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**COMMITTEE ON AGRICULTURE  
(2014-2015)**

**SIXTEENTH LOK SABHA**

**MINISTRY OF AGRICULTURE  
(DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)**

**DEMANDS FOR GRANTS  
(2015-16)**

**TENTH REPORT**



**LOK SABHA SECRETARIAT  
NEW DELHI**

**APRIL, 2015/VAISAKHA, 1937 (Saka)**

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**MINISTRY OF AGRICULTURE  
(DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)**

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(2015-16)**

Presented to Lok Sabha on : 27.04.2015  
Laid on the Table of Rajya Sabha on : 27.04.2015



**LOK SABHA SECRETARIAT  
NEW DELHI**

APRIL, 2015 / VAISKAHA, 1937 (Saka)

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## COMPOSITION OF THE COMMITTEE ON AGRICULTURE (2014-15)

Shri Hukm Deo Narayan Yadav - Chairperson

### MEMBERS

#### LOK SABHA

2. Shri Sanganna Amarappa
3. Prof. Ravindra Vishwanath Gaikwad
4. Shri Nalin Kumar Kateel
5. Md. Badaruddoza Khan
6. Shri C. Mahendran
7. Dr. Tapas Mandal
8. Shri Janardan Mishra
9. Shri Ajay Nishad
10. Shri Dalpat Singh Paraste
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14. Shri C.L. Ruala
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20. Shri Dharmendra Yadav
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#### RAJYA SABHA

22. Shri A.W. Rabi Bernard
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24. Sardar Sukhdev Singh Dhindsa
25. Shri Janardan Dwivedi
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27. Shri Mohd. Ali Khan
28. Shri Rajpal Singh Saini
29. Shri Ram Nath Thakur
30. Shri Shankarbhai N. Vegad
31. Shri Darshan Singh Yadav

## SECRETARIAT

- |    |                            |   |                  |
|----|----------------------------|---|------------------|
| 1. | Shri Abhijit Kumar         | - | Joint Secretary  |
| 2. | Smt. Abha Singh Yaduvanshi | - | Director         |
| 3. | Smt. Juby Amar             | - | Deputy Secretary |
| 4. | Shri Sumesh Kumar          | - | Under Secretary  |

## INTRODUCTION

I, the Chairperson, Committee on Agriculture, having been authorized by the Committee to submit the Report on their behalf, present this Tenth Report on the Demands for Grants (2015-2016) of the Ministry of Agriculture (Department of Agricultural Research and Education).

2. The Committee under Rule 331E(1)(a) of the Rules of Procedure considered the Demands for Grants (2015-16) of the Department of Agricultural Research and Education, which were laid on the table of the House on 17 March, 2015. The Committee took evidence of the representatives of the Department of Agricultural Research and Education at their Sitting held on 26 March, 2015. The Report was considered and adopted by the Committee at their Sitting held on 24 April, 2015.

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 officers of 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;**  
**24 April, 2015**  
**04 Vaisakha, 1937 (Saka)**

**HUKM DEO NARAYAN YADAV**  
***Chairperson,***  
***Committee on Agriculture***



## **ABBREVIATIONS**

AAP	Annual Action Plan
ACC	Appointments' Committee of the Cabinet
ADG	Additional Director General
AeRI	Agriculture e-Extension Research Institute
AESR	Agro-ecological sub region
AI	Artificial Insemination
AICRP	All India Coordinated Research Project
AICRPAM	All India Coordinated Research Project on Agrometeorology
AIL	Agrinnovate India Limited
ANGRAU	Acharya NG Ranga Agricultural University
ARS	Agricultural Research Service
ARYA	Attracting & Retaining Youth in Agriculture
ASRB	Agricultural Scientists' Recruitment Board
ATMA	Agriculture Technology Market Agency
AUs	Agricultural Universities
BE	Budget Estimates
CABin	Centre for Agricultural bi Informatics
CARI	Central Agricultural Research Institute

CAFRI	Central Agroforestry Research Institute
CAS	Career Advancement Scheme
CAU	Central Agricultural University
CCARI	Central Coastal Agricultural Research Institute
CAZRI	Central Arid Zone Research Institute
CII	Confederation of Indian Industry
CIFRI	Central Inland Fisheries Research Institute
CIRB	Central Institute for Research on Buffaloes
CIRC	Central Institute for Research on Cattle
CIRG	Central Institute for Research on Goats
CRIDA	Central Research Institute for Dryland Agriculture
CRP	Consortia Research Platform
CSSRI	Central Soil Salinity Research Institute
CSWRI	Central Sheep and Wool Research Institute
DARE	Department of Agricultural Research & Education
DCFR	Directorate of Coldwater Fisheries Research
DUVASU	Pandit Deen Dayal Upadhyaya Pashu Chikitisha Vigyan Vishwavidhalaya Evam Go -Anusandhan Sansthan
DWR	Directorate of Wheat Research
EEZ	Exclusive Economic Zone
EFC	Expenditure Finance Committee

FDS	Fisheries Science Division
FICCI	Federation of Indian Chambers of Commerce and Industry
FLD	Front Line Demonstration
FY	Financial Year
GADVASU	Guru Angad Dev Veterinary and Animal Sciences University
ICAR	Indian Council of Agricultural Research
ICRISAT	International Crops Research Institute for Semi-Arid Tropics
IFS	Integrated Farming System
IIFSR	Indian Institute of Farming Systems Research
IISS	Indian Institute of Soil Sciences
IISWC	Indian Institute of Soil and Water Conservation
IWM	Indian Institute of Water Management
ISRO	Indian Space Research Organisation
ITK	Indigenous Knowledge
IVRI	Indian Veterinary Research Institute
KVKs	Krishi Vigyan Kendras
MOU	Memorandum of Understanding
NATP	National Agricultural Technology Project
NBAGR	National Bureau of Animal Genetic Resources
NBFGR	National Bureau of Fish Genetic Resources
NBSS	National Bureau of Soil Survey and Land Use Planning
NDRI	National Dairy Research Institute

NGO	Non-Governmental Organization
NGB	National Gene bank
NIANP	National Institute of Animal Nutrition and Physiology
NICRA	National Initiative on Climate Resilient Agriculture
NIHSAD	National Institute of High Security Animal Diseases
NIVEDI	National Institute of Veterinary Epidemiology and Disease Informatics
NPOF	National Project on Organic Farming
NRC	National Research Centre
NRCAF	<u>National Research Centre for Agroforestry</u>
NRM	Natural Resource Management
OFR	On-Farm Research
PDCSR	Project Directorate for Cropping Systems Research
PDFMD	Project Directorate on Foot and Mouth Disease
PDFS	Project Directorate for Farming Systems Research
PGR	Plant Genetic Resources
PGS	Participatory Guarantee Scheme
PKVY	Paramparagat Krishi Vikas Yojana
PPV&FRA.	Protection of Plant Varieties and Farmers' Rights Authority
RAJUVAS	Rajasthan University of Veterinary and Animal Sciences
R&D	Research and Development

RE	Revised Estimates
READY	Rural Entrepreneurship Awareness Development Yojana
SAU	State Agricultural Universities
SMD	Subject Matter Division
TSP	Tribal Sub Plan
TANUVAS	Tamil Nadu Veterinary and Animal Sciences University
UAS	University of Agriculture Sciences
VTCC	Veterinary Type Culture Centre
WAAPP	West Africa Agricultural Productivity Programme
WTCER	Water Technology Centre for Eastern Region
ZARS	Zonal Agricultural Research System (ZARS)

## **CHAPTER-I**

### **IMPLEMENTATION OF RECOMMENDATIONS OF THE COMMITTEE**

The Second Report of the Committee on Agriculture on Demands for Grants (2014-15) of Ministry of Agriculture (Department of Agricultural Research and Education) was presented to Lok Sabha and laid on the Table of Rajya Sabha on 18 December, 2014. The Report contained 30 Recommendations.

1.2 The Committee note that the Ministry have furnished the Action Taken Notes in respect of the recommendations contained in the Second Report. However, the notes are not yet analysed and since the requisite time of six months for making Statement by the Minister concerned is due on 18 June 2015, the Direction 73-A of the Directions by the Speaker, Lok Sabha may, therefore, not apply for the same.

## CHAPTER – II

### ANALYSIS OF DEMANDS

#### Introductory

2.1 Agriculture and allied activities, foodgrains, fruits, vegetables, milk, meat, eggs and fish act as a main source of livelihood for more than 80% population of rural India. It provides employment to approximately 52% of the labour and contributes between 14-15% towards the GDP. India has achieved spectacular growth in agriculture sector since green revolution came into being in 1966 and is today self-sufficient in most of the foodgrains despite population increase. The agriculture and allied sector have achieved a growth rate of almost 4% during the XII<sup>th</sup> Five Year Plan as against 3.3% during the XI<sup>th</sup> Five Year Plan and 2.4% registered in X<sup>th</sup> Five Year Plan. With our 60% of the cultivated area in the country being rainfed, our agriculture remains strongly monsoon dependent. However, agriculture is faced by challenges such as erratic monsoons. Unprecedented floods this year in J&K and the impact of cyclone HUDHUD in Andhra Pradesh and Odisha. This warrants Indian agriculture to be climate resilient. The technological backstopping and advisories by the ICAR Institutes and scientist of the Council help the farmers to a great extent in their efforts to overcome the impact of these natural calamities. There have been over 580 contingency plans with NICRA duly addressing the monsoon concerns in agriculture at district level. Land accreditation, deterioration of soil health, profitability of small land holdings falling productivity, low water productivity, productivity of rainfed and dryland agriculture declining factor productivity of intensive agriculture, impact of climate change on agriculture are the major areas of concern impacting the agricultural sector.

2.2 The Department have submitted that various ICAR Institutes and Project Directorates are undertaking research and developed appropriate technologies to overcome the upfront. During the year 2014-15 30 explorations led to collection of 1591 accessions that include 620 wild species, 14879 accessions were imported from 38 countries. Over 100 high yielding crop varieties / hybrids having tolerance to various biotic and abiotic stresses were released for cultivation in different agro-eco systems of the country. The Ministry informed that efforts to popularize noble products and technology for reduction of post-harvest losses thereby generating employment opportunities, have contributed significantly to farmers' income. The Farm Science Centres of ICAR have accelerated the lab to land programmes for transfer of technologies. ICAR have lead two major breakthroughs in deciphering draft sequences of bread wheat genome, the whole genome of Aseel Bird and swine fever vaccine strains. Furthermore, female cloned buffalo calf 'Lalima' produced through 'Hand Guided Cloning' and 'Rajat' cloned from frozen semen somatic cell of a progeny tested Murrah buffalo bull that died a decade back are the achievements which are noteworthy. Phenotypic characterization and conservation of indigenous breeds, Sanchori, Belahi and Manipuri of cattle; Gojri buffalo; Haringhata Black chicken; fishes such as *Plectranthias alcockii* and *Pempheris sarayu*, are other important accomplishment.

**(2) BUDGETARY ALLOCATION - TWELFTH PLAN**

2.3 The Twelfth Plan Outlay earmarked for the DARE is Rs. 25553.00 crore. As per the information submitted by the Department only 54.95% of Plan Outlay has been allocated during first four fiscals as against earmarked outlays for XII<sup>th</sup> plan. Also, the allocations (BE) have been drastically reduced at RE stage in first three financial years by providing only 29.82% of XII plan. Details of allocations and expenditure during last four fiscal under Plan head of the Department are as follows:-



**Rs. In Crore**

Year	Budget Estimate			Revised Estimates			Expenditure		
	DARE	ICAR	Total	DARE	ICAR	Total	DARE	ICAR	Total
2012-13	156.00	3064.00	3220.00	206.50	2313.50	2520.00	85.59	2289.14	2374.73
2013-14	180.00	3225.00	3415.00	120.02	2479.98	2600.00	119.99	2349.18	2469.17
2014-15	190.00	3525.00	3715.00	154.01	2345.99	2500.00	120.00	2201.82	2321.82*
2015-16	198.00	3493	3691.00						

\*Expenditure up to March'15

2.4 When asked to furnish details of allocations of other Ministries/Departments in first four financial years against earmarked outlays for XII plan, the Department submitted as follows:

Ministry/Department	XII Plan earmarked Outlay (Rs. in cr)	Total of First four years allocations (BEs) (Rs. in Cr)	Avg. allocations for first four years (BEs) (Rs. In crore)	Percentage of first four years total with respect to XII Plan earmarked outlay
D/o Agriculture and Cooperation	71500	34338	8584.5	48.03%
D/o Agricultural Research and Education	25553	14041	3510.25	54.95%
D/o Animal Husbandry, Dairying and Fisheries	14179	6201	1550.25	43.73%
D/o Science and Technology	21596	11780	2945.00	54.55%
D/o Scientific and Industrial Research	17896	8407	2101.75	46.98%
D/o Biotechnology	11804	6077	1519.25	51.48%

D/o Space	39750	23230	5807.50	58.44%
D/o Atomic Energy	107187	54066	13516.50	50.44%
M/o Consumer Affairs and D/o food and Public Distribution	3454	2914	728.50	84.37%
Ministry of Earth Sciences	9506	5022	1255.50	52.83%
Ministry of Environment and Forests	17874	7026	1756.50	39.31%
Ministry of Food Processing Industries	5990	2438	609.50	40.70%
Ministry of Water Resources	18118	7852	1963.00	43.34%

Source: (i) Planning Commission's Twelfth Five Year Plan (2012-17)

(ii) Budget at Glance 2013-14, 2014-15 and 2015-16

2.5 From the above table it is gathered that the first four years' allocations as percentage of XII-Plan earmarked outlay of other scientific Ministries/ Departments and related ones ranges in between 39.31% to 58.44% except that of Ministry of Consumer Affairs, Food & Public distribution which is comparatively higher at 84.37%

2.6 Asked as to how the Department intends to arrange funds in the terminal year of the XII Plan so as to achieve earmarked allocations of Rs. 25553.00 crore, the Department stated that all the ongoing plan schemes of the Department have already been approved and respective sanctions issued except three major schemes, each costing more than Rs. 1000 crore. These three schemes are (a) Strengthening and Development of Higher Agricultural Education in India, (b) Continuation and establishment of new KVKs in XII Plan and (c) Strengthening of ICAR Head Quarters- all these schemes are at various stages of getting

approval of the Government and expected to be approved in a couple of months. Thus, with the approval of all the plan schemes, the Department is taking expeditious steps to get implemented all the approved programmes of research, academic and extension activities which will necessitate procurement of equipment, putting in place the approved infrastructure and other research facilities. Hence, the Department will need substantially higher funds during 2015-16 and 2016-17 for which the Department anticipates to get increased funds at RE 2015-16 against the present BE 2015-16 of Rs. 3691 crore; besides this, during next financial year 2016-17 (as terminal year of XII-Plan) the Department will seek the remaining funds out of XII-Plan total outlay of Rs. 25553 crore.

2.7 Regarding strategy of the Department to meet the physical targets for the XII<sup>th</sup> plan with only 54.94% allocations (BE) for the 1<sup>st</sup> four fiscals of Plan period, the Department submitted that they are making efforts to ensure that activities/programmes of high priority do not suffer due to reduced allocations during the first three years of the XII Five Year Plan. The Department will also make all out efforts to achieve the set physical targets and set its priorities according to the leftover fund (out of XII Plan) during the next two financial years 2015-16 and 2016-17.

2.8 On the above issues the representative of DARE have stated as under :-

"... as far as issues of investment is concerned, 4<sup>th</sup> and 5<sup>th</sup> years of XII<sup>th</sup> plan is still remaining. We have got Rs. 11,311 (including 3 years RE & 1 year BE) Crore out of allocation of Rs. 25,553 Crore. BE for 2015-16 is Rs. 3691 Crore. We do agree that we have to manage with whatever funds we are being provided. However, the climate change which is happening and changes we are facing either drought, salinity, biotic stress, whatever it is, we require high-tech science. High tech science does not mean costly science, science will be costly but whatever product will come out that will be extremely useful for farmers. Earlier, we didn't have Rain of Shelter i.e. a poly house which is used for conducting experiment by controlling rain fall. Our scientists also require phytotrone facility in which scientists can control light, temperature and heat. The Scientists will be able to do their research effectively after getting these facilities. However, we need funds for that. I would like to assure the Committee that investment of Rs. 1 in ICAR has given return of Rs. 13. This is not our study, this study was done by the International Organization. This is not possible in any field or

any other Country. We do need funds and justified investment for 4<sup>th</sup> year of XII<sup>th</sup> Plan, we will use this fund effectively and I would also like to say that we do need hostels in Krishi Vigyan Kendras. We do have 642 Krishi Vigyan Kendras. We do not have separate girls' hostels in many KVKs. I have been to Bengaluru last week. I have seen there phonemics facilities in which you can control weather condition. We do require different varieties for every climate region of India. We can simulate everything in this facility. Similarly, we can also provide simulated facilities in the field of Animal Husbandry. We do need Rs. 10 crore for every facility. It would be better if we can provide this facility at 100 places in the Country...'

2.9 Details of allocations and expenditure during last four fiscal under Non-Plan head of the Department are as follows:-

(Rs. In Crore)

Year	Budget Estimate			Revised Estimates			Expenditure		
	DARE	ICAR	Total	DARE	ICAR	Total	DARE	ICAR	Total
2012-13	19.65	2152.35	2172.00	8.60	2091.40	2100.00	8.15	2086.42	2094.57
2013-14	9.73	2304.44	2314.17	10.38	2270.70	2281.08	9.72	2240.29	2250.01
2014-15	11.24	2418.15	2429.39	10.39	2373.61	2384.00	4.00*	1980.05*	1984.05*
2015-16	11.79	2617.21	2629.00						

\*Expenditure up to Dec'14

2.10 When asked to furnish reasons for reduction of allocations at RE stage during 2014-15, the Department in their written replies stated that the allocations under Non-Plan were reduced at RE stage owing to mandatory Economy cut in the Non-Plan Non-Salary expenditure.

### (3) OVERVIEW OF DEMANDS

2.11 Demand No. 2 pertaining to the Department of Agricultural Research and Education for the year 2015-16 was presented to the Lok Sabha on 17 March, 2015.

(Rs. in crore)

	Plan	Non Plan	Total
Revenue (Voted)	3691.00	2629.00	6320.00
Revenue	00	00	00

(Charged)			
Capital (Voted)	00	00	00
Capital (Charged)	00	00	00
GRAND TOTAL			6320.00

2.12 Allocations proposed for 2015-16 and actual expenditure during the year 2013-14 and 2014-15 are as follows:-

(Rs. In Crore)

Sl. No.	DEPARTMENT	2013-14			2014-15			2015-16
		BE	RE	AE	BE	RE	AE*	BE
PLAN								
	DARE	180.00	120.02	119.99	190.00	154.01	85.00	198.00
	ICAR	3235.00	2479.98	2349.18	3525.00	2345.99	1263.52	3493.00
	TOTAL	3415.00	2600.00	2469.17	3715.00	2500.00	1348.52	3691.00

\*Expenditure up to Dec'14

2.13 Elaborating the reasons for drastic reduction of 33.45% of allocations to the Department during 2014-15 at RE stage, the Department had submitted that the drastic cut in the allocation of the department in the RE 2014-15 was apparently due to the overall cut effected by the Ministry of Finance, Government of India, in the plan allocation of DARE/ICAR in RE 2014-15.

2.14 On the above issues the representative of DARE have stated as under :-

"...Total allocation for XII<sup>th</sup> plan is Rs. 25,553 Crore, as you know and as we are informing you everytime that third year of XII<sup>th</sup> plan will end day after tomorrow. Whatever money we are getting, whatever we are demanding, as you have said that we have got Rs. 3220 Crore during 2012-13. Deduction of around 30% is being done in the allocation for the last 3 years. We want to submit that and we do want to take guidance from you as well for whatever reason we have got Rs. 2520 Crore at RE stage and you can observe expenditure, I am submitting this information for the first year of this plan. Utilisation of 94% has already been done during first year, despite the fact that EFC and SFC has not been done. We have got Rs. 3415 Crore as against the demand of Rs. 4869.37 Crore for the year 2013-14. We have got Rs. 2600 Crore and our utilisation was 95%. Right now, expenditure figure for 2014-15 is till December, but our latest figure is Rs. 2161 Crore till

15<sup>th</sup> March, it will be around 2200 Crore. We will fully utilise this, there is no problem about it. Figures for non-plan is same as you were saying, whatever funds we have got in non-plan, today the absorption capacity is 83% as you have said is the figure for January-February, it will be little bit higher in the March. As far as question of DARE and ICAR is concerned, they are utilising full fund. Secondly, we have many schemes in our programme, we have around 75 schemes based on detailed discussion on XII<sup>th</sup> plan. We have finished EFC/SFC for all these schemes and we are putting up demands as we have absorption capacity for that. Our demand is 5000 to 6000 Crore as against funds provided to us..'

