
	AICRP on Sugarcane, Lucknow	233.00	235	227.18	200	200	97.79
	Central Tobacco Research Institute, Rajamundry	650.50	589.62	559.53	586	498.05	251.45
	AINP on Tobacco, Rajamundry	132.50	80	79.99	72	63.3	40.63

	Central Institute of Cotton Research, Nagpur	1476.00	1372.19	1260.62	1408.19	1275.64	660
	AICRP on Cotton, Coimbatore	244.00	183	182.99	203	203	87.8
	Central Research Institute for Jute and Allied Fibres, Barrackpore	849.75	810.08	806.49	860	824	372.94
	AINP on Jute and Allied Fibres, Barrackpore	166.63	126.6	125.86	120	90	64.14
17	**Plant Protection and Pollinator Research**	**4779.16**	**4514.72**	**4504.42**	**5413.42**	**6313.97**	**1546.34**
	National Research Centre for Integrated Pest Management(NCIPM), New Delhi	881.25	722	693.02	885	1716.18	250.47
	AINP on Soil Arthropod Pests, Durgapura, Rajasthan	202.00	212.5	212.16	175	175	70.76
	AINP on Agricultural Acarology, NCIPM, New Delhi	123.00	103.2	103.20	103.2	103.2	44.62
	AINP on Pesticides Residues, New Delhi	229.75	205	205.53	240	269	87.87
	AICRP on Nematodes in Cropping System, New Delhi	182.90	197.28	195.75	167.28	177.28	78.64
	AICRP on Biocontrol of Crop Pests, Bengaluru	465.00	453.8	456.54	435	435	216.36
	AICRP - Honeybees and Pollinators, New Delhi	314.65	237.71	237.68	223.65	182.21	110.52
	AINP on Vertebrate Pest Management, Jodhpur	253.75	225.1	224.46	183.75	187.5	91.07
	National Institute of Biotic Stress Management, Raipur	2126.86	2158.13	2176.07	3000.54	3068.6	596.03
	TOTAL	**70153.00**	**63500.00**	**62411.12**	**71550.00**	**61225.00**	**23571.44**
5	**Horticulture**						
18	**Tropical and Subtropical Horticulture**	**6403.45**	**6654.52**	**6437.59**	**6837.69**	**6122.00**	**3363.25**
	Indian Institute of Horticulture Research, Bengaluru	1775.00	1998.5	1998.50	1558	1865	895.57
	AICRP Fruits (Tropical and Sub Tropical), Bengaluru	1090.00	879	815.31	800	830	430.46
	NRC Banana, Trichi	454.00	490.77	475.72	434.3	420	216.99
	Central Citrus Research Institute, Nagpur	810.70	975	813.04	967.61	805	559.24
	Central Institute of Sub Tropical Horticulture, Lucknow	928.25	993.29	992.35	1030	875	384.93