2.15 On the query of the Committee regarding adherence to monthly expenditure plan so that allocations are not reduced at RE stage, the Department had submitted that they adhered to monthly expenditure plan.

2.16 Explaining the effect of reduced allocation on implementation of various schemes and Research & development work in ICAR institutions, the Department submitted that the department ensured that the major programmes/activities falling in the mandate of the each Subject Matter Division were not impacted by the cut. This was made possible through some sustained efforts made by all the constituent units falling under the purview of the various Subject Matter Divisions and some strategic planning. To offset reduction in the allocation given to the department in the RE 2014-15, the priorities were assigned to the ongoing research programmes and adequate funds were allocated from the available budget of the department for this purpose in order to accomplish the research targets set for the year.

2.17 About achievement of physical targets set for the year 2014-15 in view of the reduced allocations, the Department had submitted that even though the allocation in the RE 2014-15 was not on expected lines, the research work was carried out keeping in view the objectives and priorities. Based on the priority, the programmes were revised as per the resources.

**(5) MID TERM APPRAISAL**

2.18 On the query of the Committee regarding Mid-term appraisal conducted by the Department to ensure that the XII<sup>th</sup> plan targets (both physical and financial) are achieved as per schedule plan, the

Department had submitted that until now the mid-term appraisal is usually conducted by the Planning Commission (now NITI Aayog), who has recently asked for a comprehensive “Note” containing progress in physical and financial terms as part of Mid-term Appraisal of XII-Plan, which has already been sent to them. However, no Mid-Term Appraisal has been conducted so far i.e. no discussion took place on it by NITI Aayog.

**(6) FUNDS SURRENDERED**

2.19 Furnishing scheme wise details including the percentage utilization as against budgetary allocation and reasons for surrender of funds, the Department have submitted that the allocation for DARE were reduced by Rs. 1215.00 crore under Plan and Rs. 45.39 crore under Non-Plan in the Revised Estimates vis-à-vis Budget Estimates 2014-15. These amounts were surrendered as technical surrender to Ministry of Finance on 18/03/2015 (*Annexure I*). Subsequently, out of the Plan RE 2014-15 allocations, an amount of Rs. 11.19 crore was surrendered on 31.03.2015 (*Annexure II*). The details along with the reasons for surrender are given below:-

Sl.No	Head	RE (in Crore)	Amount Surrendered	Reasons
1	Agriculture University, Rajasthan	5.00	5.00	The Agriculture University could not be established by the respective Government.
2	Horticulture University, Haryana	5.00	5.00	The Horticulture University could not be established by the respective Government.
3	National Adaptation Fund	0.19	0.19	The scheme was transferred to Ministry of Environment & Forests by Ministry of Finance.
4	CAU, Bundelkhand	2.00	1.00	The agreement pertaining to construction of university building

				with NBCC could not be finalized leading to surrender of funds.
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**(7) RE-APPROPRIATION OF FUNDS**

2.20 Asked to submit scheme-wise/programme-wise details and reasons of re-appropriation of funds between the schemes/programmes during 2014-15, the Department submitted that the allocation made under “Lump-sum provision for North-Eastern Areas” under the Major Head 2552 are utilized after re-appropriation to Major Head “2415 – Agriculture Research and Education”. The powers for these re-appropriations are with the Secretary of the department. Out of a total of 11 re-appropriations carried out during the 2014-15, a total of 9 re-appropriations pertains to the above requirement. One re-appropriation (Re-appropriation Order No. 9 – *Annexure III*) based on the Token Supplementary demand approved in the 2<sup>nd</sup> and Final Batch of Supplementary demand for Grants 2014-15 was carried out to meet the enhanced requirements in various object heads in RE 2014-15, under both Plan and Non-Plan, from out of the savings in the same Section of the Grant. Another re-appropriation was carried out to meet the additional requirement of funds in the sub-head “International co-operation”. (*Annexure-IV*).

**(8) FINANCIAL IRREGULARITIES**

2.21 When asked to submit details of financial irregularities reported in the Institutes of ICAR to the DARE during 2014-15, the Department had submitted that the information seeking the status of financial irregularities since 2014-15 from the ICAR Institutes is under compilation. In view of the fact that there are more than 100 institutes in ICAR under various SMDs, scattered throughout length and breadth of the country, the above compilation will take time. It is therefore, requested that ICAR may be permitted to furnish the requisite information by 30<sup>th</sup> July, 2015.



2.22 When asked about action taken by the Department in cases of financial irregularities which has been reported since 2012-13, the Department had stated that in so far as the Action Taken by the department in case of financial irregularities reported since year 2012-13, efforts will be made to provide the information by 10<sup>th</sup> May, 2015.

**(9) BUDGET & CASH MANAGEMENT SCHEME**

2.23 It is understood that the modified Budget and Cash Management (B & CM) Scheme of the Ministry of Finance launched in 2006-07 with the intention to reduce expenditure asymmetry and to plan market borrowings more realistically stipulates amongst other things the following:

- \$ Disclosure of monthly expenditure of major Departments.
- \$ Quarterly exchequer control with a limit of maximum 33% funds in Quarter-4 (Q-4).
- \$ March spending control with a maximum ceiling of 15% of funds.

2.24 When asked to furnish details of quantum of funds spent by the Department in each quarter of the last fiscal, the Department had submitted following details:

Year	Plan			Non-Plan		
	Monthly Expenditure projection	Actual Expenditure	Percentage	Monthly Expenditure projection	Actual Expenditure	Percentage
April,2014	1131.67	0.00		806.99	806.60	
May,2014	0.00	1109.00		0.94	0.31	
June,2014	0.00	0.00		0.94	0.31	
Quarterly	1131.67	1109.00	30	808.87	807.22	33
July,2014	0.00	0.00		0.93	0.28	
August,2014	556.67	433.09		605.48	604.73	
September,2014	19.16	154.41		0.94	0.43	
Quarterly	575.83	587.50	16	607.35	605.44	25
October, 2014	1022.09	0.00		403.95	401.92	
November,2014	15.83	1.00		0.93	0.70	
December,2014	15.83	282.15		0.94	0.36	
Quarterly	1053.75	283.15	8	405.82	402.98	17
January, 2015	922.09	0.00		605.47	548.29	
February,2015	15.83	406.53		0.94	0.35	
March,2015	15.83			0.94		

Quarterly	953.75	406.53	11	607.35	548.64	23
Total	3715.00			2429.39		

**(10) REVENUE RECEIPT**

2.25 It has been provided in the Receipt Budget (2015-16) about receipt of Rs 0.01 Crore as revenue receipt during 2014-15 (RE). When asked to furnish details of targets and achievements of revenue generation of institutes of ICAR during 2014-15, the Department have submitted that the targets of Revenue Generation are being fixed for the constituent units of the Indian Council of Agricultural Research under DARE. These targets are fixed on the basis of actual generation of Revenue for the past one-two years. The targets for Revenue Generation for 2014-15 may be seen at *Annexure-V*.

2.26 When asked to furnish details of the targets for revenue generation from institutes of ICAR being fixed for 2015-16, the Department responded that the targets for Revenue Generation for 2015-16 are yet to be finalized.

2.27 Asked to furnish the details of fee received by all institutions of ICAR for consultancy/training services provided to other organizations during 2014-15, the Department submitted that the information is being compiled and it is likely to take some time as it has to be collected from 119 Accounting Units located across India.

2.28 When asked to furnish the provide details of license fee received by DARE/ICAR institutes during the last five years, the Department had submitted that the information on License Fee received from Quarters / Guest Houses of ICAR for the past five years is as under:

(Rs. In lakhs)					
Head	2009-10	2010-11	2011-12	2012-13	2013-14
License Fee from Quarters/ guest house	805.25	1190.39	1092.07	1092.60	1441.90

2.29 The Committee in their Second Report (Sixteenth Lok Sabha) has observed that revenue generated from the Institutes under ICAR are not reflected in revenue receipt present to Lok Sabha, Committee has further opined that revenue generated under administrative control of the Department should be reflected in Budget Documents including detailed Demands for Grants, Committee had desired the DARE to clarify the issue and rectify the irregularity, if any, in this regard. The Department in their action taken reply submitted to Committee have stated that the revenue generated by ICAR is netted while submitting the demand of funds to the Ministry of Finance and as such the Revenue generated by ICAR is utilized by ICAR itself. The utilization of internal resources as such is permitted by Secretary (Expenditure), Ministry of Finance Vide D.E.A Id. No. F. 2(45)-B (CDN)/2010 dated 12/09/2011. The revenue generated by ICAR are not transferred to the Department Viz., DARE and as such do not form a part of Non-Tax revenues of DARE.

2.30 When asked to clarify about validity of orders of Secretary (Expenditure), Ministry of Finance and the requirement of ratification of these orders by the Parliament, the Department had stated that the orders enclosed at *Annexure-VI* clearly state that the Department would not require any approval from the Government for utilizing the Internal Resources generated by them.

2.31 On being asked to furnish Institute-wise details of demand of funds submitted to the Ministry of Finance by ICAR clearly delineating internal revenue generated and funds demanded from Ministry of Finance since 2012-13, the Department submitted that the demand of funds received from the units of ICAR is consolidated Scheme-wise/division-wise/discipline-wise viz. Crop Science, Horticultural Sciences etc. and the Division-wise Internal resources anticipated to be generated during a given year are netted from the consolidated requirement. The net demand is thereafter submitted to the Ministry of Finance for allocation of funds. The relevant information in respect of Revised Estimates of ICAR for the past three years is as under:

(Rs. In Crore)

S. No.	Year	Actual demand by the Units of ICAR	Revenue Receipts reported to be generated during the year by the Units	Actual Demand submitted to the Ministry of Finance after netting the Internal Resources	Revised Estimates finally approved
1.	2012-13	2280.76	95.47	2185.29	2090.90
2.	2013-14	2511.07	122.95	2388.12	2270.00
3.	2014-15	2761.27	149.93	2611.34	2373.36

### **CHAPTER-III** **SECTORAL ANALYSIS**

#### **(1) CROP SCIENCES**

3.1 Crop Science Division, through its 26 research institutes, 22 All India Coordinated Research Project (AICRPs) and 11 Network Research Projects and in active collaboration with State Agricultural Universities (SAUs) is engaged in the development of improved crop varieties/ hybrids, cost-effective production technologies and environment-friendly protection technologies. In order to hasten the cherished goal of enhanced crop productivity and ensure food and nutritional security in the country, the Crop Science

Division of ICAR lays emphasis on development of trait-specific high yielding crop varieties and hybrids. Particular focus is given on developing varieties with tolerance to pest and diseases, besides various abiotic stresses.

3.2 Under this head of Crop Sciences only 47.08% (BE) of allocations were made during first four financial years as against earmarked outlays of Rs. 4141.31 crore for XII<sup>th</sup> Plan. Funds have been further reduced at RE stage. Status of allocation and utilisation of funds during first four fiscal are as follows:-

YEAR	Proposed fund by DARE	(Rs. in crore)				
		BE	RE	Actual Expenditure	% of BE	% of RE
2012-13	837.75	500.00	413.00	400.58	80.00	96.80
2013-14	628.01	465.00	375.00	368.98	79.30	98.30
2014-15	862.48	470.00	380.00	372.93	79.34	98.14
2015-16		515.00				
Total		1950.00				

3.3 When asked to furnish proposals put up by the Department for Crop Sciences during 2015-16, the Department submitted that the department of DARE/ICAR had proposed an amount of Rs. 8648.06 crore for BE of 2015-16; out of which an allocation of Rs. 1281.45 crore was made in respect of Crop Science Division. However, the plan BE for 2015-16 communicated by Ministry of Finance was Rs. 3691.00 crore out of which the allocation made by the Department to Crop Science Division was 570.00 crores. Institute-wise details are given in *Annexure-VII*.

3.4 On the query of the Committee regarding effect of reduced allocations at RE stage on implementations of Research work in institutes under division of Crop Sciences, the Department submitted that though the reduced allocation has been a cause of concern for the Division, adequate measures were taken to ensure that no major programmes suffered due to paucity of funds. All the proposals received

from the Institutes under the Crop Science Division were critically evaluated and the limited funds which were allocated to the division were diverted to critical areas needing focused attention for accomplishing the targets.

**(a) INFOCROP- WEB BASED DECISION SUPPORT SYSTEM**

3.5 The Department in their annual report (2014-15) have stated that a web based INFOCROP-Wheat, a web based decision support system to identify location-specific suitable varieties, optimum sowing time and schedule for the wheat crop was developed. When asked about efficacy of INFOCROP-decision support system, the Department responded that INFOCROP is a generic crop growth model that can simulate the effects of weather, soil, agronomic managements (planting, nitrogen, residue and irrigation), and major pests on crop growth and yield of crops such as rice, wheat, maize, sorghum, millets, soybean, mustard, groundnut, cotton and pigeon pea. The crop-specific modules are developed using the field experimental data from Indian Council of Agricultural Research (ICAR) Institutes such as Indian Agricultural Research Institute, New Delhi, Central Rice Research Institute, Cuttack; Central Institute for Cotton Research, Nagpur; National Research Centre for Soybean, Indore; National Research Centre for Groundnut, Junagarh; National Research Centre for Rapeseed and Mustard, Bharatpur, Central Research Institute for Dryland Agriculture, Hyderabad; National Research Centre for Sorghum, Hyderabad, Central Plantation Crops Research Institute, Kasaragod as well as from International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad. The soil series database is based on National Bureau of Soil Survey and Land Use Planning (NBSSLUP), Nagpur AESR database.

3.6 When asked to submit details of field trials of infocrop system by the ICAR, the Department in their written replies stated that data on field experiments conducted at ICAR-IARI are used for calibrating and validating the model. Further, the field experimental data from published literature as well as from the All India Coordinated Research Project experiments of ICAR on multi-location varietal evaluation trials,

nitrogen and irrigation trials were used to validate different crop modules of the InfoCrop decision support system. The model can simulate the yield at  $>R^2$  0.85 under different conditions.

3.7 On the query of the Committee regarding use of INFOCROP-decision support system for the benefit of farmers, the Department stated that ICAR intends to use InfoCrop model for identifying the adaptation niche areas, quantifying the adaptation gain and mapping vulnerable regions in changing climates, especially for rice and wheat crops. It is also intended to link the InfoCrop model with remote sensing data for developing a web-based crop monitoring and yield forecasting system. Further, under National Initiative on Climate Resilient Agriculture (NICRA), an integrated modeling framework is being developed for linking InfoCrop with other models and climate database. So far, the InfoCrop DSS is used for quantifying the impacts of climate change, adaptation gains and vulnerable regions for crops like rice, wheat, maize, sorghum, soybean, mustard, ground nut, potato, cotton and coconut. These results are published in peer reviewed papers for wider use. The model is also used for identifying location specific suitable sowing time, variety and management for some of the test sites in Mewat and Dhar districts with significant success. Further, this model is also used for yield forecasting in India under FASAL project.

3.8 When asked about future plan of Department to develop similar decision support system for other crops, the Department submitted that The ICAR-IARI is initiating development of models for grape (under National Fund project), green gram, sugarcane (in collaboration with Indian Institute of Sugarcane Research, Lucknow) and Onion (in collaboration with Indian Institute of Horticultural Research, Bengaluru). These models are expected to be developed and validated in coming years. As rice is the mandate crop of ICAR-Central Rice Research Institute, Cuttack, there is plan for developing decision support system for rice. Under Rice Knowledge Management Portal (RKMP), decision support system has been developed for management of pests and diseases and other aspects which was prepared by DRR in collaboration with CRRRI and other Institutes. Location-specific GIS based DSS on rice is planned to be developed for various eco-systems of Odisha.

**(b) EXPLORATION AND CONSERVATION OF GERMLASM**

3.9 During the year 2013-14, 33 explorations were undertaken in 16 states and 1722 accessions were collected. Further in the National Gene Bank for long terms storage 112 non-orthodox species have been cryostored and 8 have been added to in-vitro gene bank. From 42 countries 44,069 accessions have been imported including promising accession of Wheat paddy, Safflower etc. However, during the year 2014-15, 30 explorations were undertaken and only 1591 accessions were collected. Moreover, only 15 of non-orthodox species for cryopreserved and 18 for in-vitro storage were added in National Gene Bank for long terms Storage. A total of 40,879 accessions were imported from 38 countries. When asked about the reasons for underperformance during the year 2014-15 in the aforesaid areas, the Department submitted that majority of the production landscapes rich in landrace diversity have been systematically explored in past. The priorities at the moment are inaccessible unexplored areas, and areas with trait-specific diversity including exploration and collection of wild/weedy races which are poorly represented in Gene bank collections. The number of explorations and accessions assembled are, therefore, expected to further reduce in future.

- The updated figure of non-orthodox accessions cryo-stored is 43 during 2013-14 and 86 accessions cryo-stored during 2014-15. Hence, there is no decline in cryo-storage of non-orthodox seed species. There is enhanced emphasis now on cryo-storage of non-orthodox species, pollen and genomic resources.
- Germplasm introduction/exchange is indent based and also in post-Convention on Biological Diversity (CBD) era, there is restriction on free exchange of germplasm accessions globally now. Hence, the exchange of germplasm may further decline in coming years.

**(c) CROP IMPROVEMENT**



3.10 The Department in their Annual Report (2014-15) have stated that emphasis in ICAR is on development of trait-specific high yielding crop varieties and hybrids in the crop improvement programmes to hasten the cherished goal of enhanced crop productivity and, in turn, food and nutritional security. The focus is to develop varieties with tolerance to pests/diseases and also for different abiotic constraints (soil and water salinity, soil acidity, drought flood and such other factors) besides matching quality attributes. When asked about initiatives being taken by the Department for research work regarding the traditional varieties strands are mixed with newer varieties of crops and vegetables/fruits, the Department submitted that the traditional varieties are being conserved and also protected as Farmers' varieties with Further, an extensive collection of traditional varieties in almost all crops including cereals, oilseeds and pulses has been made and deposited in the National gene Bank at the NBPGR, New Delhi. These traditional varieties have been characterized with respect to their utilities in breeding programme as source of resistance to insect-pest and diseases and quality traits and utilized in breeding programme for development of new varieties.

3.11 The Department further stated that specific characters which are desirable and have evolved over a long period of time in a particular environment are of immense value and are being used for developing varieties with desirable characters. The traditional varieties which are from the pool of land races are precious germplasm resources contributing to the cause of enhancing production to ensure food security. Resistant donors for insects and diseases are identified from traditional varieties which are being utilized for developing resistant/tolerant varieties. For instance, genes for BPH resistance has been transferred to rice varieties from traditional/farmer variety Salkathi and the crop improvement programmes utilize the local cultivars and land races of crops to incorporate important traits in the high yielding varieties. Traditional varieties and wild species are utilized for breeding to combine specific disease and pest resistant, quality etc., e.g., traditional crops are utilized as root stocks and improved varieties are grafted on them to mitigate

excess moisture. These aspects are focused on research on legumes, cucurbits, leafy vegetables, mango, jackfruit, guava, drum stick etc.

3.12 On the above issues, the representative of DARE during evidence added :-

'...I would like to inform you that this time we have released around 160 varieties and hybrids of pulses, oil seeds, cereals etc. In this regard, I would like to submit about wheat, HD2967 which has survived hailstorm and rainfall recently due to its short height, large pod and production of 5 to 6 tonnes. I would like to tell you with the confidence that within two years this variety has spread to 6 million hectares. Similarly, we are able to export Basmati Rice amounting to Rs. 24,000 Crore due to a particular and improved variety Pusa Basmati 1509...'

3.13 On the above issues the representative of DARE further stated as under :-

'...At the same time, we are providing virus indexed planting material that is screened for disease resistant for the Horticulture Sector such as Pomegranate. We are doing experiment on this in the Institute and I would like to submit that there is need to upscale this. As you have seen in the Institute of Horticulture Research, Bengaluru, around 20 companies are working with them. For example, they have come up with a variety of Tomato (Arka Rakshaka) which has 3 disease resistant ability and provide productivity of 90 tonne. We are getting demand for this variety from Countries like Vietnam. We are not only focussing on development of technology but also on transfer of technology. You are asking about what we have done in the Horticulture Sector. Disease prevention is one of the main aim of Horticulture. We are facing a problem everywhere about water logging. We have already released absolutely disease resistant varieties of Tomato, Cauliflower, Gourd, Brinjal and Ladyfinger. Similarly, you were referring about genome, I would like to submit that we have deciphered complete genome of wheat. We have also deciphered genome of BT Cotton Insect so that, we can know about the way it is infected by the insect...'