	NRC Grapes, Pune	566.50	538.81	538.54	753.38	605	356.76
	NRC Litchi, Muzzafarpur	300.00	367.15	391.77	517.4	217	172.31
	NRC Pomegranate, Solapur, Maharashtra	479.00	412	412.36	777	505	346.99
19	**Temperate Horticulture**	**2955.86**	**2984.93**	**2706.43**	**3979.32**	**2986.27**	**1475.99**
	Central Potato Research Institute, Shimla	1009.00	804.8	796.72	763	777	391.65
	AICRP Potato, Shimla	177.00	202.4	201.21	187.5	216	111.98
	Central Institute of Temperate Horticulture, Srinagar	532.00	450.48	390.23	726.5	445	376.65
	Directorate of Floricultural Research, Pune	356.10	540.32	535.55	503.5	463	191.42
	AICRP Floriculture, Pune	69.00	35	38.05	858.82	293.27	106.37
	NRC Orchids, Pakyong, Sikkim	271.83	332	141.55	325	257	62.98
	Directorate of Mushroom Research, Solan	389.93	455.93	455.91	430	360	170.29
	AICRP Mushroom, Solan	151.00	164	147.22	185	175	64.65
20	**Vegetable Crops**	**3036.60**	**2615.07**	**2601.31**	**2780.96**	**2833.00**	**1326.57**
	Indian Institute of Vegetable Research, Varanasi	1091.00	730	710.64	751	773	441.14
	AICRP Vegetables, Varanasi	517.00	485	465.61	579	593	245.46
	Directorate of Onion and Garlic Research, Pune	781.00	737	713.74	750.06	630	337.54
	Network O&G			0.00			
	Central Tuber Crops Research Institute, Tiruvanthapuram	498.00	463	571.87	491	524	209.22
	AICRP Tuber Crops, Tiruvanthapuram	149.60	200.07	139.46	209.9	313	93.21
21	**Plantation Crops and Island Ecosystem**	**3236.00**	**3073.48**	**3098.93**	**3381.12**	**3328.73**	**1579.69**
	Central Plantation Crops Research Institute, Kasargod	1377.00	1201.98	1120.30	1621.88	1413	781.77
	AICRP Palms, Kasargod	164.00	145	145.63	146.84	156	77.03
	Directorate of Cashew Research, Puttur	460.00	441	429.47	341	355	122.29
	AICRP on Cashew, Puttur	130.00	125	125.00	205.4	234.73	83.41
	Indian Institute of Oil Palm Research, Pedavegi	662.00	577	550.86	596	576	258.54
	Central Island Agricultural Research Institute, Port Blair	443.00	583.5	727.67	470	594	256.65
22	**Arid Horticulture, Spices and Medicinal & Aromatic Plant**	**2202.09**	**2033.00**	**2041.11**	**2420.91**	**2902.00**	**991.85**

	Central Institute of Arid Horticulture, Bikaner	483.00	440	465.41	475	649	200.84
	AICRP Arid Zone Fruits, Bikaner	94.89	70	70.00	121	163	38.55
	Indian Institute of Spices Research, Calicut	637.00	548	547.35	873.39	783	307.27
	AICRP Spices, Calicut	155.20	193	193.00	241.52	422	107.45
	CRP on Phytochemical & High Value Compounds Calicut						
	NRC Seed Spices, Ajmer	443.00	342	357.99	383	409	171.38
	Directorate of Medicinal and Aromatic Plants Research, Anand	308.00	365	332.36	230	326	127.39
	AICRP on Medicinal & Aromatic Plants, Anand	81.00	75	75.00	97	150	38.97
	TOTAL	**17834.00**	**17361.00**	**16885.36**	**19400.00**	**18172.00**	**8737.35**
6	National Agricultural Science Fund						
23	National Agricultural Science Fund	5460.00	5000	3578.72	5500	4200	2447.51
7	**Animal Science**						
24	**Dairy Production and Technology**	**7411.00**	**7567.25**	**7301.82**	**7968.00**	**6840.60**	**4055.69**
	National Dairy Research Institute, Karnal	4515.00	4680	4606.11	4765	4488	2619.87
	Central Institute for Research on Buffaloes, Hisar	1062.00	1192	1189.08	1267	892.6	613.28
	Network Project on Buffalo Improvement, Hisar	598.00	580	581.84	648	522	288.02
	Central Institute for Research on Cattle, Meerut	651.00	432	333.73	669	438.8	196.55
	AICRP on Cattle, Meerut	585.00	683.25	591.06	619	499.2	337.97
25	**Small Ruminants Production and Technology**	**3310.00**	**3280.00**	**3072.25**	**3669.00**	**2875.80**	**1575.90**
	Central Sheep and Wool Research Institute, Avikanagar	1514.00	1484	1391.08	1620	1362	729.92
	Network on Sheep Improvement, Avikanagar	250.00	202	286.72	322	266	122.05
	Sheep Seed Project, Avikanagar	202.00	250	144.91	271	213	115.37
	Central Institute for Research on Goats, Makhdoom	771.00	771	676.47	856	597.8	339.82

	AICRP on Goat Improvement, Makhdoom	573.00	573	573.07	600	437	268.74
26	**Animal Nutrition and Products Technology**	**2033.00**	**1970.94**	**1950.05**	**2141.00**	**1574.00**	**766.69**
	National Institute of Animal Nutrition and Physiology, Bengaluru	780.00	775.94	774.64	777	590.6	267.84
	AICRP on Nutritional & Physiological Intervention for Enhancing Reproductive Performance in Animal	208.00	208	197.00	238	180	110.47
	NRC on Camel, Bikaner	622.00	580	575.05	666	459.4	227.29
	NRC on Meat, Hyderabad	423.00	407	403.36	460	344	161.09
27	**Animal Health Management**	**11504.00**	**11181.81**	**10926.27**	**11544.00**	**9608.60**	**4823.70**
	Indian Veterinary Research Institute, Izatnagar	5823.50	5997.75	5761.26	6187	5521	2436.43
	Network on Gastro Intestinal Parasitism, Izatnagar	81.50	81.5	77.21	84	66	27.35
	Network Programme on Blue Tongue Disease, Izatnagar	71.00	71	75.21	0	0	0
	CRP on Diagnostic & Vaccine, ICAR-IVRI Regional Station, Bengaluru	685.00	685	669.83	588	459	248.15
	National Institute of Veterinary Epidemiology and Disease Informatics(NIVEDI), Bengaluru	915.00	771	744.88	858	604	347.83
	AICRP on ADMAS, Bengaluru						
	All India Network Program on Neonatal Mortality in Farm Animals, Izatnagar	104.00	104	127.32	102	79	39.53
	All India Network Program on Diagnostic Imaging and Management of Surgical Condition in Animals, Izatnagar	121.00	116	99.36	105	82	40.69
	National Institute of High Security Animal Diseases, Bhopal	1143.00	1041	1048.65	1190	910	573.97
	Directorate of Foot & Mouth Disease, Mukteshwar	1502.00	1285	1294.12	1356	1036.8	626.04
	AICRP on Foot & Mouth Disease, Mukteshwar			0.00			
	NRC on Equine, Hisar	748.00	782.06	781.79	769	614.2	360.26
	National Centre for Veterinary Type Culture	310.00	247.5	246.65	305	236.6	123.45

	Collection, Hisar						
28	**Animal Genetic Resource Management, Production and Improvement**	**4047.00**	**4272.00**	**4250.19**	**4579.00**	**3919.00**	**1932.22**
	National Bureau of Animal Genetic Resources, Karnal	441.00	494	493.79	780	545	243.33
	Network Project on Animal Genetic Resources, Karnal	130.00	130	136.22	218	173	4.86
	Central Avian Research Institute, Izatnagar	1350.00	1522	1570.37	1355	1125	619.96
	Directorate of Poultry Research, Hyderabad	1210.00	1210	1209.97	1280	1186	594.56
	AICRP on Poultry, Hyderabad	328.00	328	335.75	428	369	217.03
	Poultry Seed Project, Hyderbad	588.00	588	504.09	518	521	252.48
29	**Pig Production and Hill Animal Agriculture**	**2793.00**	**2728.00**	**2556.56**	**3099.00**	**2594.00**	**1553.72**
	NRC on Pig, Guwahati	614.00	567	565.37	692	652	416.5
	AICRP on Pig, Guwahati	581.00	590	478.81	660	540	339.49
	Mega Seed Project on Pig, Guwahati	333.00	373	329.71	455	372	242
	NRC on Yak, Dirang	648.00	641.08	625.79	692	559	299.84
	NRC on Mithun, Medziphema, Nagaland	617.00	556.92	556.88	600	471	255.89
	TOTAL	**31098.00**	**31000.00**	**30057.15**	**33000.00**	**27412.00**	**14707.92**
8	**Fisheries**						
30	**Management of Marine and Coastal Fisheries and Aquaculture**	**5855.45**	**5855.45**	**5847.59**	**6670.00**	**5754.00**	**3065.58**
	Central Marine Fisheries Research Institute, Kochi	2258.35	2258.35	2258.34	2690	2282	1311.25
	AINP Mericulture	377.61	377.61	371.00	380	250	113.35
	Central Institute Brackishwater Aquaculture, Chennai	1538.86	1538.86	1562.76	1690	1392	794.52
	AINP on Fish health	273.66	273.66	248.53	295	200	145.27
	Central Institute of Fisheries Technology, Kochi	1406.97	1406.97	1406.97	1615	1630	701.19
31	**Management of Freshwater Fisheries and Aquaculture**	**3703.64**	**3703.64**	**3494.10**	**4050.00**	**3657.00**	**1646.68**
	Central Inland Fisheries Research Institute, Barrackpore	1251.43	1251.43	1251.43	1390	1303	539.08