3.14 On the query of the Committee regarding research focus of the ICAR institutes on enhancement of taste and nutritive value of the crops/vegetables/fruits, apart from quantitative production, the Department have stated that major ICAR institutes of Crop Science division concentrate not only on improvement of yield *per se* but also on the nutritional qualities of the cereal grains like rice, wheat, sorghum, maize, pearl millet, small millets, pulses and oilseeds.

3.15 When the Committee enquired about the research work being carried out by the ICAR in order to incorporate appropriate strands in seeds so that the crops/vegetables/fruits/plant combat the insects inherently, the Department stated that ICAR has in place suitable biotechnological tools such as marker assisted selections, transgenic crop variety development and other novel tools and techniques have been deployed for faster and precise identification of promising genotypes with inherent tolerance to insect pests and diseases. Changes in climate, cropping patterns due to economic compulsions have been considered, while developing new crop varieties. The target of resource conservation through optimized technologies for cultivating such responsive high yielding varieties has been taken up. Development and successful demonstration of science-led bio-control technologies helped in management of economically important pests like mealy bug, sugarcane wooly aphid and white grub, bakanae disease in rice, nematodes in major crops besides integrated pest management strategies for rice, cotton, chickpea, soybean, maize and groundnut.

3.16. The Department have further stated that resistance for brown plant hopper, Rice tungro disease, blast and sheath blight has been incorporated in rice for developing new varieties. Genes for resistance against rusts and other insect pests are being incorporated into new varieties of wheat. Efforts are underway to incorporate transgenes (lectin gene for aphid resistance) in high yielding varieties of Indian mustard. Incorporation of genetic resistance to insects is a major objective in soybean breeding. The sources of resistance to important insects are identified through extensive screening and these sources are utilized to develop insect resistant variety. The use of wild species in bhindi, brinjal, water melon, tomato

and cucurbits is under progress to reduce pest and disease incidences. Similarly root stock in grape, citrus and vegetables is being given greater focus to reduce pest damage.

3.17 When asked about steps being taken to promote research for development of plants by incorporating such strands in the seeds which would reduce the residue level of chemical fertilizers in the fruits/vegetables/grains, the Department stated that developing high yielding crop varieties with in-built resistance to insects / pests is a continuous process that can help in reducing the use of chemicals. Also the nutrient use efficient genotypes are being developed to reduce the dependence on the fertilizer use. Tolerance to insect pests is routinely being checked in the AICRP system before a variety is released. The work on development of varieties with high nitrogen use efficiency in rice is in progress. This will allow lesser use of chemical fertilizers in rice. The wheat varieties released are resistant to rusts, rice to blight. Pusa 1612, a blast resistant near-isogenic line of Pusa Sugandh 5 developed through marker assisted breeding wherein two genes namely, *Piz5* and *Pi54* conferring resistance to blast disease, has been recently released. Among insects, focus in rice is to develop varieties with resistance to brown plant hopper.

3.18 The Department further stated that breeding for nutrient use efficiency in soybean involves development of strains which will have higher productivity with lesser amount of chemical fertilizers (NPK). The breeding programme is working to identify soybean genotypes which can use phosphorus more efficiently hence reducing the residue level of phosphorus. While in pigeon pea and chickpea concerted efforts are being made to develop varieties with tolerance to pod borer. Similarly, the chickpea varieties Pusa green 112, Pusa 2024 have tolerance to wilt. Work on the development of aphid resistant varieties of cauliflower and cabbage by RNAi technology is under progress in DST, Govt. of India supported project. Vegetable improvement is in progress by using exotic/introduced germplasm. Certain approaches of incorporating the strands for herbicide tolerance and transgenic genes for disease and pest resistance will

significantly reduce the dependence on pesticides, herbicides and fungicides and also the problem of residual toxicity. Therefore, the genetic re-arrangement of strands are the key to increasing yields, thus by reducing significantly the level of usage of chemical fertilizers, pesticides and fungicides in grain sorghum.

3.19 On the above issues the representative of DARE stated as under:-

'...Thirdly, issue of coating has been discussed. It is entirely new technique. Seed processing used to happen before this. We are taking care of all these issues in this technique. For example, we are looking at cotton seed. We are trying to experiment that coating can be done in the way which can enhance nutrients and disease resistant abilities. I would like to say seed is affected by the environment. I would like to tell about genetic environment interaction. Any good seed will not be effective if, Soil is not good. We are using nano-technology for developing technique of coating of seeds. You have asked about its pricing. As of now, i would like to inform you that we have got estimate that the cost of seed will enhance by 10 to 15% after coating. However, this is first trial, we are still refining it...'

3.20 When asked to furnish details of R&D being carried out for development of varieties of hybrid seeds that can be used more than once for growing crops, the Department stated that as a scientific principle, hybrid seeds can be grown only once to realize the yield advantage. However, In some of the cases of self-pollinated crops, all varieties are natural hybrids and the seed can be used for 3-4 crop cycles. The farmers do not need to change the seed every season.

3.21 During evidence the representative of DARE further added:

'...Secondly, concern about seeds has been raised. We are very much concerned about this, it has been said that we have to develop hybrid seeds varieties which we can use again and again. But, it cannot happen in hybrid varieties. I would like to add two or three points about it. Prices of seeds of horticulture are very much higher. That is the first point. We have seen that prices of seeds of Tomato, Frenchbeans, Watermelon etc. sold by foreign companies are around Rs. 70-80,000 per kilogram. The Horticulture Institute which you have visited has a seed variety of Tomato costing Rs. 30,000 per kilogram. This is a comparison. Why is it so that hybrid varieties of Rice is not in much demand in India? We do take hybrid seeds so that we can get higher productivity. We can get 6 tonne production from hybrid seeds as against 2-3 tonnes from traditional varieties. We are repeatedly being asked about the reasons of low productivity as against Bangladesh or China. Our farmers too have their own judgement that why to invest in costly seeds and do its maintenance, if they have to get 5 tonne production...'

## (2) HORITCULTURE SCIENCE

**3.22** Horticulture as a part of agriculture is an important source for enhancing revenue of farmers of the country. It is also a source for earning foreign currency as huge export market exist for horticulture crops. The Horticulture Science Division through has network of 12 National/Central Research Institutes, 6 National Research Centre and 5 Project Directorate. There are 9 All India Coordinated Research Projects are in operation in different parts of the country at different ICAR Institutes, State Agricultural/Veterinary Universities, State Animal Husbandry Departments and Non-Governmental Organizations.

**3.23** Under the head of Horticulture Sciences only 61.53% (BE) of allocations were made during first four financial years as against earmarked outlays of Rs. 1422.00 crore for XII<sup>th</sup> Plan. Funds have been further reduced at RE stage. Status of allocation and utilisation of funds during the first four fiscals are as follows:-

(Rs. in crore)

YEAR	Proposed fund by DARE	BE	RE	Actual Expenditure
2012-13	360.30	240.00	145.00	143.55
2013-14	200.00	200.00	149.00	139.88
2014-15	308.38	210.00	144.35	142.48
2015-16		225.00		
Total		875.00		

**3.24** When asked to furnish details of proposals put up by the Department for Horticulture Sciences during 2015-16, the Department stated that DARE/ICAR had proposed an amount of Rs. 8648.06 Crore for BE of (2015-16) in which an allocation of Rs. 451.09 crore was made in respect of Horticulture Science Division. However, the plan BE for 2015-16 communicated by the Ministry of Finance was Rs. 3691.00 Crore out of which the allocation made by the Department to Horticulture Science Division was 225.00 crore. Institute-wise details of allocations are given in *Annexure-VIII*.

**3.25** When asked about the reasons for drastic reduction of Rs. 65.65 crore i.e. about 31.26% at RE stage during 2014-15 under this head, the Department stated that the drastic cut in the allocation of Horticulture Division in the RE 2014-15 (Plan) was apparently due to the overall cut effected by the Govt. of India, Ministry of Finance in the plan allocation of DARE/ICAR in RE 2014-15 .

**3.26** On the query of the Committee regarding effect of reduced allocations at RE stage on implementation of Research work in institutes under division of Horticulture Sciences, the Department stated that though the reduced allocation has been a cause of concern for the Division, adequate measures were taken to ensure that no major programmes suffered due to paucity of funds. All the proposals received from the Institutes under the Horticulture Division were critically evaluated and the limited funds which were allocated to the division were diverted to critical areas needing focused attention for accomplishing the targets.

**3.27** When asked about the reasons for very low expenditure of 42.31% (up to December, 2014) of BE during 2014-15 of the Horticulture Science division, the Department submitted that during early part of the financial year (2014-15), the progress of expenditure was comparatively low mainly due to non-clearance of SFCs/EFCs. However, later the expenditure gained momentum after all the EFCs/SFCs were cleared thus giving enough scope for optimum utilization of funds allocated to the division in the RE 2014-15 (Plan). The division has almost utilized budget allocated in the RE 2014-15 (Plan) as on date.

### **Development of Post Harvest Technology**

**3.28** The Committee during their study visit to Indian Institute of Horticulture Research, Bengaluru had been shown post harvest technologies developed by the Institutes for enhancing longevity of raw fruits and vegetables, technology for drying of fruits through reverse osmosis etc. which has immense potential for commercialization and enhancement of income of farmers. When asked to furnish the details of commercialization of post harvest technologies developed by IIHR during the last five years, the

Department submitted that the institute has identified over 15 technologies grouped into RTS beverages, Osmotically Dehydrated products, processed foods & preservation techniques. The technology, company wise details of the Post-Harvest Technologies licensed in the last 5 years are tabulated below:

Sl. No	Name of the technology	Company
<b>2010-11</b>		
1	Osmotic Dehydration Technologies for Papaya, Mango, Pineapple, Aonla & Fruit Bar  Ready to Serve Beverages for Amla, Mango & Pineapple	M/s Pee Pee Appliances Private Ltd. Chennai
<b>2011-12</b>		
2	Crushed Tomato Technology	Korvyss Agrotech Pvt Ltd, Cochin
3	Osmotic Dehydration for Jackfruit	Tata Coffee Limited, Coorg, Karnataka
4	Dry flower technology, OD of Banana, Jackfruit, Sapota & Shrink Wrapping technology	Pee Pee Appliances Pvt Ltd, Chennai
<b>2012-13</b>		
5	Osmo dehydrated Pineapple &  Osmo dehydrated Jackfruit	KVK, Pathanamthitta, Kerala
6	Osmo dehydrated Pineapple	KVK, CPCRI, Kasargod, Kerala
<b>2013-14</b>		
7	Tomato Crush technology	Ms. Madhavi Foods Pvt Ltd, Hyderabad
8	Osmotically Dehydrated Mango, Papaya and Fruit Bar technology	M/s Divine Clique Private Ltd, Mumbai
9	Preservation of Mango Slices	M/s Sun Food Products, Tamil Nadu



10	RTS of Amla, Jackfruit, Kokum and Banana	Mr Naveen Hegde, Sirsi, Karnataka
<b>2014-15</b>		
11	Preparation of Banana wine*	Mr Rajagopal Venkat, Chennai, TN
12	Crushed tomato technology	M/s Regius Group, Bangalore, Karnataka
13	Crushed tomato technology	M/s Triton , Bangalore, Karnataka
14	Flower Drying & Product Making Technology in Orchids	Smt. Nirmala Raviraj, Bangalore

3.29 The Department also stated that periodic interactions with the clients have also indicated that most of them are successfully utilizing the technologies licensed from the institute.

3.30 When asked to furnish details of earnings of the institute by such technology transfer, the Department stated that an amount of Rs 11,58,871 has been generated as one time up front licensee fee at the time of technology transfer from licensing of Post-Harvest Technologies.

3.31 When the Committee enquired about incorporation of clause at the time of technology transfer about keeping the prices of such utilities at reasonable prices so that the small and marginal farmers are able to use them effectively, the Department submitted that the institute does not put any price restriction on the products of the licensees. However, the innovator and his/her team provide the licensee with the probable cost of production and market price of the competing products while demonstrating & training the Licensee about the technology.

3.32 When asked about efforts being made by the Department to encourage farmers to start agri-ventures utilizing technology developed by IIHR, the Department stated that the Institute organizes Industry meets periodically and also participates in many technology promotion activities and melas to popularize

the technology products to the potential clients. Further, the Institute also organizes specialized and focused Entrepreneurship Development Programmes for individual and group of farmers/ entrepreneurs to enable them to license the technology & establish horti- based processing units. The institute also has taken special interest in licensing some of these technologies to Krishi Vigyan Kendras (KVK) at much lower price than to other private licensees so as to encourage the KVK to promote our products.

**(3) NATURAL RESOURCE MANAGEMENT**

3.33 Sustainable management of natural resources is vital as agricultural development with positive growth and long term sustainability cannot thrive on a deteriorating natural resource base. Research in the Natural Resource Management Divisions is focused on major concerns namely low farm productivity & profitability, land degradation, low water productivity, soil health deterioration & low nutrient use efficiency, loss of tree cover & deterioration in ecosystem services, abiotic stresses including climate change and associated risk management. The NRM Division is engaged in developing location-specific, cost effective, eco-friendly technologies for conservation and management of natural resources to ensure food and nutritional, environmental and livelihood security in the country. 12 Central Research Institutes, 1 Project Directorate, 1 Bureau, 1 National Research Centres, 3 network projects and 10 All India Coordinated Research Projects with a wide network of the Cooperating Centres and State Agricultural Universities are involved in NRM research.

3.34 Under the head of Natural Resource Management only 63.75% (BE) of allocations were made during first four fiscals as against on earmarked outlay of Rs. 2183.50 crore for XII<sup>th</sup> - Plan. Funds have been further reduced at RE stage. Status of allocation and utilisation of funds during first four fiscal are as follows:-

(Rs. in crore)

YEAR	Proposed fund by DARE	BE	RE	Actual Expenditure
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2012-13	539.40	387.00	260.00	239.66
2013-14	351.40	310.00	245.00	232.72
2014-15	613.18	325.00	235.00	234.50
2015-16		370.00		
Total	2328.24	1392.00		

3.35 When asked about the proposal put up by the Department for NRM during 2015-16, the Department stated that DARE/ICAR had proposed an amount of Rs. 8648.06 crore for BE of 2015-16; in which an allocation of Rs.453.97 crore was made in respect of NRM. However, the plan BE for 2015-16 communicated by Ministry of Finance was Rs. 3691.00 crore out of which the allocation made by the Department to NRM was 370.00 crore. Institute-wise details of allocations are given in *Annexure-IX*.

3.36 When asked about effect of reduced allocations at RE stage on implementations of Research work in institutes under division of NRM, the Department stated that the reduced allocation has been a cause of concern for the Division, adequate measures were taken to ensure that no major programmes suffered due to paucity of funds. All the proposals received from the Institutes under the NRM Division were critically evaluated and the limited funds which were allocated to the division were diverted to critical areas needing focused attention for accomplishing the targets. In most of the institute dealing with Natural Resource Management, the actual expenditure for the year 2014-15 is 40-60% of the outlays at RE level. When asked to furnish reasons, the Department had submitted that the reasons for low spending during the initial period of the financial year were largely attributable to non-clearance of SFCs/EFCs of the Institutes. As a consequence of this, the Institutes could not undertake any new activity pending clearance of SFCs/EFCs. The expenditure showed an upward trend as soon as the SFCs/EFCs of the Institutes were cleared. As on date, the Institutes have almost utilized their allocation in the RE 2014-15.

3.37 When enquired by the Committee that what are the reasons for such low expenditure during the year 2014-15, the Department stated that during early part of the financial year (2014-15), the progress of

expenditure was comparatively low mainly due to non-clearance of SFCs/EFCs. However, later the expenditure gained momentum after all the EFCs/SFCs were cleared thus giving enough scope for optimum utilization of funds allocated to the division in the RE 2014-15 (Plan). The division has almost utilized budget allocated in the RE 2014-15 (Plan) as on date.

**(a) Land Resource Inventory**

**3.38** National Bureau of Soil Survey and Land Use Planning (ICAR), Nagpur has undertaken a Country level project on "Land resource Inventory on 1:10,000 scale for agricultural land use planning using geo-spatial techniques" in collaboration with NRSC, ISRO in a phased manner. In the first phase, 60 blocks, one each in 60 agro-ecological sub-regions of the Country, covering approximately 3.3 Mha area in four years duration, were selected. Regarding the status of this project, the Department submitted that the activities in this project have been initiated in the following 20 Blocks during the first phase (2014-18). Details of Blocks covered under the project till March, 2015 are as follows:

<b>Sr. No.</b>	<b>Names of the Block, districts and States</b>
1	Bukkarayasamudrum , Anantpur District, Andhra Pradesh
2	Nagrota Baghwan, Kangra District, Himachal Pradesh
3	Jagner, Agra District, Uttar Pradesh
4	North West Jorhat, Jorhat District, Assam
5	Medziphema, Dimapur District, Nagaland
6	Diyun, Changlang District, Arunachal Pradesh
7	Ri-Bhoi district, Meghalaya
8	Titlagarh, Bolangir District, Odisha
9	Basudevpur, Bhadrak district, Odisha
10	Ganjam, Odisha

11	Musahari, Mujafarpur District, Bihar
12	Kadwa, Kathiar District, Bihar
13	Porbandar, Porbandar District, Gujarat
14	Deesa, Banaskantha District, Gujarat
15	Ankleswar, Bharuch and Dholka taluk, Ahmedabad District, Gujarat
16	Darwah, Yavatmal District, Maharashtra
17	Bemitarra district, Chattisgarh
18	Thimajipeth , Mehboobnagar district, Telangana
19	Indraveli, Adilabad district, Telangana
20	Gajwel, Medak district, Telangana

**3.39** Besides this, LRI work is also progressing in 59 microwatersheds of Karnataka State. In order to reduce time and cost of field work, an innovative semi-automated method of delineating landform was developed, which is a pre-requisite for this type of soil survey field work.

**3.40** When asked to furnish details of allocation and actual expenditure during 2014-15 and 2015-16, the Department submitted the following information:

Items	2014-15	2015-16
Allocation (Rs. In lakhs)	160.00	155.00
Actual expenditure (Rs. In lakhs)	160.00	--

From the table it can be seen that the allocation for land resource inventory in 2014-15 was Rs. 160 lakh and the entire amount was utilized. However, the allocation for the years 2015-16 has been reduced.

**3.41** When the Committee enquired about ways ICAR intend to use land resource inventory for enhancing agricultural production in the country, the Department stated that due to ever increasing

population, continued land degradation and diversion of prime agricultural lands for non-agricultural uses, availability of land for agricultural production is shrinking. Hence, we have to enhance agricultural productivity per unit area through efficient utilization of land resources besides other interventions. Therefore, it becomes essential to utilize optimally every parcel of land for ensuring sustainable agricultural production. The Land Resource Inventory project would generate site-specific information for developing micro level land use plans at block/village level to ensure enhanced agricultural production.

**3.42** On the query of the Committee regarding future plan for making land resource inventory of entire country, the Department submitted that in the first phase (2014-18) of the project, the ICAR-NBSS&LUP is to undertake land resource inventory of 60 blocks (across the country) representing each agro-ecological sub region (AESR) of the country. During 2014-15, the work was initiated in 20 blocks and 59 micro watersheds. During 2015-2018, land resource inventory work for the remaining 40 blocks will be undertaken and completed (besides completing the same for the 20 blocks for which the work was already initiated during 2014-15). This will set the Road Map for developing Land Resource Inventory of the entire country.

### **(3) ANIMAL SCIENCE**

**3.43** Animal Science Division coordinates and monitors research activities in its 19 Research Institutes and their Regional Centers. The Division has 2 Deemed Universities, 8 National /Central Research Institutes, 1 National Bureau, 1 Directorate, 1 Project Directorate, 6 National Research Centers and 4 Krishi Vigyan Kendras. There are 7 All India Coordinated Research Projects and 8 Networks, 4 Outreach, 3 Seed projects (poultry, sheep and pig) and 1 Consortia Platform (Vaccines and Diagnostics) in operation in different parts of the country at different ICAR institutes, State Agricultural / Veterinary Universities, State Animal Husbandry Departments and Non-Governmental Organizations. The main vision of the Animal

Science Division is to develop new technologies to support production enhancement, profitability, competitiveness and sustainability of livestock and poultry sector for food and nutritional security. The mission is to facilitate need based priority research in livestock and poultry sector in on-going and new emerging areas to support productivity increase, thereby reducing the gap between potential and actual yield in the current era of globalization to meet the challenges ahead.