	Project Directorate of Cold Water Fisheries, Bhimtal	732.52	732.52	729.62	745	723.2	272.63
	Central Institute of Freshwater Aquaculture, Bhubaneshwar	1719.69	1719.69	1513.05	1915	1630.8	834.97
32	**Fisheries Education and Genetic Resource Management**	**4679.91**	**4679.91**	**4669.74**	**4880.00**	**5165.00**	**2918.07**
	Central Institute on Fisheries Education, Mumbai	3007.19	3007.19	3004.64	3110	3350	2054.97
	National Bureau of Fish Genetic Resources, Lucknow	1173.31	1199.67	1232.14	1260	1345	633.78
	CRP on Genomics, Lucknow	499.41	473.05	432.96	510	470	229.32
	TOTAL	**14239.00**	**14239.00**	**14011.43**	**15600.00**	**14576.00**	**7630.33**
9	**Agriculturtal Extension**						
33	**Agriculture Extension**	**22115.00**	**22115.00**	**19555.07**	**24250.00**	**23749.00**	**8331.71**
	Krishi Vigyan Kendras (including ATARIs, ARYA, EMF, FF, Dis. Mgmt)	21654.00	21654	19084.68	23742.9	23244	8199.47
	Directorate of Knowledge Management in Agriculture, New Delhi	461.00	461	470.39	507.1	505	132.24
10	**Agricultural Education**						
34	**Agricultural Universities and Institutions**	**56551.00**	**45000.00**	**43257.83**	**48000.00**	**31990.00**	**15342.90**
	Strengthening and Development of Higher Agril. Education in India	50946.32	40691.21	38794.57	44089	28586	14012.7
	National Academy of Agricultural Research Management (NAARM), Hyderabad	3520.54	3004.79	3002.13	3090	2340	996.75
	Central Institute for Women in Agriculture, Bhubaneshwar	1150.00	732	819.35	521	839	164.49
	AICRP Home Science	934.14	572	641.79	300	225	168.96
	National Agricultural Higher Education Project(NAHEP)	22368.00	20785	18612.66	23000	18000	14579.37
	TOTAL	**78919.00**	**65785.00**	**61870.49**	**71000.00**	**49990.00**	**29922.27**
11	**Economics, Statistics & Management**						
35	**Economics, Statistics & Management**	**2976.00**	**2976.00**	**2864.34**	**3000.00**	**3000.00**	**1378.03**
	Indian Agricultural Statistical Research Institute, New Delhi	2421.48	2421.48	2330.41	2429	2617.18	1165.67