**3.44** Under the head of Animal Science only 61.89% (BE) of allocations were made for the first four year(s) as against on earmarked outlays of Rs. 1543.00 crore for XII<sup>th</sup> Plan. Funds have been further reduced at RE stage. Status of allocation and utilization of funds during first three fiscals are as follows:-

(Rs. in crore)

YEAR	Proposed fund by DARE	BE	RE	Actual Expenditure
2012-13	287.64	250.00	194.00	191.63
2013-14	280.00	225.00	189.98	190.22
2014-15	382.08	230.00	160.00	157.48
2015-16		250.00		
Total		955.00		

**3.45** When asked to furnish details of proposal put up by the Department for Animal Science during 2015-16, the Department submitted that DARE/ICAR had proposed an amount of Rs. 8648.06 crore for Plan BE 2015-16; in which an allocation of Rs. 400.29 crore was made in respect of Animal Husbandry. However, the plan BE for 2015-16 communicated by Ministry of Finance was Rs. 3691.00 crore for DARE/ICAR, out of which the allocation made by the Department to Animal Science Division was 250.00 crore. Institute-wise details of allocations are given in *Annexure-X*.

**3.46** With regard to low utilization i.e. 60% of allocated funds at RE stage during the year 2014-15, the Department had submitted that the allocation under Plan RE 2014-15 is Rs. 160 crores. As on 31-12-2014, the expenditure of the SMD of Animal Science is Rs. 96.63 crore. The expenditure with respect to release

as in December, 2014 was 83.79%. The reason for slightly low utilisation of expenditure upto December 2014 was because of the reasons that the proposals of civil works were under process. These civil works with estimates crossing Rs. 150 lakhs required the approval of IMC, technical vetting, financial concurrence and administrative approval at the Council. Most of these works have been approved only during the last quarter of the financial year 2014-15.

**3.47** When asked about effect of reduced allocations at RE stage on implementations of Research work in institutes under division of Animal Science, the Department had stated that though the reduced allocation has been a cause of concern for the Division, adequate measures were taken to ensure that no major programmes suffered due to paucity of funds. All the proposals received from the Institutes under the Animal Science Division were critically evaluated and the limited funds which were allocated to the division were diverted to critical areas needing focused attention for accomplishing the targets.

**3.48** It has been observed by the Committee that allocation to Central Institute for Research on Cattle, Meerut, have been reduced from Rs. 5 cr. to Rs. 1.5 Cr. at RE stage. Similarly, allocations to Central Avian Research Institute, Izzatnagar, have been reduced from Rs. 9 Cr. (BE) to Rs. 3 Cr. at RE stage. The Department in this regard, stated that BE of Rs. 5.00 crores of CIRC, Meerut was reduced to Rs. 1.50 crores during RE 2014-15 as funds to the tune of Rs. 3.493 crores allocated to establish new campus of CIRC at Karnal could not be utilized due to pending decision whether to develop the campus of CIRC at Karnal or at Meerut. Similarly, on account of reduction of overall budget allocation by 30%, there was a reprioritization of fund allocation to different Institutes. Hence, drastic cut in RE for CARI, Izzatnagar to the tune of Rs. 3.00 crores from Rs. 9.00 crores BE was done as funds allocated under capital head were reduced from Rs. 4.60 crores to Rs. 0.45 crores for CARI, Izzatnagar.

**3.49** The Department intimating about the effect of reduction in allocations on research stated that the reduction in allocation of funds has not affected the ongoing research work as sufficient funds under



contingencies and facilities from this component were available at CIRC, Meerut and Main Centre of CARI, Izzatnagar.

**3.50** It has been observed that allocation of Rs. 2 Cr. and Rs. 1 Cr. were made at RE stage during 2014-15 for All India Network Programme on Neo-Natal Mortality in Farm Animals, Izzatnagar and All India Network Programme on diagnostic imaging and management of surgical condition in Animals, Izzatnagar. When asked about status of above mentioned research projects, the Department submitted that All India Network Programme on Neonatal Mortality in Farm Animals project was initiated during the XII Plan with ICAR-Indian Veterinary Research Institute as coordinating centre and six collaborating centres in different SAUs/SVUs/ICAR institutes. Following works had been initiated under the project:

- Collection of clinical and morbid samples from livestock neonates.
- Isolation and identification of targeted pathogens by conventional as well as by molecular techniques.
- Path morphological diagnosis of neonatal morbidity and mortality.
- Development of questionnaire/information data sheet for collection of disease data (active and passive) from target population of different agro climatic zones.

**3.51** The Department also submitted that work initiated under the project All India Network Programme on “Diagnostic Imaging and Management of Surgical Conditions in Animals” are as follows:

- (1) Standardization of colour doppler & B mode Ultrasound imaging for hepatic and cardiac ailments in animals.
- (2) Diagnostic imaging of spinal cord disorders.
- (3) Establishment of Dental Care Unit.
- (4) Evaluation of fracture fixation devices for animals.
- (5) Development of safe general anaesthetics for large animals surgery.

**(a) Improvement of Traditional Varieties of Livestocks**

**3.52** India is home to largest number of cattles in the world. There are many varieties of cattles which are disease resistant, drought resistant and can survive on minimum diet. However, milk production from most of Indian varieties are less barring few exceptions such as *Murrah*.

**3.53** About the ways by which DARE/ICAR are using scientific methods to conserve an improved traditional varieties of livestock such as, *Murrah*, *vechur* etc., the Department stated that the ICAR is running a network project on buffalo improvement at Central Institute for Research on Buffaloes (CIRB), Hisar. The production and dissemination of superior Murrah germplasm is done under the project at CIRB, Hisar; National Dairy Research Institute (NDRI), Karnal; Indian Veterinary Research Institute (IVRI), Izzatnagar; GADVASU, Ludhiana and Sri P.V. Narsimha Rao Telangana State University for Veterinary, Animal and Fisheries Science, Mamnoor. Besides this, dissemination of superior Murrah germplasm through Artificial Insemination (AI) is done under field conditions by CIRB, Hisar; NDRI, Karnal and GADVASU, Ludhiana for the benefit of farmers.

**3.54** Further the Department stated that so far as conservation of Vachur cattle breed is concerned, at present, there is no ICAR funded programme in 12<sup>th</sup> Plan. However, the National Bureau of Animal Genetic Resources (NBAGR) Karnal is coordinating Network Project on Animal Genetic Resources wherein various breeds of livestock and poultry identified on the basis of sample surveys conducted by NBAGR are being conserved and improved in collaboration with respective State Veterinary Universities/AH Departments/NGOs in the state/breeding tract of the breed. In addition to this, under the AICRP on cattle being coordinated by Central Institute for Research on Cattle (CIRC), Meerut; Gir, Kankrej and Sahiwal breeds are also being conserved and improved involving various stakeholders (Universities, State Livestock Farms and Gaushalas).

**3.55** Elaborating on the above issue, the representative of DARE stated as under:-

'...Issues regarding traditional varieties of cattles were discussed, traditional varieties have two benefits, first, we have seen that disease resistant capacity in these varieties are very

high. Secondly, maintenance in indigenous varieties is very low. We have 36 indigenous breeds, however you have said we can enhance income of those people who keep these varieties. As you have mentioned all these indigenous varieties such as Tarparkar, Geer and Kankrej are already providing 12-15 Kg of Milk. There is need of a scheme to specifically improve these varieties. We have done experiment for improvement of 6 breeds at 8 places. Similarly, there is Nellore variety of Cow from South India. You know about Murrah buffalo, however, there is Pundherpur variety of Buffalo. Similarly, we are taking breeds for improvement which has population of more than 10 lakh...'

**3.56** When enquired about effort made by the Department to involve progressive farmers who are interested in development of improved varieties of traditional livestock, the representative of DARE informed:-

'...I would like to submit that these people are connected with us. There are projects in which we do collaborate with such individuals who have superior varieties of Animals. These are called superior Animals. We are stressing on collection of semens of these varieties. We do use some parameters to describe these varieties and we are trying to involve such individuals with our programmes. We do disseminate semens of these superior animals after collection...'

**3.57** Highlighting the success of ICAR on the front of use of cloning technology, the representative of DARE stated as under:-

'...I would like to inform you that cloning technology which we have has become fully standardised. We have at least 6 different techniques. We have developed cloning techniques of buffalo at Karnal. There are different techniques. We have cloned a buffalo from a cell of buffalo which had died 10 years ago. We have also done cloning from a kidney cell. The point is that we have fully standardised the techniques of cloning from different parts of body of buffalo. We have received compliments for this from all over the globe...'

**(b) Colour Based Test for Rapid Detection Of Detergent In Milk**

**3.58** The Department in their outcome budget (2015-16) has stated that the technology of the test entitled "new colour based test for rapid detection of detergent in milk" was transferred to Rajasthan Cooperative Dairy Federation Ltd. when asked to furnish details for above mentioned test, the Department

submitted that a new method has been developed for the detection of detergent in milk. The developed method requires addition of only 400 µl of milk to detecting reagent followed by inverting the tubes 20 times gently. The tube is then kept in upright position and colour of the lower phase is observed. Appearance of purple colour in the lower phase represents pure milk whereas blue colour in the lower phase indicates presence of detergent in milk. The results are available within 100 seconds and it can detect the presence of 20 mg commercial anionic detergent (LABOLENE) in 100 ml of pure milk. This qualitative test can be easily performed at milk collection centers. The method has been validated by Punjab Biotechnology Incubator, Mohali – a NABL accredited laboratory. The salient features of the tests are as follows:

- Detects all Brands of commercial detergent available in the market.
- Clear differentiation between pure and adulterated milk sample.
- Limit of detection : 20 mg/100ml (Labolene – a commercial detergent)
- Time required : 100 second
- No equipment required
- No false positive or false negative result
- The cost of chemicals per test is about 40 paisa. However, cost of test after including disposable plastic tube and tip will be Rs. 1.40 /-.

**3.59** On the query regarding efforts being taken to market rapid detection technology to other milk cooperatives and general public, the Department submitted that the technology has been transferred to two other dairy industries viz.,

- a) Mother Dairy, Delhi on March 20, 2013
- b) Havmore Icecream Ltd. Ahmadabad on January 13, 2015.

**3.60** Further, Mother Dairy, Delhi has agreed (in the MoU) to bring the test to market. Officials from Dairy Cooperatives, industries, entrepreneurs and public at large are regularly invited at NDRI Industry Meet (held every year) where this technology is demonstrated and explained. The technology has been listed on the NDRI website. The technology was also advertised through open tender where anyone can

participate including dairy cooperatives. This test is not recommended for house-hold purpose due to the involvement of hazardous chemical.

## **(5) FISHERIES SCIENCE**

**3.61** The research & development support by the Fisheries Science Division in the field of aquaculture, resources assessment, population dynamics, fish health monitoring, fish nutrition and feed formulation, genetics and biotechnology, harvest & post-harvest technology and human resource development in specialized disciplines has been instrumental for significant growth in the fisheries sector. The research thrust has been on sustainable management of exploited stocks and targeting the under-exploited & unconventional resources of Exclusive Economic Zone (EEZ) and identification of potential fishing zones; standardization of mariculture activities and stock enhancement through sea ranching; management of inland open water fishery resources and standardization of management protocols for production enhancement from reservoirs, floodplain wetland; assessment of hill fishery resources for formulating strategies for sustainable fishery exploitation including sport fisheries; research support for developing sustainable, eco-friendly and techno-economically viable hatchery & culture technologies for different eco-systems; diversification and intensification of culture practices in freshwater and brackishwater and utilization of inland saline soils for aquaculture; development of a database on fish biodiversity by cataloguing and characterization of the resources; improvisation in design of fuel efficient and resources specific craft & gear; development of protocols for hygiene regulations, quality control and food safety in fresh and processed fish; develop technologies for value addition, reducing post-harvest losses, waste utilization and by products from un-conventional fish species, and human resource development in the specialized disciplines of fisheries and aquaculture and related subject areas to create a cadre of fishery professionals to support the sector.

**3.62** Under the head of Fisheries Science only 52.10% (BE) of allocations were made during the first four fiscals as against on earmarked outlays of Rs. 735.00 crore for XII<sup>th</sup> Plan. Funds have been further reduced at RE stage. Status of allocation and utilisation of funds during first three fiscals are as follows:-

Rs. in crore

YEAR	Proposed fund by DARE	BE	RE	Actual Expenditure
2012-13	150.00	103.00	69.00	68.82
2013-14	104.80	85.00	70.00	69.77
2014-15	210.44	95.00	65.00	63.64
2015-16		100.00		
<b>Total</b>		<b>383.00</b>		

**3.63** When asked to submit details of proposal for funds sought by the Department for Fishery Science during 2015-16, the Department submitted that, the department of DARE/ICAR had proposed an amount of Rs. 8648.06 crore for BE of 2015-16; in which an allocation of Rs. 246.80 crore was made in respect of Fisheries Science Division. However, the plan BE for 2015-16 communicated by Ministry of Finance was Rs. 3691.00 crore out of which the allocation made by the Department to Fisheries Science Division was 100.00 crores. Institute-wise details of allocations are given in *Annexure XI*.

**3.64** On the query of the Committee regarding effect of reduced allocations at RE stage on implementations of Research work in institutes under division of Fishery Science, the Department stated that the ongoing research programmes of the fisheries Research Institutes continued on existing basis with the reduced allocation of plan funds during 2014-15. However, the research work in Institute was prioritized as per the availability of funds.

**(6) KRISHI VIGYAN KENDRAS**

**3.65** Krishi Vigyan Kendras are important mechanism for dissemination of knowledge and information to the farmers. Existence of a robust system of KVKs is very much necessary for transfer of knowledge from lab to land. The Department have stated that Krishi Vigyan Kendras in the country has conducted 28,615 on-farm trials and 92940 frontline demonstrations (FLDs) during 2014-15, as against 33791 on-farm trials and 1.71 lakh frontline demonstrations (FLDs) during 2013-14 to update agricultural technology of cereals, pulses, oilseeds, commercial crops, livestock and fisheries and other enterprises and to demonstrate the production potential on the farmers' fields. When asked to furnish State-wise details of number of KVKs, beneficiaries, frontline demonstrations and on-farm trials conducted by KVKs during 2014-15. State-wise details are given in *Annexure-XII*.

**3.66** When asked about the reasons for poor performance of KVKs during 2014-15, the Department submitted that majority of the KVKs have done well, however, a few KVKs could take up less activities due to lack of manpower in those KVKs. Secondly, the lack of funds, especially budget cut in operational contingency has also affected the activities of KVKs. Further, KVKs had to face problems in implementation of technical programmes due to drought situations that prevailed during South West Monsoon. Similarly due to unexpected drought during North East Monsoon, KVKs faced problems in implementation of technological interventions during Rabi season as well.

**3.67** When asked to furnish State-wise details of vacant post of scientific, technical and administrative manpower in KVKs in the Country, the Department submitted that as many as 2402 posts out of 10272 posts are vacant in KVKs as on 31.03.2015. The State-wise details of scientific (Programme Coordinators and Subject Matter Specialists), technical and administrative and other posts vacant in KVKs as follows:

<b>State</b>	<b>Scientific</b>	<b>Technical</b>	<b>Administrative and others</b>	<b>Total</b>
A & N	<b>2</b>	<b>2</b>	<b>9</b>	<b>13</b>

Andhra Pradesh	44	10	28	82
Arunachal Pradesh	14	8	13	35
Assam	25	21	36	82
Bihar	21	42	51	114
Chhattisgarh	23	15	42	80
Delhi	1	0	0	1
Goa	9	3	6	18
Gujarat	40	29	49	118
Haryana	36	16	21	73
Himachal Pradesh	17	3	11	31
Jammu & Kashmir	18	9	37	64
Jharkhand	13	51	75	139
Karnataka	38	13	48	99
Kerala	17	14	32	63
Lakshadweep	3	3	0	6
Madhya Pradesh	110	55	135	300
Maharashtra	53	27	50	130
Manipur	4	4	3	11
Meghalaya	5	5	20	30
Mizoram	2	2	2	6
Nagaland	6	6	8	20
Odisha	82	25	42	149
Pondicherry	11	5	10	26
Punjab	18	3	23	44
Rajasthan	115	57	91	263



Sikkim	6	0	3	9
Tamil Nadu	35	13	7	55
Telangana	21	8	12	41
Tripura	3	6	10	19
Uttar Pradesh	59	50	51	160
Uttarakhand	22	10	22	54
West Bengal	3	30	34	67
<b>Total</b>	<b>876</b>	<b>545</b>	<b>981</b>	<b>2402</b>

**3.68** When asked to furnish details of infrastructure such as labs, farmers' hostels, machineries etc. required by KVKs in the Country which are yet to be provided, the Department stated that each KVK is provided modest infrastructure depending upon the need and availability of funds for the purpose. So far ICAR has provided Administrative building to 563 KVKs, Farmers Hostel in 513 KVKs, Demonstration units in 493 KVKs and Soil Water Testing Labs in 389 KVKs. During XII Plan, the KVKs are proposed to be provided different types of infrastructure like office buildings, farmer's hostel, staff quarters, demonstration units and other additional facilities in selected KVKs. These additional facilities include soil and water testing labs, rain water harvesting facility, minimal processing facility, mini seed processing facility, carp hatcheries, integrated farming system units, solar panels, technology information units, micro-nutrient analysis facility and 25 KVA genset. Besides, the KVKs are also proposed to be provided need based office equipments and audio-visual aids, laboratory equipments and different types of farm equipments and machinery. The provisions have been recommended by the EFC of the KVK scheme for the XII Plan and the proposals are under consideration of the Cabinet.

**3.69** On the above issue, the representatives of DARE added:-

'...I would like to submit that we are trying to bring some changes in KVKs as per your advice. We are observing one thing that there is stress on farm mechanisation. Secondly, processing which we also call secondary agriculture. As of now, we were providing extension on the issues of Soil and Water Management. However, there is a stress on processing now. We are trying to provide facilities for minimal processing and farm machinery in KVKs. We are trying to put exhibition for this in every KVK. We are also trying to form group of innovative farmers in KVKs. We have also submitted proposal use of ICTs in EFC submitted to the Cabinet for XII<sup>th</sup> plan. We have included many things which you have desired and we are still waiting for sanction. I would like this much regarding KVK...'

**3.70** On the query of the Committee regarding efforts being made by the KVKs to promote awareness among farmers about R&D works being done by ICAR Institutes, the Department stated that the technological backstopping programmes are being organized by Agricultural Universities (AUs) and ICAR Institutes for the Subject Matter Specialists of KVKs. The technologies generated by AUs and ICAR institutes are incorporated in the action plan of KVK Programmes. These latest technologies are further disseminated among the farmers through OFTs, FLDs, Training Programmes, Extension Activities, etc. Besides, KVKs are conducting different awareness programmes for the farmers about R&D work being done by ICAR institutes through various activities like Kisan melas, Field days, film & TV Shows, newspaper coverage, exposure visits, camps, diagnostic visits, Kisan Mobile agro-advisories and voice messages , interface with ATMA and other line Departments are regularly done for enhancing the knowledge and skills of field officials for further technological up scaling. In addition, Scientific Advisory Committee Meetings organized in KVK, scientists from neighboring Zonal Agricultural Research System (ZARS) of AUs and ICAR Institutes are invited as special invitees for their input in developing the action plan of KVKs and inclusion of latest technologies from their respective AUs and Institutes. Many

technological products of ICAR Institutes are produced and supplied to farmers through KVKs under as per norms and guidelines from ICAR Institutes.

**3.71** On the query of the Committee regarding efforts being taken by KVKs to inform and consult Members of Parliament about programmes organised by them, the Department had submitted that KVKs have prepared the list of public representatives/local leaders/ MLAs/MPs/Ministers concerned within their district and they are invited to some special programmes (Kisan Mela, KVK Foundation day, ICAR Day, Science Day, Farm Women's Day etc) conducted by KVKs. Further KVKs have been advised to take up technological interventions in the adopted villages of Members of Parliament.

## CHAPTER IV

### (1) NEW INITIATIVES IN XII<sup>TH</sup> PLAN

**4.1** The Department of Agricultural Research and education had proposed for establishment of Central Agricultural Universities in Bihar, Bundelkhand and Barapani during XII Plan. When asked about the status of establishment of these Universities, the Department submitted following details:

- (i) **The Rajendra Central Agricultural University-Bihar:** The Memorandum of Understanding (MoU) has already been signed on 25<sup>th</sup> January, 2015 between the Government of Bihar and Union Government to convert Ranjendra Agricultural University, Samastipur, Bihar into a Central Agricultural University and the process for the establishment of the CAU is going on
- (ii) **The Rani Lakshmi Bai Central Agricultural University, Jhansi (Bundelkhand)** was created as an institution of national importance vide Gazette Notification dated 5<sup>th</sup> March, 2014. The focus area of the said university is the development of agriculture and furtherance of the advancement of learning and pursuit of research in agriculture and allied sciences in the Bundelkhand region.
- (iii) **The Central Agricultural University, Barapani** is being established in Meghalaya to cater to the states of Meghalaya and Nagaland. The government of Meghalaya has been requested to allocate land for establishment of the Headquarters at Barapani.

**4.2** Similarly, the Department of Agricultural Research and Education had proposed for establishment of Agricultural University in Andhra Pradesh and Horticulture University in Telangana during XII Plan. When asked about status of establishment of these Universities, the Department submitted that the Government has proposed to establish Agriculture University in Andhra Pradesh. In response to this, State Agricultural University i.e. ANGRAU in the Residuary State of Andhra Pradesh will be established at Lam Village in Guntur district. Funds to the tune of Rs 10 crore have been released during 2014-15. Regarding establishment of Horticulture University in Telangana, the Department stated that the Government has

proposed to establish Horticulture University in Telangana. In response to this, a notification was issued by the Government of Telangana for establishment of Sri Konda Laxman Telangana State Horticultural University with Head Quarters at Rajendra Nagar, Hyderabad. Funds to the tune of Rs 10 crore have been released during 2014-15.

**4.3** The Department had Planned implementation of various schemes for XII plan such as Attracting and Retaining Youth in Agriculture (ARYA), Rural Entrepreneurship Awareness Development Yojna (READY), Farmers FIRST, Agriculture and Technology Forecast Centre, Centre for Agriculture Bio-Informatics and Indian Agriculture e-Extension Research Institute (IAeRI), when asked about the steps taken for implementation of these schemes, the Department stated that the progress in XII Plan is as under:

- (a) **Attracting and Retaining Youth in Agriculture (ARYA):** This scheme has been sanctioned in December, 2014 and the process is being streamlined for its implementation. This programme is conceptualized for mentoring/handholding rural youth in villages by providing technical and financial support to upscale/commercialize promising technologies and grass root innovations. An amount of Rs. 100 crore is approved in XII Plan for this activity.
- (b) **Student Rural Entrepreneurship Awareness Development Yojana (READY) -** This activity comes under the scheme of Strengthening and Development of Higher Agricultural Education in India, which is at various stages of getting approval of the Government. This Programme provides hands on experience for students in marketing and other skills in agriculture so as to become entrepreneurs. This activity is being introduced in XII Plan with an outlay of Rs. 50 crore.
- (c) **Farmers FIRST-** This activity comes under the "Continuation and establishment of new KVKs in XII Plan, which is in process of getting approval of Government. This programme is an initiative to move beyond the production and productivity and to privilege the complex, diverse & risk prone realities of majority of the farmers through enhancing farmers-scientists contact with multi stake holders-participation. This activity is being introduced in XII Plan with an outlay of Rs. 300 crore.

- (d) **Agriculture & Technology Forecast Centre:** The activity of Agriculture & Technology Forecast Centre is envisaged under XII-Plan scheme of “Strengthening ICAR Head Quarters” which is under the process of getting approval of the Government. This is to identify and develop technological needs and forecasting in various domains of agriculture at an outlay of Rs. 30 crore in XII Plan.
- (e) **Centre for Agricultural Bioinformatics (CABin)**-integrates a number of organizations to provide computational framework and support to carry out biotechnological research established at IASRI, New Delhi. This centre has already established at an outlay of Rs. 68 crore in XII Plan.
- (f) **Indian Agriculture e-Extension Research Institute (IAeRI)** : The Scheme has not yet been conceptualized, visualizing the existing trend of reduced funding through annual plans.

The Department added that in view of the reduced allocations various activities under these schemes will be taken up through prioritization.

**4.4** Elaborating on the above issue, the representatives of DARE stated as under:-

"...You have asked about new initiatives. Process for establishment of Institution like IARI at Assam & Jharkhand is ongoing. We would also like to submit that some new schemes like FARMERS FIRST and STUDENTS READY is included in the Cabinet note. Sanction for the schemes is yet to come. We are putting up efforts for that. There is one scheme FARMERS FIRST in which all scientists are involved. We have given a new name for the scheme i.e 'Mera Gaon Mera Gaurav' in which all the scientists of the Institutes and teachers of the Institutes will go to the villagers and they will work with a group of farmers to enhance their productivity and income on the basis of direct demonstration. Further, in the scheme of STUDENTS READY and Attracting And Retaining Youth In Agriculture, focus will be on skill development of young people of rural areas. In this scheme the focus is on new skills such as Mushroom, Bee-Keeping, Fishery, Animal Husbandary etc. We have identified 50 activities including mobile advisory in this scheme...'

**4.5** About Mera Gaon Mera Gaurav (MGMG) scheme, the Department had stated that this is an innovative initiative on lab to land approach with an objective to have regular interface of scientists working in Agricultural Universities and ICAR Institutes with farmers to provide required information, knowledge and

advisories on various aspects of farming in their villages (Sampark Gaon). The MGMG will be implemented from ensuing Kharif Season. The modalities of implementation of MGMG include:

- (i) Visit by a team of 3-4 scientists with different subject matter expertise to the selected cluster of villages for giving farm advisory to groups of farmers;
- (ii) Updating the agricultural knowledge of farmers and local extension officials by holding joint meeting with focus on programmes and policies of the Government including information on availability of agro-inputs, climate and marketing of produce etc.;
- (iii) Creating awareness on issues of national importance like Swachh Bharat Abhiyan, climate change, water conservation, soil health and fertility etc.;
- (iv) Providing useful and easy to understand farm information in printed form, radio and TV programmes and local newspaper as tips on solving seasonal problem of major production systems in Sampark Gaon; and
- (v) Identification of technical problems and researchable issues on agriculture and allied areas for inclusion in the research programmes of the Universities / Institutes for generating new technologies and products.

**4.6** Regarding 'Extra Mural Funds" the Department have informed that it is a head of expenditure under XII-Plan scheme of "Strengthening ICAR Head Quarters" which is still in the process of seeking approval of the Government. This activity has XII plan outlay of Rs. 150 crore.

**4.7** Further, the Department had submitted that Sixteen Consortia Research projects have been sanctioned at a total XII-Plan outlay of Rs. 1651.80 crore. These projects were sanctioned as part of EFC's of different schemes and are likely to start as per approved programme during the year 2015-16 onwards.

The details of the CRPs are given below:

<b>(Rs. In lakhs)</b>		
<b>Sl.No</b>	<b>Name of CRPs</b>	<b>XII Plan Approved by EFC/SFC</b>
1	Agro-biodiversity Management	15500
2	Hybrids	16169

3	Molecular Breeding	12980
4	Bio-fortification	13000
5	Borer (Network Mode)	2375
6	Nanotechnology	14455.55
7	Phytochemical & High Value Compounds(Network Mode)	2560
8	Conservation Agriculture	6300
9	Water	8500
10	Farm Mechanization	8140
11	Energy	6000
12	Health foods	12700
13	Secondary Agriculture	15000
14	Natural Fibre	12000
15	Diagnostic & Vaccine	7500
16	Genomics	12000
	<b>Total</b>	<b>165179.55</b>

## **2. IMPLEMENTATION OF BUDGET ANNOUNCEMENT**

### **(a) Parampragat Krishi Vikas Yojana**

**4.8** The Finance Minister in the Budget Speech (2015-16) has proposed to support Agricultural Ministry organic farming scheme- 'Parampragat Krishi Vikas Yojana'. When asked about the role envisaged for DARE/ICAR for implementation of above mentioned scheme, the Department stated that the support to research for development of organic package of practices specific to state and cropping system as Grant-in-Aid to eligible ICAR/SAUs/Other research institutions/State Government agencies with research facilities for development of organic package of practices, shall be provided on specific proposal basis. Further, setting up of a separate Organic Agriculture Research and Teaching Department for popularization of organic agriculture under State Agricultural Universities where diploma/degree courses on organic



agriculture can be conducted. For this purpose assistance as Grant-in-Aid shall be provided to SAUs against specific proposal from SAUs.

**4.9** About the mechanism and modalities for implementation of this programme, the Department submitted that they have prepared a road map of the Paramparagat Krishi Vikas Yojana (PKVY). Under this scheme, farmers will be organized in a cluster for encouraging them to adopt organic farming. Fifty or more farmers will form clusters and their 50 acres of land will be brought under Organic Farming. In order to implement the Paramparagat Krishi Vikas Yojana in the year 2015-16, an amount of Rs. 300 crore has been allocated. The Participatory Guarantee Scheme (PGS) is being introduced for empowering the farmers' clusters to certify their produce, and have access to the organic market.

**4.10** The Department had further stated that the State Government is required to prepare the Annual Action Plan (AAP) for the year 2015-16. While finalising the proposals, State Government has to ensure that priority is given to the following criteria:

- (a) Small and marginal farmers are to be encouraged.
- (b) Rain-fed areas of the State

**(b) Krishi Channel**

**4.11** The Finance Minister in the Budget Speech (2014-15) had proposed to start a 'Krishi Channel' for broadcasting programmes related to Agriculture. When asked about the status of launch of 'Krishi Channel', the Department stated that 'Krishi Channel' will be launched by Ministry of Information and Broadcasting shortly as 'DD Kisan'. The channel is likely to be launched in April, 2015.

**4.12** On the query of the Committee regarding role envisaged for DARE/ICAR for 'Krishi Channel', the Department stated that DARE/ICAR has envisaged the following roles in providing technical content/support for agricultural programmes.

- Make available a database of resource persons group on core agricultural subjects and topics by drawing experts from ICAR Institutes and subject matter divisions.
- A committee of nodal officers from different SMDs has been constituted to coordinate with Kisan Channel.
- A joint workshop is proposed with ICAR experts along with Kisan Channel team to develop a modus operandi and road map for technical collaboration.

**4.13** Elaborating on the above issue, the representatives of DARE stated as under:-

'... you were asking about our role in 'Krishi Channel'. It is being heard that channel will start in next month. For this, we have proposed that content for this channel can be made on the basis of talk with 10 successful farmers of every district as there will be 6000 farmers in 600 districts. Therefore, we are providing successful farmers and successful practices for the channel. We are in regular contact with them and our men are engaged in this...'

**(c) ESTABLISHMENT OF INSTITUTES OF EXCELLENCE IN JHARKHAND AND ASSAM**

**4.14** The Finance Minister in Budget Speech (2014-15) has proposed for establishment of two institutes of excellence on the pattern of Indian Agricultural Research Institute in Jharkhand and Assam with an initial sum of Rs. 100 Cr. Asked about the status of establishment of these Institutes, , the Department had stated that suitable land has been identified in Jharkhand to establish IARI like institution. Necessary steps are being initiated to develop EFC and a token provision of Rs 15 crore has been kept for the FY 2015-16. Team from IARI, New Delhi has visited Assam for identifying a suitable land to establish IARI like institution in Assam and a token provision Rs 10 crore has been kept for the FY 2015-16. These will be IARI like institutions and not separate universities. The classes are likely to start w.e.f. academic session 2015-16.

**(3) VACANCIES IN INSTITUTES OF ICAR**

**4.15** When asked about the procedure for appointment for the top post of ICAR, the Department submitted that the ICAR is headed by the Director General, a Technocrat / Agricultural Scientist who is ex-officio Secretary of the Department of Agricultural Research & Education (DARE). The post got filled up

through the process of a Search-cum-Selection Committee and the final appointment is made with the approval of the Appointments' Committee of the Cabinet (ACC). Regarding the IARI, the top post is of the Director. IARI being a deemed University, the grade and scale of the Director, IARI is equivalent to that of a Vice Chancellor i.e. `75,000/- (fixed) + `5000 as Administrative Allowance. The position got filled up through the recruitment arm of the ICAR namely the Agricultural Scientists' Recruitment Board (ASRB). Certain model / essential and desirable qualifications are prescribed for this position and the recommendations of the ASRB are formally accepted and approved by the Union Agriculture Minister & President of the ICAR Society before the recommended applicant is formally appointed.

**4.16** As far as the Indian Council of Agricultural Research (ICAR) is concerned, all the scientific positions are centrally got filled up through the Agricultural Scientists' Recruitment Board (ASRB). The Council had forwarded the formal requisition to the Board on 14<sup>th</sup> June, 2014 and the Board had initiated necessary action for processing the same as per standard procedures. The interview for this post was held on 11<sup>th</sup> February, 2015, however, none of the applicants were found suitable by the Board and, therefore, the position is being re-advertised for being filled up on priority.

**4.17** When asked to submit details of vacancies of scientific, technical and administrative posts in institutes of ICAR as on date, the Department submitted the following details:

Category	Sanctioned	In Position	Vacant	%age vacant
Scientific	6476	4906	1570	24.24
Technical	7513	6139	1374	18.28
Administrative	4873	3909	964	19.78

**4.18** On the query of the Committee regarding efforts being made by the ICAR to fill up these vacancies, the Department submitted that as far as scientific cadre is concerned, recruitment is a continuous process and vacancies are filled up through an established procedure through the ASRB subject to availability of appropriately qualified candidates in the required areas of specialization.

**4.19** Based on the results of the Agricultural Research Service (ARS) Examination 2014, 295 positions of the Scientists in the entry level are expected to be filled up by September/October, 2015. Another 156 selectees are availing joining time for completion of Ph.D. and are likely to join in the next 3 to 4 months. Besides around 200 requisitions are in various stages of process in the ASRB for which the recommendations are expected in the near future. Requisitions for the remaining posts are under process for being forwarded to ASRB. For posts in Administrative category wherein recruitment is centralized through the ASRB, about 380 positions comprising of Administrative Officers, Assistant Directors, Assistants, LDC etc. are likely to be got filled up before December, 2015. In all other cases wherein recruitment is de-centralized, instructions have been issued to all the institutes for filling up the existing vacancies expeditiously.

**4.20** Clarifying on the above issue, the representatives of DARE stated as under:-

"...As far as issues regarding scientists are concerned, we have 4906 Scientists in position and the process of posting of 200 is ongoing. We will get 450 Scientists till December. I would also like to submit that there are 15 to 20 vacancies remain available at any given time. It is also necessary to induct new people. It is not possible for any system to have 100% strength. Secondly, 16 out of 100 Institutes do not have regular directors as on date. I would also like to submit that 6 to 8 months are required for advertising the posts as per procedure for selection. We do start process for selection 6 months before for the personnel who are retiring. But, we do face problem in starting the process for the personnel who resign from the job if they get another offer for employment. We can advertise only when they resign. It is not like that our post are vacant for long period. Whatever vacancies we have, it is limited for a period of 6 to 8 months...'

**4.21** When asked about efforts being made and incentives being provided by the DARE/ICAR for attracting talent for agricultural research institutes, the Department submitted that for attracting and retaining the best available scientific talent, the Council has adopted the pay package and the Career Advancement Scheme (CAS) of the University Grants Commission (UGC). There is an in-built flexibility in the CAS for upward movement, subject to fulfilment of certain criteria, irrespective of occurrence of vacancies. Recently the Council has also revised the scheme of ICAR Awards to further motivate and incentivize to bring out the best from the scientific cadre. All special allowances of the GOI have been made applicable for the scientists serving in remote and difficult areas. Special weightage is also accorded for lateral selections of scientists who have served in remote and backward areas.

**(4) RESEARCH FOR TRIBAL AND HILL REGIONS**

**4.22** Farmers of hill and tribal regions of the country face specific problems associated with eco-system of the area which is generally forest or hill regions. At the same time, these farmers face problem associated with traditional farming practices and low agricultural productivity. It is imperative that efforts are made to develop and provide crops varieties, agricultural implements and technologies for the tribal and hill farmers of unique ecosystems of the tribal and hill regions of the country.

**4.23** Regarding the Agricultural Research Institutes established in tribal and hill regions of the Country, the Department submitted that DARE/ICAR does not provide allocation state/area-wise, however the various Institutes/Projects are spread all over the country. Moreover the activities for the benefits of farmers are also carried out by other institutes of DARE/ICAR. KVKs operating in the tribal and Hill region are working for technology assessment, refinement and demonstration of technology/ products and its transfer through training of farmers and extension personnel, besides organizing extension programs for creating awareness on improved agricultural technology.

**4.24** When asked to furnish details of allocations made to DARE/ICAR under North-East Himalyan Region and Tribal Sub Plan, the Department had submitted the following details:

(Rs. In Crore)

Year	North-Eastern Region			Tribal Sub Plan		
	BE	RE	AE	BE	RE	AE
2012-13	-	226.40	226.40	-	86.40	86.40
2013-14	-	265.00	265.00	-	92.00	92.00
2014-15	-	289.35	259.35	-	90.00	90.00
2015-16	370.00	-	-	133.00	-	-

**4.25** When asked to furnish the details of training provided to the farmers in tribal and hill regions of the country, the Department submitted that the training in tribal & hill regions of the country is provided through a network of Krishi Vigyan Kendras (KVKs) which aim at assessing and demonstrating the latest technologies/products; training of farmers to update their knowledge and skill; and creating awareness on improved agricultural technologies through a number of extension programmes. There are 152 KVKs functioning in the Tribal and hill region of the country. The details of targets and achievements and progress of major activities performed by KVKs in Tribal and hill regions during the last three years (2012-13 to 2014-15) is as under:

KVK Activities	2012-13		2013-14		2014-15	
	Targets	Achievements	Targets	Achievements	Targets	Achievements
On- farm trials and demonstrations (Number)	20460	29875	20579	35703	27971	33609

Farmers and extension personnel trained (Number)	199115	212553	206065	245658	139660	267247
Production of Seed (in tonnes)	1323.33	1526.46	2477.59	2693.69	2923.47	3635.60
Production of planting material(in lakh)	817951.94	745332.20	312232.03	709370.80	67626.69	2790694.17
Live-stock strains and fingerlings(in lakh)	62988.46	69712.40	35424.32	86112.86	65475.57	327788.42

**4.26** The Department have further stated that during the last three years (2012-13 to 2014-15), 7, 25,458 farmers and extension personnel have been benefitted from training programmes conducted by KVKs functioning in Tribal and hill regions. Further, the farmers were provided training in Hill areas (since 2012) under Fisheries Science and NRM Divisions are as under:

Division	Training Provided
Fisheries Science	5520
All India Coordinated Research Projects located in tribal and hilly regions under NRM Division	35396

**4.27** When the Committee inquired about efforts being made by the Department for felicitation of farmers of tribal and hill regions of the country by the DARE/ICAR for good farming practices since 2012, the Department stated that the farmers of the tribal & hill regions of the country are being continuously encouraged by DARE/ICAR to adopt its good farming practices.

**4.28** About efforts been made by the ICAR to popularize specific agricultural produce of tribal and hill regions of the country so that farmers of these areas could be benefitted economically, the Department submitted that agricultural produce of the NE region is popularized by conducting awareness programmes,

trainings & demonstrations, Agrifares, National exhibition etc. under institute programmes as well as Tribal Sub-Plan component of DARE/ICAR. Fisheries Division has taken action for operationalization of four portable carp hatcheries in tribal areas of Uttar Pradesh (Sonebhadra) and Chhattisgarh for asset creation and livelihood enhancement through fisheries resources based enterprises and breeding programme of commercial fish species. NBPGR, New Delhi has been duly showcased that the yields of farmer varieties under marginal management are at par or even better than improved cultivars. Interventions such as participatory varietal selection, availability of quality seed of native landraces and improved local agronomic management technologies can double or even triple their yields. CRRRI Regional Station, Hazaribagh is promoting rainfed rice technology with emphasis on drought tolerant varieties, direct seeded crop establishment and management and utilization of residual moisture for sequence cropping increasing the cropping intensity in large rice fallows. VPKAS, Almora is conducting trainings/ exposure visits of farmers of these areas to popularize specific agricultural produce/ products.