	+CABIN						
	National Institute of Agricultural Economics & Policy Research, New Delhi	554.52	554.52	533.93	571	382.82	212.36
	TOTAL CENTRAL SECTOR SCHEMES	**269900.00**	**248861.00**	**236983.22**	**272900.00**	**230500.00**	**109860.88**
	NON-SCHEME						
1	Secretariat - Economic Service	1480.00	1318	607.00	1385	1311	494
2	Autonomous bodies and Institutions						
2.1	ICAR Headquarter	**487036.00**	**486880.00**	**480220.85**	**513775.00**	**499715.00**	**370405.27**
	ICAR Headquarter	486880.00	486880	480220.85	513775	499715	369579.5
	National Agriculture Innovation Fund (NAIF), New Delhi	156.00					825.77
2.2	Central Agriculture Universities	**45500.00**	**45918.00**	**45918.00**	45980	42852	**31015.00**
2.2.1	CAU Imphal	18593.00	18462	18462.00			12231
2,2,2	Rani Lakshmi Bai CAU, Jhansi	7897.00	8501	8501.00			5346
2.2.3	RCAU Samastipur, Bihar	19010.00	18955	18955.00			13438
2.3	National Academy of Agricultural Science(DARE - NAAS & IAUA)		156	136.00	160	160	84
2.4	**ASRB**	3960.00	1484	1484.00	2058	1700	949
	TOTAL(NON-SCHEME)	**537976.00**	**535756.00**	**528365.85**	**563358.00**	**545738.00**	**402947.27**
	GRAND TOTAL	**807876.00**	**784617.00**	**765349.07**	**836258.00**	**776238.00**	**512808.15**

(Rs lakh)

APPENDIX-I

STANDING COMMITTEE ON AGRICULTURE
(2020-21)

MINUTES OF THE SIXTH SITTING OF THE COMMITTEE

*****

The Committee sat on Monday, the 22 February, 2021 from 1100 hours to 1345 hours in Committee Room '2', First Floor, Block - A, Extn. to Parliament House Annexe Building, New Delhi.

PRESENT

Shri Parvatagouda Chandanagouda Gaddigoudar – Chairperson

MEMBERS

LOK SABHA

2. Shri Afzal Ansari
3. Shri Devendra Singh 'Bhole'
4. Shri Bhagwanth Khuba
5. Shri Devji Mangingram Patel
6. Shri Pocha Brahmananda Reddy
7. Mohammad Sadique
8. Shri Virendra Singh
9. Shri Ram Kripal Yadav

RAJYA SABHA

10. Shri Partap Singh Bajwa
11. Shri Kailash Soni
12. Shri B.L. Verma
13. Smt. Chhaya Verma
14. Shri Harnath Singh Yadav

SECRETARIAT

1.	Shri Shiv Kumar	–	Joint Secretary
2.	Dr. Vatsala J.Pande	–	Director
3.	Shri Prem Ranjan	–	Deputy Secretary

LIST OF WITNESSES

MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION) / INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)

S.No.	NAME OF THE OFFICER	DESIGNATION
1.	**Dr. Trilochan Mohapatra**	**Secretary (DARE) & DG (ICAR)**
2.	**Shri Sanjay Kumar Singh**	**Addl. Secretary (DARE) & Secretary (ICAR)**
3.	**Shri G. Srinivas**	**AS&FA (DARE/ICAR)**
4.	**Dr. A.K. Singh**	**DDG (Extn.), ICAR**
5.	**Dr. A.K. Singh**	**DDG (Hort. Science), ICAR**
6.	**Dr. Joykrushna Jena**	**DDG (Fy. Sc.), ICAR**
7.	**Dr. R.C. Agrawal**	**DDG (Education), ICAR**
8.	**Dr. Tilak Raj Sharma**	**DDG (Crop Science), ICAR**
9.	**Dr. Bhupendra Nath Tripathi**	**DDG (Animal Science), ICAR**
10.	**Dr. S.K. Chaudhari**	**DDG (NRM), ICAR**

2. At the outset, the Chairperson welcomed the Members and the Representatives of the Ministry of Agriculture and Farmers Welfare (Department of Agricultural Research and Education) to the Sitting of the Committee convened for examination of Demands for Grants (2021-22) of the Department and apprised them of the confidentiality of the proceedings.