**(5) INCENTIVISING RESEARCH WITH REWARDS**

**4.29** Under this Scheme the allocations of Rs. 10 Lac were made at RE stage during 2014-15. Similarly allocations of Rs. 30 Crore has been made for 2015-16 (BE). When asked by the Committee about the objectives of the scheme of incentivizing research with rewards, the Department submitted that the schemes of incentivising research with rewards envisages the following five studies:

- To study rice yield under low light intensity
- To understand C3-C4 intermediate pathway in poaceae
- To undertake genetic modifications to improve biological nitrogen fixation
- To carry out molecular genetic analysis of resistance/tolerance to different stresses
- To explore semen sexing in cattle



**4.30** In regard to the expenditure during 2014-15 and number of scientists were rewarded under the scheme, the Department had submitted that during 2014-15, expenditure to the tune of Rs. 10.00 lakhs has been incurred. Till now no scientist has been rewarded under the scheme.

**(6) INTELLECUTAL PROPERTY PORTFOLIO MANAGEMENT**

**4.31** When asked by the Committee about patents application filed and granted for innovations made by ICAR Institutes since 2012-13, the Department submitted the following:

Patent Applications	Year	2012-13	2013-14	2014-15*
	Filed	50	83	60
Granted	10	4	4	

\* Information compiled till October, 2014.

**4.32** When the Committee enquired about assistance being provided to Scientists of ICAR in order to educate them about intellectual property provisions, the Department submitted that through a separate XIth plan scheme, financial and technical support was specifically initiated for ICAR institutes for promoting and facilitating intellectual property and technology commercialization dimensions. These have been continued during XIIth Plan through the same scheme with enhanced budget provision. The expenditure under this activity during XIth plan period was ₹16.20 crore, and the expenditure during the first three years of XIIh plan is ₹18.90 crore. Under this scheme, year-wise progress during the past five years to educate scientists and staff on intellectual property provisions is as follows:

Year	2010-11	2011-12	2012-13	2013-14	2014-15
Programmes organized for education / capacity building on IPR issues	12	5	15	79	87
Number of scientists and other stakeholders who attended the programmes	574	513	1361	5379	7377

**4.33** When the Committee asked about the efforts being made by the Department to enhance number of patents granted for innovations among ICAR Institutes, the Department submitted that a three-tier institutional mechanism to protect/ manage the IP generated within the ICAR system was created during the XIth plan. The same is being strengthened in XII<sup>th</sup> plan also. Under this mechanism, 585 patent applications have so far been filed by 68 ICAR institutes. So far, 67 patents have already been granted. Financial support under this scheme is helping to enhance the number of IPRs/ patents on innovations being created.

## PART-II

### OBSERVATIONS/RECOMMENDATIONS

#### **IMPLEMENTATION OF COMMITTEE'S RECOMMENDATIONS**

1. The Committee note that the Action Taken Replies regarding the action taken by the Government on the observations/recommendations contained in the Second Report of the Committee were furnished by the Government on 12 March, 2015. They further note that the Statement of the Minister under Direction 73-A of Directions by the Speaker, Lok Sabha is due on June, 2015. The Committee are hopeful that the Government would have made all efforts to act upon their recommendations contained in the Second Report and that the Ministers Statement under Direction 73-A of Directions by Speaker, Lok Sabha would be made within the stipulated time.

#### ALLOCATION OF FUNDS

2. The Committee note that the allocations to the DARE under plan head has been reduced to Rs. 3691 crore (BE) for 2015-16 vis-a-vis Rs. 3715 Crore (BE) for the year 2014-15. The Committee further note that the Government has made drastic reduction of 32.73 percent of allocations to the DARE at RE stage during 2014-15. The Committee were informed that this drastic cut in the allocation of the Department in the RE (2014-15) was apparently due to the overall cut effected by the Ministry of Finance, Government of India, in the plan allocation of DARE/ICAR. The Committee were also informed that major programmes/activities falling within the mandate of each Subject Matter Division were not impacted by the cut due to sustained efforts and some strategic planning. However, DARE/ICAR had to assign priorities to the ongoing research programmes and allocate adequate funds from the available budget of the department for this purpose in order to accomplish the research targets set for the year. The Committee are disappointed to note that in spite of their recommendation in their second Report on DFG 2014-15 to the Government, to enhance the budget

of DARE substantially, so as to enable them to develop expertise necessary for making Indian agriculture ready to face challenges associated with increasing population, changing trends in consumption, deteriorating soil health, depleting resources, state of small & marginal farmers and climate change, the Government's move is bereft of logic of higher allocations at BE stage, if it has to be mandatorily reduced at RE stage defying the very basis of financial planning process which require consistency and sustained efforts. The Committee are of view that such drastic cut is definitely going to affect several of their research activities/schemes/plans which are critical to the growth and well being of agriculture sector in the Country. The Committee, therefore, recommend that the Government should substantially enhance the allocations for the Department in the ongoing fiscal at RE stage so that the ICAR institutes could carry out R&D activities as planned for the year 2015-16 and XII<sup>th</sup> plan as well.

3. The Committee note that agricultural research, education and extension, because of their significant contribution to growth of agriculture sector, economy, food and nutrition security of the Country, are of critical importance for an agrarian economy like ours. They, therefore, are of the considered opinion that keeping in view the national interest including the food security and employment to the growing population, DARE is provided with sufficient funds, so that these activities are carried out unhindered. With this concern uppermost in their mind, the Committee have been recommending in their successive Reports to the Government to enhance allocation for these activities in the agriculture sector. However, the Committee note that only Rs. 14041 Crore i.e 54.95% have been allocated during first four fiscal as against earmarked outlays of Rs. 25553.00 crore for XII<sup>th</sup> plan. The Committee had observed that these allocations (BE) have been drastically reduced at RE stage in first three financial year as allocations to the Department in first three financial years (RE) put together is only 29.82% of earmarked outlays of XII plan. They had further

been informed that first four years' allocations as percentage of XII-Plan earmarked outlay at BE level of scientific Ministries/ Departments and related ones ranges between 39.31% to 58.44% except that of Ministry of Consumer Affairs, Food & Public distribution which is comparatively higher at 84.37%. The Committee find that the total of RE allocations for the first three years of XII<sup>th</sup> plan and BE allocation for the fourth year of the plan put together is only 44.26% of the XII<sup>th</sup> plan allocation. The Committee are highly doubtful that the Department would be able to absorb the remaining 55.74% during the last year of the plan. The Committee are of view that unimaginative drastic cut is going to adversely affect several of their significant & vital research activities, Research infrastructure Phenomics facility, Phytotron etc. and schemes which were planned for implementation during XII plan such as Attracting and Retaining Youth in Agriculture (ARYA), Rural Entrepreneurship Awareness Development Yojna (READY), Farmers FIRST, Agriculture and Technology Forecast Centre and Indian Agriculture e-Extension Research Institute (IAeRI). The Committee strongly deprecate this sordid state of affairs which is endemic of the shortcomings plaguing the prevalent system of planning in the Country wherein, the very purpose of planning goes haywire. It is improper to impose a certain percentage deduction at RE level across board. They, therefore, recommend that the Government should enhance the allocation for the Department substantially in the ongoing Fiscal and last fiscal of XII plan, so that the funds left for the terminal year are evenly matched and the Department get much needed funds for research and developmental activity.

### FINANCIAL IRREGULARITIES

4. Adequate supervision and availability of up to date information is *sin qua non* for effective utilisation of available resources and to ensure that pilferage of money does not take place. However, the Committee were informed that the DARE do not have details of cases of financial irregularities reported in the institutes of ICAR. The Committee do not find logic in assertion of the DARE that compilation of details will take time as more than 100 institutes under ICAR are scattered throughout the length and breadth of the country. The Committee view that in an era of information technology where any information can be obtained by click of a mouse, the Department have not yet made provisions for compilation of necessary information related to financial management. Availability of information regarding every aspect of financial management is a pre-requisite for effective monitoring system. The Committee, therefore, recommend the Department to incorporate necessary changes in Information Management System for reporting every case of financial irregularity in the institutes of ICAR on real time basis. At the same time, the Committee desire the Department to make available details of financial irregularities and action taken thereon within three months of presentation of this report.

#### REVENUE RECEIPT

5. The Committee in their Second Report (Sixteenth Lok Sabha) has observed that revenue generated from the Institutes under ICAR are not reflected in revenue receipt presented to Lok Sabha. The Committee had further opined that revenue generated under administrative control of the Department should be reflected in Budget Documents including detailed Demands for Grants. They had desired the DARE to clarify the issue and rectify the irregularity, if any. In this regard, the Committee were informed that the revenue generated by ICAR is netted while submitting the demand of funds to the Ministry of Finance and as such the Revenue generated by ICAR is utilized by ICAR itself and utilization of internal resources as such is permitted by Secretary (Expenditure),

Ministry of Finance. The Committee were informed that revenue generated by ICAR is not transferred to the Department Viz., DARE and as such do not form a part of Non-Tax revenues of DARE. On perusal of approval of Ministry of Finance, the Committee note that the Ministry of Finance had suggested the DARE to utilise money generated from internal resources every year with the approval of their Finance Committee/Governing Council without any approval of the Government. The Committee also note that ICAR has netted approximately Rs.368.35 crore while submitting Demands for Grants during the period of 2012-2015. The Committee are not convinced with the reply of the Department regarding validity of approval of Ministry of Finance without approval by the Parliament. The Committee find this practice as violation of this provision of the Constitution as any money earned by the Government institutes ought to be deposited to the Consolidated Fund of India and therefore, require approval of Parliament for expenditure. The Committee, therefore, direct the Department to convey the serious concern of the Committee to the Ministry of Finance and to present a note on constitutional provisions regarding competence of the Government to allow use of commercial earnings of Government Departments without the approval and sanction of Parliament.

### Crop Science

#### INFOCROP- WEB BASED DECISION SUPPORT SYSTEM

6. The Committee note that INFOCROP- a web based decision support system was developed as a generic crop growth model that can simulate the effects of weather, soil, agronomic managements (planting, nitrogen, residue and irrigation), and major pests on crop growth and yield of crops such as rice, wheat, maize, sorghum, millets, soybean, mustard, groundnut, cotton and pigeon pea. The Committee were informed that this model was used for identifying location specific suitable sowing time, variety and management for some of the test sites in Mewat and Dhar districts with significant success. The ICAR-IARI is also initiating development of models for grape (under

National Fund project), green gram, sugarcane and onion. The Committee are of view that these web based decision support systems will prove very beneficial for Planners, administrators and most importantly farmers of the country who are facing the vagaries of nature such as fluctuating weather, pest attack, poor soil quality etc. The Decision Support System (DSS) will support effective crop planning and also undertake corrective measures if something goes wrong. The Committee, therefore, desire the Department to refine the system with required field trials. They also emphasize that the Department should undertake continuous updation for identifying adaptation niche areas, quantifying the adaptation gain, vulnerable regions, identification location specifics sowing time and important crops should be brought under the ambit of DSS. The efforts should also be made to disseminate information derived from the system among farmers on wider scale through print/visual media so that they all can benefit from it.

#### DEVELOPMENT OF SEEDS VARIETIES WITH INBUILT RESISTANCE AGAINST INSECTS AND

#### PESTS

7. The Committee find that emphasis in ICAR is on development of trait-specific high yield varieties and hybrids in the crop improvement programmes to hasten the cherished goal of enhanced crop productivity and thereby food and nutritional security. The Committee note that ICAR institutes are also constantly working on development of crop varieties with inbuilt resistance capacity against and tolerance to harmful insects or pests by incorporating genes from wild varieties. They also note that research work on development of seed varieties with coating which will have disease resistant capacity along with necessary nutrients is being undertaken at ICAR institutes utilizing nano technique. The Committee are of the view that overdependence on chemical fertilizers and pesticides for enhancing agricultural production is turning into menace which pose enormous threat to human health apart from polluting water and soil system. The



Committee desire that research on these pivotal aspect by giving utmost priority and adequate funding for such useful proposition should be undertaken.

#### **MAINTENANCE AND PRESERVATION OF TRADITIONAL VARIETIES OF CROPS**

8. The Committee are aware that the traditional varieties of Crops possessed quality traits such as taste, nutritive and resistant to insects, pests and diseases. Further, the farmers through the traditional varieties in almost all crops including cereals, oil seeds and pulses contain properties of self pollinating seeds for the crops and such seeds can be used for next few years, whereas the present hybrid quality does not produce seeds for even next year. Hybrid seeds can be grown only once to realise the yield advantage. Every year the farmers have to purchase seeds before sowing season. The Committee find that the Department is preserving the traditional varieties as famers' varieties with Protection of Plant Varieties and Farmers' Rights Authority (PPV & FRA). It is also deposited in the National Gene Bank at NBPGR. The Committee has been apprised that the traditional varieties are being utilised in breeding programme for development of newer varieties as per their quality traits. The Department, while explaining the matter informed the Committee that 160 varieties and hybrids of pulses, oil seeds, cereals etc have been developed by ICAR in current year. They also referred to wheat HD 2967, which had survived hailstorm and rainfall recently due to short heights, large pod and production of 5-6 tonnes. Further, virus indexed planting material that is screened for disease resistant for Horticulture Sector such as pomegranate has also been developed. In view of the above, the Committee recommend that traditional varieties from all over the Country should be conserved and kept from becoming extinct for their quality traits such as taste, self producing seeds present therein at any cost by the Department. Furthermore, though certain steps have been taken through research & breeding programme with respect to insect-pest disease resistant, self pollination, climatic adaptation, high yielding varieties, taste and nutritive

value, the Department should prioritize focused research in these areas on a wider scale and support with commensurate allocation of funds and motivation to scientists.

### HORTICULTURE SCIENCE

9. The Committee find that Indian Institute of Horticulture Research (IIHR), Bengaluru had developed many post harvest technologies such as Reverse Osmosis i.e. Osmotic Dehydration Technologies for fruits and vegetables, for enhancing longevity of raw fruits and vegetables, Crushed Tomato Technology, Dry flower technology, technology Ready to Serve Beverages for Amla, Mango & Pineapple etc. The Committee are of the view that such technologies provide immense potential for commercialization and enhancement of income of farmers. The Committee note that the IIHR has earned revenue of Rs 11.58 Lakh as one time up front license fee from licensing of Post-Harvest Technologies to 14 private organizations. However, the Committee observe that most of these private firms were situated in southern and western part of the country. The IIHR is yet to tap the market available in other parts of the country where huge potential for commercialization of these technologies exist. The Committee also observe that the Institution is yet to transfer these technologies to farmers or Krishi Vigyan Kendras (KVKs) despite their willingness for licensing some of these technologies at much lower price than to other private licensees. The Committee are of the considered opinion that proper marketing of post harvest technologies are not only important from the point of revenue generation but also for providing alternate avenues to farmers of the country so that they can get remunerative pricing for their products. The Committee, therefore recommend the DARE to take effective steps for proper marketing of these technologies and organise organic Melas, exhibition & fairs so as to tap potential market of the entire country besides reducing post harvest losses. The Committee would also like the DARE to provide adequate incentives and training to farmers so that they can be

encouraged to start agri- ventures and develop agri-business on their own based on these technologies.

10. The Committee are aware that in the present scenario horticulture has started playing a very vital role in not only providing livelihood options food security as also nutritional security. However, the Committee are also aware that the horticulture sector has great scope for expansion and has vast potential for enhancing production, productivity, value added products which lies untapped. The Committee feel that in order to meet the steeply growing demand of horticulture produce with export potential and the technical manpower on the subject, it is essential to rope in the already existing institutes with facilities such as Indian Institute of Horticulture Research (IIHR) in collaboration with ICAR to address the related problems. The Committee during their study visit observed that Institute like IIHR have adequate research inputs, infrastructure and experienced scientific manpower which could be appropriately utilized for the requirements of the growing horticulture sector. The Committee feel that in order to develop centre of excellence in horticulture and for human resource development and to integrate all horticulture based institutes in the country for providing quality education and addressing various problems and situations it will be useful to grant Deemed to be university status to ICAR-IIHR. This attempt of the Department will also strengthen terms of trade, develop international linkages related to horticulture education and Public Private Partnership (PPP). The Committee, therefore, suggest that ICAR-IIHR be considered for Deemed-to-be University mainly with the purpose of strengthening basic strategic and research in horticulture and associated sciences encompassing various agro-ecologic regions in the country and to develop it as centre of excellence in horticulture sector.

#### **NATURAL RESOURCE MANAGEMENT**

11. The Committee note that due to the scaling down of the allocation of ICAR from the proposed Rs. 8648 crore to Rs. 3691 crore for Annual Plan 2015-16 has resulted in down-sizing of the allocations of Natural Resource Management Division to Rs. 370 crore. They also note that drastic reduction of Rs. 90 crore i.e. about 19.14% at RE stage were made during 2014-15 due to which the division had to prioritise research and the limited funds allocated were diverted to critical areas needing focused attention for accomplishing the targets. The Committee also observe that due to non-clearance of SFCs/EFCs, the progress of expenditure was comparatively low mainly during early part of the financial year (2014-15). However, the Division was able to utilise 85.09 percentage of RE allocations till 15 March, 2015 after clearance of EFCs/SFCs. The Committee are not at all convinced that on one hand the Department seeks more funds but on the other hand funds are not utilised due to non-clearance of SFCs/EFCs. The Committee are dissatisfied by the way finance of the institutes are being managed as critical research are being delayed due to delay in clearance of SFCs/EFCs. The Committee, therefore, desire the DARE to streamline the process of clearance of SFCs/EFCs so that these can be accomplished within timeframe without affecting research work.

#### LAND RESOURCE INVENTORY

12. The Committee note that National Bureau of Soil Survey and Land Use Planning (ICAR), Nagpur has undertaken a Country level project on "Land resource Inventory on 1:10,000 scale for agricultural land use planning using geo-spatial techniques" in collaboration with NRSC, ISRO.. The Committee were informed that preparation of the inventory will help to enhance agricultural

productivity per unit area through efficient utilization of land resources besides other interventions. They note that project will be undertaken in phased manner by ICAR-NBSSFLUP in the first phase, 60 blocks each representing 60 agro-ecological sub-regions of the Country covering approximately 3.3 Mha area in four years duration will be covered. However, the Committee were not apprised of any details regarding timelines for coverage of all blocks of the country. The Committee also note that allocations of Rs. 3.15 crore were made available for implementation of the project during 2014-16. The Committee are of view that preparation of Land resource Inventory of entire country will be a great tool in the hand of planners for optimizing agricultural output and ensuring food security for the future generations of the country. The Committee, therefore, desire the Department to submit a detailed plan for coverage of entire country under the project and that adequate finances be made available to the project in the future. At the same time, the DARE should ensure timely completion of first phase of the Project under intimation to the Committee.

### ANIMAL SCIENCE

13. Livestock is the economic security of the farmers and their management plays a vital role in this agrarian country. There are 19 animal research institutes, 2 deemed universities, 8 national/ Central Research Institutes, 1 National Bureau, 1 project Directorate and 6 Notional Research Centre to improve productivity, production and reproductive efficiency in livestock and poultry. The Committee note that only Rs. 955 cr. i.e. 61.89% (BE) of allocations were made for the first four year(s) as against on earmarked outlays of Rs. 1543.00 crore for XII<sup>th</sup> Plan under the head of Animal Science. Funds have been further reduced at RE stage. The Committee also note that drastic reduction of Rs. 70 crore i.e. about 30.40% at RE stage were made during 2014-15 from 230 cr. to Rs.160 cr. The Committee are astonished to note that allocation to Central Institute for Research on Cattle, Meerut, have been reduced from Rs. 5 cr. to Rs. 1.5 Cr. at RE stage pending decision to

develop the campus of CIRC at Karnal or at Meerut. Similarly, allocations to Central Avian Research Institute, Izzatnagar, have been reduced from Rs. 9 Cr. (BE) to Rs. 3 Cr. at RE stage as funds allocated under capital head were reduced from Rs. 4.60 crores to Rs. 0.45 crores. The Committee are of view that management and improvement of livestock is one of thrust area of Agriculture in the Country and in their earlier reports too Committee have time and again emphasized for higher allocation as well as proper utilisation of funds under this head so that priority research of this division do not suffer. The Committee are also unhappy about the indecisiveness of the DARE to decide on the issue of determining the location of research institute. The Committee desire the DARE to make proper assessment based on objective criteria and expedite decision with respect to developing campus of CIRC at Karnal or Meerut, so that scientists are able to focus on research rather than mundane issues. While dealing with perennial problem of reduced BE allocations to the Department thereby afflicting the planning process, the Committee desire the DARE to enhance the allocations of the division at RE stage so that research programmes plan for XIIth plan are completed timely and do not suffer for want of funds.