3. After the introduction, a Power-Point presentation was made by the Representatives of the Department. Thereafter, the Committee raised several issues/points as briefly mentioned below and sought clarifications/information thereon from the Department:

I. Steps be undertaken to conduct more and more Training Programmes for farmers through KVKs etc. The list of farmers for training be also regularly updated so that new farmers can get opportunities.

II. Provisions be made to give incentives to the trained farmers so that they in turn, be encouraged to share the information with other farmers also.

III. Need to assess the requirement of KVKs in the Districts and additional KVKs be opened in the Districts having large geographical area.

IV. Steps be undertaken to open Sub-centre or Kendras of KVKs at Block/Tehsil Level.

V. Need to revisit the policy behind establishment of KVKs, assess their contribution, increase their outreach and make changes with time, if required. The monitoring of the work done by KVKs be done at regular intervals.

VI. Need to increase the enrollment of students at Under Graduate/Post Graduate level in Agricultural Education.

VII. Steps be undertaken to establish more Agriculture Colleges, Universities so as to give impetus to Agri-education.

VIII. Efforts be made to increase the production of pulses and oilseeds to minimize Import-dependency.

IX. Need to augment Veterinary Facilities for livestock.

X. Efforts be made to provide Toll Free Numbers for addressing the problems being experienced by the farmers.

XI. Efforts be made to preserve the intrinsic qualities of Seed while development of New Seed Varieties.

XII. Need to develop economical and viable methods for Crop Residue Management.

XIII. Efforts be made to provide cheap and user friendly implements to the farmers.

XIV. A Helpline number be launched for medical treatment of domestic animals.

XV. Need to increase allocation for Agricultural Research.

XVI. To mitigate the problem of shortage of water and deteriorating Soil texture in Punjab & Haryana due to intensive agriculture, diversification of crops be encouraged; and

XVII. Need to attract Private Investment in Agriculture Research.

4. The representatives of the Department responded to most of the queries raised by the Members. The Chairperson, then, thanked the witnesses for sharing valuable information with the Committee on the Subject and directed them to send, in writing, the requisite information on points/items, which was not readily available with them, to the Committee Secretariat by **01st March, 2021**.

The Committee then adjourned.

(A copy of the verbatim proceedings of the Sitting has been kept separately.)

APPENDIX-II

STANDING COMMITTEE ON AGRICULTURE
(2020-21)

MINUTES OF THE ELEVENTH SITTING OF THE COMMITTEE

*****

The Committee sat on Monday, the 08th March, 2021 from 1430 hrs. to 1510 hrs. in the Hon'ble Chairperson's Chamber, Room No. '103', First Floor, Block-B, Extn. to PHA Building, New Delhi.

PRESENT

Shri Parvatagouda Chandanagouda Gaddigoudar– Chairperson

MEMBERS

LOK SABHA

2. Shri Devendra Singh 'Bhole'
3. Shri Kanakmal Katara
4. Shri Bhagwanth Khuba
5. Shri Vinayak Bhaurao Raut
6. Mohammad Sadique

RAJYA SABHA

7. Shri Kailash Soni
8. Shri B.L. Verma
9. Smt. Chhaya Verma
10. Shri Harnath Singh Yadav

SECRETARIAT

1.	Shri Shiv Kumar	–	Joint Secretary
2.	Dr. Vatsala J. Pande	–	Director
3.	Smt. Juby Amar	–	Director
4.	Shri Prem Ranjan	–	Deputy Secretary

2. At the outset, Chairperson welcomed the Members to the Sitting of the Committee. Thereafter, the Committee took up for consideration the followings Reports:

*(i) XXXX XXXX XXXX XXXX XXXX

(ii) Draft Report on 'Demands for Grants (2021-22)' of the Ministry of Agriculture and Farmers Welfare (Department of Agricultural Research and Education);

*(iii) XXXX XXXX XXXX XXXX XXXX

3. After some deliberations, the Committee adopted the Draft Reports without any modifications and the Committee authorized the Chairperson to finalize and present these Reports to Parliament.

The Committee then adjourned.

*Matter not related to this Report