#### IMPROVEMENT OF TRADITIONAL VARIETIES OF LIVESTOCK

14. India is home to largest number of cattles in the world. There are many varieties of cattles which are disease resistant, drought resistant and can survive on minimum diet. However, milk production from most of Indian varieties is less barring few exceptions such as *Murrah, Gir Kankereji, Sahiwal etc.* The Committee note that ICAR is running a network project on buffalo improvement at Central Institute for Research on Buffaloes (CIRB), Hisar under which production and dissemination of superior Murrah germplasm is done for the benefit of farmers. The Committee also note that *Gir, Kankrej and Sahiwal* breeds are also being conserved and improved under AICRP coordinated by Central Institute for Research on Cattle (CIRC) involving various stakeholders (Universities, State Livestock Farms and Gaushalas). The Committee are of the view

that improvement of traditional varieties of livestock is very important as these varieties can provide farmers an option to enhance the animal products for example milk production at low cost as maintenance of traditional livestock is easy as compared to breeds based on imported varieties. The Committee, therefore, desire the Department to start a dedicated programme for identification, registration, conservation and improvement of traditional varieties of livestock throughout the country. The Committee while appreciating the efforts of the Department for standardizing cloning technology would recommend that priority research of the institutes/universities/bureau/research directorate and centres involved should be fully supported with commensurate funding.

#### **PROMOTION OF NEW COLOUR BASED TEST FOR RAPID DETECTION OF DETERGENT IN MILK**

15. The Committee note that the ICAR has developed a new colour based test for rapid detection of detergent in milk. The Committee also note that technology for the test was transferred to Rajasthan Cooperative Dairy Federation Ltd, Mother Dairy, Delhi and Havmore Icecream Ltd. Ahmadabad. They find that Mother Dairy, Delhi has agreed (in the MoU) to bring the test to market. This test is not recommended for house-hold purpose due to the involvement of hazardous chemicals. The Committee, however, finds that officials from Dairy co-operatives industries, entrepreneurs at large are regularly invited at NDRI Industry Meet (held every year) where this technology is demonstrated and explained. This technology is also listed on NDRI website. The Committee are of view that availability of cheap and easy to use test will help immensely to stop the menace of adulterated milk (especially with detergent etc.) available in the market. The Committee, therefore, desire the DARE to make efforts to publicise and popularise the test extensively so that it can be made available to every milk co-operative. They, however, advise the Department to ensure the safety of the test by the users and also prescribe the dos & don'ts of the test.

## KRISHI VIGYAN KENDRA

16. Krishi Vigyan Kendra is important mechanism for dissemination of knowledge and information to the farmers and is a pivotal agricultural extension component. Existence of a robust system of KVKs is very much necessary for transfer of knowledge from lab to land. However, the Committee note that KVKs are not being provided necessary infrastructure and manpower for achieving the aim of extension services for farmers of the country. The Committee was apprised that performance of the KVKs was not up to the mark due to lack of manpower and lack of funds due to budget cut. The Committee note that as many as 2402 posts out of 10272 scientific (Programme Coordinators and Subject Matter Specialists), technical and administrative and other posts are vacant in KVKs as on 31.03.2015. The Committee were informed that budget cut in operational contingency has also affected the activities of KVKs. Each KVK is provided modest infrastructure depending upon the need and availability of funds for the purpose. So far ICAR has provided Administrative building to 563 KVKs, Farmers Hostel in 513 KVKs, Demonstration units in 493 KVKs and Soil Water Testing Labs in 389 KVKs. During XII Plan, the KVKs are proposed to be provided different types of infrastructure like office buildings, farmer's hostel, staff quarters, demonstration units and other additional facilities in selected KVKs. These additional facilities include soil and water testing labs, rain water harvesting facility, minimal processing facility, mini seed processing facility, carp hatcheries, integrated farming system units, solar panels, technology information units, micro-nutrient analysis facility and 25 KVA genset. Besides, the KVKs are also proposed to be provided need based office equipments and audio-visual aids, laboratory equipments and different types of farm equipments and machinery. The provisions have been recommended by the EFC of the KVK scheme for the XII Plan and the proposals are under consideration of the Cabinet. Further, the Department could not provide funds for construction of



farmers hostels, facilities for promoting farm mechanisation, facilities for food processing etc. due to reduced allocations during current plan. The Committee in their earlier reports have time and again emphasized on the importance of KVKs in the scheme for agricultural extension. The Government must understand that we cannot hope to improve the wellbeing of farmers unless they are provided information relating to latest research in techniques, seeds, methods, implements and other necessary inputs for making agriculture remunerative. The Committee, therefore, desire the government to enhance the fund allocations to KVKs so that they can be equipped with all necessary infrastructure and manpower and be up to date. The Committee desire the Department to revisit the fund allocation, utilisation & strength monitoring mechanisation as well, so far as KVKs are concerned. The DARE should also make efforts in consultation with the State Governments for filling vacancies available in KVKs. They also recommend that Department should ensure that KVKs including private sector KVKs provide the mandated activities to the farmers without any exception.

#### **KRISHI VIGYAN KENDRAS OPERATING IN TRIBAL AND HILL REGIONS OF THE COUNTRY**

17. The Committee note that 152 Krishi Vigyan Kendras are functioning in tribal and hill regions of the country. These KVKs have provided training to 7, 25,458 farmers and extension personnel, conducted 99187 On- farm trials and demonstration, produced 7855.75 tonnes Seed, 4245397.17 lakh of planting material and distributed 483613.68 lakh Live-stock strains and fingerlings during the period 2012-2015. The Committee also note that Fisheries Science Division has provided training to 5520 farmers since 2012 and Natural resource Management Division have been provided training on good farming practices to over 35,000 farmers since 2012. Apart from these training was also provided to the farmers by institutes of other division of ICAR. The Committee while noting

with satisfaction the efforts made by the KVKs and ICAR institutes operating in hill and tribal regions of the country, desire the Department to make extra efforts to provide training on secondary agriculture such as dairying, food processing etc. so that income of farmers in these regions can be enhanced. The Committee also desire the Department to provide adequate funds to the KVKs operating in hill and tribal regions of the country so that they do not face problem of infrastructure and manpower while carrying out the work of agriculture extension.

#### SEPARATE FUNDS FOR IMPLEMENTATION OF INITIATIVES FOR XII PLAN

18. The Committee note that many initiatives planned for implementation such as Attracting and Retaining Youth in Agriculture (ARYA), Rural Entrepreneurship Awareness Development Yojna (READY), Farmers FIRST, Agriculture and Technology Forecast Centre are yet to commence even after three years after the commencement of the Plan. The Committee were apprised that these schemes are under the process of getting approval of the Government. Similarly, projects envisaged under Extra Mural Funds are still in the process of seeking approval of the Government. The Committee have also been informed that sixteen Consortia Research projects have been sanctioned at a total XII Plan outlay of Rs. 1651.80 crore as part of EFC's of different schemes and are likely to start as per approved programme during the year 2015-16 and onwards. The Committee also note that Indian Agriculture e-Extension Research Institute (IAeRI) Scheme has not yet been conceptualized by the DARE due to reduced funding. The Committee recall that in their second report (16<sup>th</sup> Lok Sabha) had deplored the slow pace of work in implementation of new initiatives during the XII Plan and desired the Department to complete requisite formalities for launching these schemes/projects during the 2014-15 so that intended benefits planned under these schemes are made available in time. However, the DARE have not been provided adequate funds to start these innovative projects which has immense potential to upscale farmers-scientist interaction and to make agriculture education attractive for new generation. The Committee strongly feel that

implementation of these Schemes have already been delayed inordinately. They, therefore, desire the Department give their best to ensure that all formalities pertaining to these initiatives are completed with utmost promptitude and their implementation commences within specific time frame. At the same time, the Committee desire the Department to make available additional funds in ongoing fiscal so that benefits as planned from these schemes can be reaped during the current plan itself.

19. The Committee note that process for establishment of Central Agricultural Universities at Bihar, Barapani (Meghalaya and Nagaland) are under process whereas, Rani Lakshmi Bai Central Agricultural University, Jhansi (Bundelkhand) was created as an institution of national importance in March, 2014 only. The Committee are concerned with the tardy progress in the establishment of Central Agricultural Universities in Bihar and Barapani as envisaged in the XII<sup>th</sup> plan. The Committee also note that formalities for establishment of Agriculture University in Andhra Pradesh and Horticulture University in Telangana have been started. However, the Committee had not been provided timelines for commissioning of each of these Universities. The Committee are of view that a scheduled timeline for establishment of these universities will go a long way for timely commissioning of these universities, establishment of which has already been delayed. The Committee, therefore, recommend the Department to formulate timelines in consultation with concerned State Governments so that requisite funds be made available by the Ministry of Finance accordingly.

#### **PARAMPRAGAT KRISHI VIKAS YOJANA**

20. The Committee note that 'Parampragat Krishi Vikas Yojana' has been announced by the Government during Budget (2015-16) for promotion of Organic Research and Development wherein, Grant-in-Aid will be provided to ICAR/SAUs/Other research institutions/State Government agencies

with research facilities for development of organic package of practices specific to State and cropping on specific proposal basis. Further, setting up of a separate Organic Agriculture Research and Teaching Department for popularization of organic agriculture under State Agricultural Universities is also planned under the scheme. The Committee were informed that under this scheme, farmers will be organized in a cluster of fifty or more for encouraging them to adopt organic farming and their 50 acres of land will be brought under Organic Farming. The Participatory Guarantee Scheme (PGS) is being introduced under the scheme for empowering the farmers' clusters to certify their produce and access to the organic market. The Committee also note that State Government has to ensure that priority is given to Small and marginal farmers and rain-fed areas of the State while finalising the proposals. They had also been informed that Rs. 300 crore has been allocated for implementation of scheme. While noting the efforts made by the government for launching the scheme which will go a long way for encouragement of organic farming and to support small and marginal farmers who are unable to invest in organic farming, the Committee desire the DARE to pursue ICAR institutions to bring out proposals under the scheme and forge partnership with local farmers for developing organic farming rapidly in the country. They also desire that the Department should research, innovate and modernise the traditional technology and techniques and bring out light weight implements so that the small & marginal farmers are benefitted from it. These innovations should be publicized & popularized through KVKs.

#### **KRISHI CHANNEL**

21. The Committee note that 'Krishi Channel' for broadcasting programmes related to Agriculture channel is likely to be launched in April, 2015 by the Ministry of Information and Broadcasting shortly as 'DD Kisan'. The Committee also note that DARE/ICAR has been given responsibilities for making available a database of resource persons group on core agricultural

subjects and topics by drawing experts from ICAR Institutes and Subject Matter Divisions. The Secretary (DARE) during the evidence submitted that they have suggested to prepare programmes based on interview with 10 successful farmers of all Districts of the Country. This will benefit the farmers of the country immensely and it will provide healthy competition among the farming fraternity. The Committee are of view that launch of dedicated Channel for broadcasting programmes on agriculture is need of the hour as it will help farmers to update their knowledgebase, resolve queries related to agriculture, get weather information on real time basis and take adequate measures to safeguard crops in case of any eventualities and weather aberrations. The Channel may also become an important platform for promotion of research outcome of ICAR institutes thus enhancing scope for Lab to land initiatives. It can also help Planners and administrators to implement and improve upon District Contingency Plan in case of drought or flood or any other Natural calamities. The Committee, therefore, desire the Department to make adequate informative programmes showcasing their research findings and crop varieties so that farmers of entire country can derive benefits. The Committee also desire the DARE to encourage their scientists to actively take part in programmes of Krishi channel.

#### **VACANCY OF SCIENTIFIC/TECHNICAL/ADMINISTRATIVE POSTS IN INSTITUTES OF ICAR**

22. The Committee are concerned to note that as on date positions of 1570 Scientific, 1374 technical and 964 posts of administrative grade are vacant in various ICAR Institutes. Needless to deduce these vacancies would definitely be affecting the functioning of ICAR Institutions adversely. They, therefore, wonder how the Government expects the Council to deliver without even their personnel requirements being met. The Committee note that recruitment process for the 551 posts of scientists is at various stages of requisition by the Agricultural Scientists' Recruitment Board (ASRB). The Committee also note that 380 positions comprising of Administrative Officers, Assistant Directors, Assistants, LDC etc. are likely to be got filled up before December, 2015 for posts in Administrative category wherein recruitment is centralized through the ASRB. The Committee noted that 16 out of 100 Institutes do not have regular Directors as on date and that 6-8

months are required for advertising the posts as per procedure for selection. The Committee were informed that the process for selection begin 6 months before the personnel who are retiring but do face problems in starting the process for the personnel who resign from job or other eventualities abruptly. The representative also mentioned that it is not possible for any system to have 100% strength. While appreciating the formalities, the Committee are not at all convinced that 24.24% in scientific posts, 18.28% in technical posts and 19.78 % in administrative grades are lying vacant due to resignation or abrupt contingencies. They also do not appreciate that premier Institutions like IARI is without head (Director) for more than 6 months. The Committee fail to understand how such a premier Institution is functioning in absence of direction from top most personnel. The Committee deprecate this lackadaisical attitude of Department and desire that they should attend this grave situation with alacrity and leave no stone unturned to seek best of the expert for high end skills and low end skills at the earliest. The Committee exhort upon the Government to expedite the process of selection & fill up the existing vacant posts at the earliest so that the research and development activities in the agriculture sector are not adversely affected.

#### **INCENTIVE SCHEMES FOR SCIENTISTS**

23. Availability of lucrative career opportunity and presence of a well defined incentive scheme are necessary for attracting the best talent for agricultural research institutes and motivate Scientists working in ICAR institutes. The Committee note that the Council has adopted the pay package and the Career Advancement Scheme (CAS) of the University Grants commission (UGC) for attracting and retaining the best available scientific talent which has in-built flexibility in the CAS for upward movement, subject to fulfillment of certain criteria, irrespective of occurrence of vacancies. Recently the Council has also revised the scheme of ICAR Awards to further motivate and incentivize to bring out the best from the scientific cadre. All special allowances of the GOI have been made applicable for the scientists serving in remote and difficult areas. Special weightage is also accorded for lateral selections of scientists who have served in remote and backward areas. However, the Committee are concerned to note that no scientist has been rewarded under the scheme of incentivizing research with rewards which was started in 2014-15 for incentivizing scientist for undertaking research in defined areas. The Committee feel that if the best available talent is to be attracted towards the ICAR institutions, proper and time bound implementation of this schemes is necessary. The motivation which the proper implementation of

this scheme will provide to Scientists will also help in enhancing the research outcome(s) of ICAR institutes. The Committee, therefore, desire the ICAR to implement this scheme in true spirit at the earliest.

**NEW DELHI;**

**24 April, 2015**

**04 Vaisakha, 1937 (Saka)**

**HUKM DEO NARAYAN YADAV**

***Chairperson,***

***Committee on Agriculture***

Plan BE in respect of Crop Science Division (Rs. In lakhs)					
Sl.No.	Name of the Sector/Scheme	Other than NEH, TSP	NEH	TSP	Total
1	National Bureau of Plant Genetics Resources, New Delhi				
	National Bureau of Plant Genetics Resources, New Delhi	2345.00		55.00	2400.00
	AICRN Potential Crops	386.00		10.00	396.00
	CRP on Agrobiodiversity	716.00			716.00
2	IARI, New Delhi				
	IARI, New Delhi	2155.00		135.00	2290.00
	Network Project on Transgenics	600.00			600.00
	NRC Biotechnology Centre for Crop Science, New Delhi	540.00			540.00
	CRP on Hybrid Technology	665.00			665.00
	CRP on Molecular Biology	665.00			665.00
3	Directorate of Maize Research, New Delhi.				
	Indian Institute of Maize Research, New Delhi.	1275.00		25.00	1300.00
	AICRP on Maize, New Delhi	1205.00	10.00	75.00	1290.00
4	NCIPM, New Delhi				
	NCIPM, New Delhi	970.00		30.00	1000.00
	AICRP on Pesticides Residues, New Delhi	485.00	40.00		525.00
	AICRP on Nematodes, New Delhi	365.00	40.00	15.00	420.00
	AINP on Soil Arthropod Pests	147.00	20.00		167.00
	AINP Agri. Acarology	214.00			214.00
5	National Rice Research Institute, Cuttack				
	National Rice Research Institute, Cuttack	500.00		100.00	600.00
	Indian Institute of Rice Research, Hyderabad	400.00		10.00	410.00
	AICRP Rice, Hyderabad	2374.00	140.00	25.00	2539.00
	CRP on Biofortification, Hyderabad	565.00			565.00
6	Indian Institute of Pulses Research, Kanpur				
	Indian Institute of Pulses Research, Kanpur	560.00		40.00	600.00
	AICRP on Chickpea, Kanpur	1129.00	75.00	85.00	1289.00
	AICRP on MULLARP, Kanpur	1179.00	185.00		1364.00
	AICRP on Pigeon Pea, Kanpur	1029.00	100.00	40.00	1169.00
	AICRP on Arid Legumes, Kanpur	275.00		25.00	300.00
7	Indian Institute of Wheat and Barley Research,				



	Karnal				
	Indian Institute of Wheat and Barley Research, Karnal	1030.00		20.00	1050.00
	AICRP on Wheat & Barley Improvement Project, Karnal	1943.00	45.00	20.00	2008.00
	Vivekananda Parvitya Krishi Anusandhan Shala, Almora	430.00		25.00	455.00
	Indian Grassland and Fodder Research Institute, Jhansi	580.00		20.00	600.00
	AICRP on Forage Crops, Jhansi	881.00	85.00	35.00	1001.00
8	Indian Institute of Millet Research, Hyderabad				
	Indian Institute of Millet Research, Hyderabad	340.00		40.00	380.00
	AICRP Sorghum , Hyderabad	785.00		40.00	825.00
	AICRP on Pearl Millets, Jodhpur	1016.00			1016.00
	AICRP on Small Millets, Bangalore	488.00	35.00	10.00	533.00
9	Indian Institute of Sugarcane Research, Lucknow				
	Indian Institute of Sugarcane Research, Lucknow	460.00			460.00
	Sugarcane Breeding Institute, Coimbatore	520.00		30.00	550.00
	AICRP on Sugarcane, Lucknow	730.00	90.00	50.00	870.00
	Central Tobacco Research Institute, Rajamundry	215.00		10.00	225.00
	Network on Tobacco, Rajamundry	390.00		10.00	400.00
10	Central institute of Cotton Research, Nagpur				
	Central Institute of Cotton Research, Nagpur	370.00		30.00	400.00
	AICRP on Cotton, Coimbatore	1508.00		15.00	1523.00
	CRIJAF, Barrackpore	380.00		20.00	400.00
	AINP on Jute and Allied Fibres, Barrackpore	324.00	70.00	20.00	414.00
	Technology Mission on Cotton (MM-I), Nagpur	250.00			250.00
	Technology Mission on Jute(MM-I), Barrackpore	130.00		20.00	150.00
11	Indian Institute of Oilseed Research, Hyderabad				
	Indian Institute of Oilseed Research, Hyderabad	425.00		15.00	440.00
	Directorate of Groundnut Research, Junagarh	320.00		75.00	395.00
	AICRP on Groundnut, Junagarh	835.00	35.00	65.00	935.00
	Directorate of Soybean Research, Indore	285.00		45.00	330.00
	AICRP on Soybean, Indore	718.00	100.00	85.00	903.00
	Directorate of Rapeseed & Mustard Research, Bharatpur	245.00		25.00	270.00
	AICRP on Rapeseed & Mustard, Bharatpur	900.00	55.00	20.00	975.00

	AICRP on Oilseed, Hyderabad	930.00		30.00	960.00
	AICRP on Linseed, Kanpur	705.00	35.00	30.00	770.00
	AICRP on Sesame and Niger, Jabalpur	510.00		30.00	540.00
12	National Bureau of Agriculturally Important Insects				
	National Bureau of Agricultural Insect Resources, Bengaluru	300.00			300.00
	AICRP on Biocontrol on Crop Pests, Bengaluru	420.00	30.00	5.00	455.00
	AICRP on Honey Bee Research & Pollinators, New Delhi	345.00	65.00	35.00	445.00
	AINP on Vertebrate Pest Management, Jodhpur	421.00	55.00		476.00
	Network on Insect Biosystematics	250.00			250.00
13	Directorate of Seed Research, Mau				
	Directorate of Seed Research, Mau	390.00		40.00	430.00
	AICRP NSP, Mau	2357.00	90.00	95.00	2542.00
	Seed Production in Agricultural Crops and Fisheries, Mau	730.00		20.00	750.00
14	National Bureau of Agril. Important Microbes & Insect, Mau				
	National Bureau of Agril. Important Microbes & Insect, Mau	270.00			270.00
	Application of Micro-organisms in Agriculture and Allied Sectors(AMAAS), Mau	640.00			640.00
15	National Institute of Biotic Stress Management	920.00			920.00
16	Indian Institute of Agricultural Biotechnology	1970.00			1970.00
	Incentivizing Research	3000.00			3000.00
	IARI Type Deemed University, Assam	1000.00			1000.00
	IARI Type Deemed University, Jharkhand	1500.00			1500.00
	TOTAL	53900.00	1400.00	1700.00	57000.00

Annexure-VIII

Plan BE 2015-16 in respect of Horticulture Science Division (Rs. In lakhs)

Sl.No.	Name of the Sector/Scheme	Other than NEH, TSP	NEH	TSP	Total
1	Indian Institute of Horticultural Research, Bangalore				
	IIHR, Bangalore including outreach programme	1790.00	40.00	70.00	1900.00
	AICRP Fruits	1653.00	67.00	60.00	1780.00
	NRC Banana, Trichy	371.00	4.00	10.00	385.00
	Central Citrus Research Institute Citrus, Nagpur	470.00	14.00	16.00	500.00
2	Central Institute of Sub Tropical Horticulture, Lucknow				
	Central Institute of Sub Tropical Horticulture, Lucknow	436.00	4.00	10.00	450.00
	CITH, Srinagar	690.00	75.00	25.00	790.00
	NRC Grapes, Pune	421.00	14.00	15.00	450.00
	NRC Litchi, Muzzafarpur	391.00	5.00	14.00	410.00
3	Central Institute of Arid Horticulture, Bikaner				
	Central Institute of Arid Horticulture, Bikaner	725.00		25.00	750.00
	AICRP Arid Fruits, Bikaner	535.00		15.00	550.00
	NRC Pomegranate, Solapur	535.00		15.00	550.00
4	Indian Institute of Vegetable Research, Varanasi				
	Indian Institute of Vegetable Research, Varanasi	675.00	5.00	20.00	700.00
	Directorate of Mushroom Research, Solan	218.00	2.00	10.00	230.00
	AICRP Mushroom, Solan	360.00	15.00	15.00	390.00
	AICRP Vegetable Crops, Varanasi	1240.00	50.00	30.00	1320.00
	Directorate of Onion and Garlic, Pune	525.00	5.00	20.00	550.00
5	Central Potato Research Institute, Shimla				
	Central Potato Research Institute, Shimla	1395.00	80.00	25.00	1500.00
	AICRP Potato, Shimla	635.00	90.00	15.00	740.00
	Central Tuber Crops Research Institute, Trivandrum	525.00	10.00	25.00	560.00
	AICRP Tuber Crops, Tiruvanthapuram	475.00	45.00	30.00	550.00
6	Central Plantation Crops Research Institute, Kasargod				
	Central Plantation Crops Research Institute, Kasargod	555.00	45.00	30.00	630.00
	AICRP Palms, Kerala	500.00	25.00	25.00	550.00
	Directorate of Cashew Research, Puttur	415.00	10.00	25.00	450.00

	AICRP Cashew Puttur	360.00	10.00	30.00	400.00
	Indian Institute of Oil Palm Research, Pedivegi	320.00	15.00	35.00	370.00
7	Central Agricultural Research Institute, Port Blair	870.00		130.00	1000.00
8	Indian Institute of Spices Research, Calicut				
	Indian Institute of Spices Research, Calicut	942.00	18.00	40.00	1000.00
	AICRP Spices, Calicut	535.00	30.00	35.00	600.00
	NRC Seed Spices, Ajmer	315.00		10.00	325.00
9	Directorate of Floriculture, New Delhi				
	Directorate of Floriculture Research, New Delhi	735.00	40.00	25.00	800.00
	AICRP Floriculture, New Delhi				in DoF
	Directorate of Medicinal and Aromatic Plants Research, Anand	318.00	2.00	10.00	330.00
	Network on Medicinal & Aromatic Plants, incl. Betelvine Anand	590.00	30.00	10.00	630.00
	NRC Orchids, Paykong, Sikkim		350.00	10.00	360.00
	TOTAL	20520.00	1100.00	880.00	22500.00

Plan BE 2015-16 in respect of Natural Resource Management (Rs. In lakhs)					
Sl.No.	Name of the Sector/Scheme	Other than NEH, TSP	NEH	TSP	Total
1	NBSS & LUP, Nagpur	305.00	175.00	150.00	630.00
2	IISWC, Dehradun	370.00		155.00	525.00
3	Indian Institute of Soil Sciences, Bhopal				
	Indian Institute of Soil Sciences, Bhopal	240.00		55.00	295.00
	AICRP MSN	660.00	25.00	65.00	750.00
	AICRP BNF	205.00	50.00	50.00	305.00
	AICRP on Soil Test with Crop Response, Bhopal	655.00		35.00	690.00
	AICRP on Long Term Fertilizer Experiments, Bhopal	375.00		205.00	580.00
4	Central Soil Salinity Research Institute, Karnal				
	Central Soil Salinity Research Institute, Karnal	360.00			360.00
	AICRP on Salt Affected Soils & use of Saline Water, Karnal	590.00			590.00
5	ICAR Research Complex for Eastern Region, Patna	375.00	225.00		600.00
6	Indian Institute of Water Management Research, Bhubaneswar				
	Indian Institute of Water Management Research, Bhubaneswar	205.00		5.00	210.00
	AICRP on Irrigation Water Management Research, Bhubaneswar	2200.00	200.00	25.00	2425.00
7	Central Research Institute of Dryland Agriculture, Hyderabad				
	Central Research Institute of Dryland Agriculture, Hyderabad	600.00		20.00	620.00
	AICRP Dryland Agriculture, Hyderabad	2150.00	225.00	172.09	2547.09
	AICRP on Agrometeorology, Hyderabad	600.00	10.00	165.81	775.81
8	Central Arid Zone Research Institute, Jodhpur	260.00		150.32	410.32
9	Project Dte. on Farming System Research, Modipuram				
	IIFSR, Modipuram	185.00			185.00
	AICRP on Integrated Farming System	2600.00	250.00	75.48	2925.48
	Network Programme on Organic Farming	155.00	50.00	5.00	210.00
	CAFRI, Jhansi	285.00			285.00
	AICRP on Agroforestry, Jhansi	1200.00	200.00	20.00	1420.00
	DWR, Jabalpur	265.00			265.00
	AICRP WM, Jabalpur	800.00			800.00
10	CCARI, Goa	395.00		40.00	435.00

11	ICAR Research Complex for NEH Region, Barapani		2590.00	971.30	3561.30
12	National Institute of Abiotic Stress Management	2265.00		135.00	2400.00
13	National Initiative on Climate Resilient in Agriculture	10300.00	700.00		11000.00
	CRP on CA	350.00			350.00
	CRP on Water	650.00			650.00
	NRC on IFS, Motihari	200.00			200.00
	TOTAL	29800.00	4700.00	2500.00	37000.00

<b>Plan BE 2015-16 in respect of Animal Science Division</b>					<b>Rs. in lakh</b>
<b>S.No.</b>	<b>Name of the Schemes/Project</b>	<b>Other</b>	<b>NEH</b>	<b>TSP</b>	<b>Total</b>
<b>1</b>	<b>NBAGR, Karnal</b>	250.00	0.00	0.00	<b>250.00</b>
	Network on AnGR	225.00	15.00	10.00	<b>250.00</b>
<b>2</b>	<b>NDRI, Karnal</b>	1000.00	5.00	5.00	<b>1010.00</b>
<b>3</b>	<b>CSWRI, Avikanagar</b>	500.00	0.00	10.00	<b>510.00</b>
	Network on Sheep Improvement	230.00	0.00	10.00	<b>240.00</b>
	Sheep Seed Project	160.00	0.00	10.00	<b>170.00</b>
<b>4</b>	<b>CIRG, Makhdoom</b>	400.00	0.00	0.00	<b>400.00</b>
	AICRP on Goat	390.00	30.00	30.00	<b>450.00</b>
<b>5</b>	<b>CIRB, Hisar</b>	380.00	0.00	20.00	<b>400.00</b>
	Network on Buffalo	620.00	30.00	0.00	<b>650.00</b>
<b>6</b>	<b>NIANP, Bangaluru</b>	300.00	0.00	0.00	<b>300.00</b>
	AICRP on Nutrition-Reproduction Interaction + Outreach Programme on Methane Emission	405.00	30.00	15.00	<b>450.00</b>
<b>7</b>	<b>NRC on Camel, Bikaner</b>	330.00	0.00	20.00	<b>350.00</b>
<b>8</b>	<b>NRC on Equines, Hisar</b>	410.00	40.00	0.00	<b>450.00</b>
	VTC, Hisar	490.00	10.00	0.00	<b>500.00</b>
<b>9</b>	<b>CIRC, Meerut</b>	500.00	0.00	0.00	<b>500.00</b>
	AICRP on Cattle	850.00	0.00	0.00	<b>850.00</b>
<b>10</b>	<b>PDFMD, Mukteshwar</b>	1225.00	100.00	25.00	<b>1350.00</b>
<b>11</b>	<b>CARI, Izatnagar</b>	905.00	0.00	0.00	<b>905.00</b>
<b>12</b>	<b>Dte of Poultry Research, Hyderabad</b>	480.00	20.00	0.00	<b>500.00</b>
	AICRP on Poultry	480.00	50.00	30.00	<b>560.00</b>
	Poultry Seed Project	450.00	100.00	15.00	<b>565.00</b>
<b>13</b>	<b>IVRI, Izatnagar</b>	2655.00	100.00	0.00	<b>2755.00</b>
	Outreach Prog. on Env. Pollutant	350.00	0.00	0.00	<b>350.00</b>
	Outreach Prog. on Zoonotic Diseases	270.00	0.00	0.00	<b>270.00</b>
	Outreach Prog. on Ethno Vet. Medicine	270.00	0.00	0.00	<b>270.00</b>
	Network on GIP	140.00	0.00	0.00	<b>140.00</b>
	Network on HS	80.00	20.00	0.00	<b>100.00</b>
	Network on BTB	130.00	20.00	0.00	<b>150.00</b>
	Network on Neonatal Mortality (New)	105.00	20.00	0.00	<b>125.00</b>
	Network on Diagnostic Imaging Technique (New)	230.00	0.00	0.00	<b>230.00</b>
	Consortia Research Platform (New)	1000.00	0.00	0.00	<b>1000.00</b>
<b>14</b>	<b>NIVEDI, Bengaluru</b>	975.00	20.00	5.00	<b>1000.00</b>

<b>15</b>	<b>NRC on Meat, Hyderabad</b>	180.00	20.00	0.00	<b>200.00</b>
<b>16</b>	<b>NRC on Pig, Guwahati</b>	110.00	300.00	190.00	<b>600.00</b>
	AICRP on Pig	650.00	250.00	0.00	<b>900.00</b>
	Mega Seed Project on Pig	180.00	200.00	20.00	<b>400.00</b>
<b>17</b>	<b>NRC on Mithun, Jharnapani</b>	305.00	100.00	245.00	<b>650.00</b>
<b>18</b>	<b>NRC on Yak, Dirang</b>	210.00	200.00	340.00	<b>750.00</b>
<b>19</b>	<b>NIHSAD, Bhopal</b>	3480.00	20.00	0.00	<b>3500.00</b>
	<b>Total</b>	<b>22300.00</b>	<b>1700.00</b>	<b>1000.00</b>	<b>25000.00</b>



Plan BE 2015-16 in respect of Fisheries Science Division (Rs. In lakhs)					
Sl.No.	Name of the Sector/Scheme	Other than NEH, TSP	NEH	TSP	Total
1	Central Marine Fisheries Research Institute				
	Central Marine Fisheries Research Institute, Kochi	1510.00		40.00	1550.00
	AINP- Mariculture	620.00			620.00
	Central Institute Brackishwater Aquaculture, Chennai	760.00		20.00	780.00
	CIBA, AINP Chennai	450.00			450.00
2	Central Inland Fisheries Research Institute				
	Central Inland Fisheries Research Institute, Barrackpore	965.00	65.00	20.00	1050.00
	DCFR, Bhimtal	380.00	40.00	25.00	445.00
3	Central Institute of Fisheries Technology, Kochi	830.00	40.00	25.00	895.00
4	Central Institute on Fisheries Education, Mumbai	1515.00	35.00	20.00	1570.00
5	Central Institute of Freshwater Aquaculture, Bhubaneswar	740.00	100.00	30.00	870.00
6	National Bureau of Fish Genetic Resources, Lucknow	740.00	20.00	20.00	780.00
	CRP- Genomics	990.00			990.00
	TOTAL	9500.00	300.00	200.00	10000.00

<b>Name of State</b>	<b>No. of KVKs</b>	<b>Total No. of farmers benefitted under FLD</b>	<b>Total No. of farmers benefitted under OFT</b>
Delhi	1	121	68
Haryana	18	3831	909
Himanchal Pradesh	12	2754	674
Jammu & Kashmir	19	4055	380
Punjab	20	2663	399
Bihar	38	11585	1767
Jharkhand	24	6926	864
West Bengal	18	5019	518
Andaman & Nicobar islands	3	66	101
Arunachal Pradesh	14	1538	587
Assam	25	3269	995
Manipur	9	1083	454
Meghalaya	5	3324	451
Mizoram	8	638	370
Nagaland	9	1524	324
Sikkim	4	822	377
Tripura	4	767	583
Uttar Pradesh	68	35017	4838
Uttarakhand	13	6179	945
Andhra Pradesh	21	3206	1080
Telangana	13	3211	938
Maharashtra	44	6727	2377

Gujrat	29	12043	881
Rajasthan	42	8776	1296
Madhya Pradesh	47	12604	2768
Chattisgarh	20	4582	600
Odisha	33	7405	2942
Karnataka	31	3630	631
Tamil Nadu	30	3758	476
Kerala	14	2928	808
Goa	2	668	20
Puducherry	3	553	20
Lakshadweep	1	77	0
<b>Total</b>	<b>642</b>	<b>161349</b>	<b>30441</b>

**COMMITTEE ON AGRICULTURE**  
**(2014-15)**

## MINUTES OF THE TWENTY-FIRST SITTING OF THE COMMITTEE

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The Committee sat on Thursday, the 26<sup>th</sup> March, 2015 from 1100 hrs. to 1325hrs. in Committee Room '62', Parliament House, New Delhi .

### PRESENT

Shri Hukm Deo Narayan Yadav – Chairperson

### MEMBERS

#### LOK SABHA

2. Prof. Ravindra Vishwanath Gaikwad
3. Dr. Tapas Mandal
4. Shri Janardan Mishra
5. Shri Ajay Nishad
6. Shri Nityanand Rai
7. Shri Mukesh Rajput
8. Shri Arjun Charan Sethi
- 9.. Shri Satyapal Singh
10. Shri Virendra Singh
11. Shri Jai Prakash Narayan Yadav

#### RAJYA SABHA

12. Shri A.W. Rabi Bernard
13. Sardar Sukhdev Singh Dhindsa
14. Shri Janardan Dwivedi
15. Shri Vinay Katiyar
16. Shri Mohd. Ali Khan
17. Shri Rajpal Singh Saini
18. Shri Ram Nath Thakur
19. Shri Shankarbhai N. Vegad

### SECRETARIAT

1. Smt. Abha Singh Yaduvanshi – Director
2. Smt. Juby Amar – Deputy Secretary

3. Shri Sumesh Kumar – Under Secretary

**MINISTRY OF AGRICULTURE**  
**(DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)**

<b><u>S.No.</u></b>	<b><u>NAME OF THE OFFICER</u></b>	<b><u>DESIGNATION</u></b>
1.	Dr. S. Ayyappan	Secretary (DARE) & DG (ICAR)
2.	Shri P.K. Pujari	Special Secretary & FA (DARE/ICAR)
3.	Dr. Arvind Kumar	VC, Rani Laxmi Bai Central Agricultural University
4.	Dr. B. Meenakumari	DDG (Fy.)
5.	Dr. N.K. Krishna Kumar	DDG (Hort.)
6.	Dr. A.K. Sikka	DDG (NRM)
7.	Dr. A.K. Singh	DDG (Extn.)
8.	Dr. K. Alagusundaram	DDG (Engg.)
9.	Dr. A.K. Vasisht	ADG (PIM)
10.	Dr. N. Gopalakrishnan	ADG (CC)
11.	Dr. S. Mauria	ADG (IPTM & PME)
12.	Dr. B.S. Prakash	ADG (ANP)
13.	Dr. Rameshwar Singh	PD (DKMA)
14.	Dr. Pawan Kumar Aggarwal	ADG (NASF)

2. At the outset, the Chairman welcomed the members of the Committee and the representatives of the Ministry of Agriculture (Department of Agricultural Research and Education) and other officials to the Sitting and apprised the witnesses of the provisions of the Directions 55(1) and 58 of the 'Directions by the Speaker, Lok Sabha' regarding confidentiality of the proceedings.

3. Thereafter, the Committee raised various issues such as lower budgetary allocation to the Department as compared to earmarked allocations for XII<sup>th</sup> Plan, reasons for significant reduction in allocations at RE stage during 2014-15, utilisation of

licence fee and other revenue received by ICAR Institutes, need for development of such varieties of seeds which can inherently combat the insects and can reduce the use and impact of chemical pesticides on plant and soil, seeds with strands of genes to improve taste and shelf life, development of seeds varieties as were available traditionally wherein the seeds could be produced from the crops itself for use for next year, status on implementation of budget announcements such as setting of Agriculture Universities at Bihar, Bundelkhand, Barapani and Andhra Pradesh, setting up of Horticulture University at Telangana, IARI type Institutes at Jharkhand and Assam, Status of 'Krishi TV Channel', efforts made by the Department to fill up scientific, technical and administrative vacancies in ICAR Institutes, specific research being done for enhancing agriculture efficiency in tribal and hill regions of the Country, inadequacies of soil testing laboratories, dissemination of research outcome to the farmers, need to expand number & coverage of Krishi Vigyan Kendras (KVKs) and efforts made by the ICAR to encourage farmers to start agri-ventures utilising techniques developed by ICAR Institutes. Most of the queries were responded to by the representatives of DARE. The Chairperson desired the Ministry to furnish written replies regarding queries which could not be readily responded to the Secretariat.

***A verbatim record of the proceedings has been kept separately.***

***The Committee then adjourned.***

**COMMITTEE ON AGRICULTURE**  
**(2014-15)**

**MINUTES OF THE TWENTY-FOURTH SITTING OF THE COMMITTEE**

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The Committee sat on Friday, the 24<sup>th</sup> April, 2015 from 1500 hrs. to 1545 hrs. in Chamber of the Chairperson, Room No. 138 (Third Floor), Parliament House, New Delhi.

**PRESENT**

Shri Hukm Deo Narayan Yadav – Chairperson

**MEMBERS**

**LOK SABHA**

2. Shri Sanganna Amarappa
3. Prof. Ravindra Vishwanath Gaikwad
4. Shri Nalin Kumar Kateel
5. Shri C. Mahendran
6. Dr. Tapas Mandal
7. Shri Janardan Mishra
8. Shri Dalpat Singh Paraste
9. Shri Nityanand Rai
10. Shri Konakalla Narayana Rao
11. Shri Satyapal Singh
12. Shri Virendra Singh

**RAJYA SABHA**

13. Shrimati Renuka Chowdhury
14. Shri Janardan Dwivedi
15. Shri Vinay Katiyar
16. Shri Mohd. Ali Khan
17. Shri Ram Nath Thakur

**SECRETARIAT**

- |    |                            |   |                  |
|----|----------------------------|---|------------------|
| 1. | Shri Abhijit Kumar         | – | Joint Secretary  |
| 2. | Smt. Abha Singh Yaduvanshi | – | Director         |
| 3. | Shri C.Vanlalruata         | – | Deputy Secretary |
| 4. | Shri Sumesh Kumar          | – | Under Secretary  |

2. At the outset the Chairperson welcomed the members to the Sitting of the Committee. The Committee, then, took up the following draft Reports:

(i) Tenth Report on Demands for Grants (2015-16) of the Ministry of Agriculture (Department of Agricultural Research & Education);

\*(ii) XXXX      XXXX      XXXX      XXXX      XXXX      XXXX

3. After some deliberations, the Committee adopted the draft Reports without any modification and authorized the Chairperson to finalise the Reports on the basis of factual verification from the concerned Department and present the same to Parliament.

\*4. XXXX      XXXX      XXXX      XXXX      XXXX      XXXX

\*5. XXXX      XXXX      XXXX      XXXX      XXXX      XXXX

**The Committee then adjourned.**