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

SIXTEENTH LOK SABHA

MINISTRY OF AGRICULTURE  
(DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)

NATIONAL AGRICULTURE RESEARCH SYSTEM – AN EVALUATION

**{Action Taken by the Government on the Observations/  
Recommendations contained in the Fifty Eighth Report  
of the Committee on Agriculture (2013-2014)}**

**SIXTH REPORT**



**LOK SABHA SECRETARIAT  
NEW DELHI**

March, 2015/Phalguna, 1936 (Saka)

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Presented to Lok Sabha on : 17.03.2015  
Laid on the Table of Rajya Sabha on : 17.03.2015



**LOK SABHA SECRETARIAT**

***NEW DELHI***

March, 2015/Phalguna, 1936 (Saka)

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held on 4<sup>th</sup> March, 2015.

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(2013-2014).

**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
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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

(iii)

**SECRETARIAT**

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

## INTRODUCTION

I, the Chairperson, Committee on Agriculture (2014-2015) having been authorized by the Committee to submit the Report on their behalf, present this Sixth Report (Sixteenth Lok Sabha) on Action Taken by the Government on the Observations/ Recommendations contained in the Fifty Eighth Report (Fifteenth Lok Sabha) of the Committee on 'National Agricultural Research System – An Evaluation' pertaining to Ministry of Agriculture (Department of Agricultural Research and Education).

2. The Fifty Eighth Report (Fifteenth Lok Sabha) of the Committee on Agriculture (2013-2014) on 'National Agricultural Research System – An Evaluation' pertaining to Ministry of Agriculture (Department of Agricultural Research and Education) was presented to Lok Sabha on 18.02.2014 and laid on the Table of Rajya Sabha on 19.02.2014. The Action Taken Replies on the Report were received on 15 May, 2014.

3. The Report was considered and adopted by the Committee at their Sitting held on 04 March, 2015.

4. An analysis of the Action Taken by the Government on the Observations/ Recommendations contained in the Fifty-eighth Report (Fifteenth Lok Sabha) of the Committee is given in **Annexure-II**.

5. The Committee would 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;**  
**13 March, 2015**  
**22 Phalguna, 1936 (Saka)**

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

(v)

## **CHAPTER - I**

### **REPORT**

This Report of the Committee on Agriculture deals with the action taken by the Government on the recommendations contained in the Fifty-eighth Report (15<sup>th</sup> Lok Sabha) of the Committee on Agriculture (2013-14) on "National Agricultural Research System – An Evaluation" of the Ministry of Agriculture (Department of Agriculture Research and Education) which was presented to Lok Sabha on 18 February, 2014 and laid on the Table of Rajya Sabha on 19 February, 2014.

**1.2** The Ministry of Agriculture (Department of Agricultural Research and Education) have furnished Action Taken Replies in respect of all the 38 Observations / Recommendations contained in the Report. These have been categorized as under:-

(i) Observations / Recommendations that have been accepted by the Government:

Recommendation Nos. 01, 02, 03, 04, 05, 06, 09, 11, 12, 13, 17, 19, 20, 21,22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 35, 37 and 38.

Total- 27  
Chapter-II

(ii) Observations / Recommendations which the Committee do not desire to pursue in view of the Government's reply:

Recommendation Nos. NIL

Total- NIL  
Chapter-III

(iii) Observations / Recommendations in respect of which action taken replies of the Government have not been accepted by the Committee:

Recommendation No. 07, 08,10, 14, 15, 16, 18, 32 and 34

Total- 09  
Chapter-IV

(iv) Observations / Recommendations in respect of which final replies of the Government are still awaited:

Recommendation No. 31and 36

Total- 02  
Chapter-V



**1.3 The Committee trust that utmost importance would be given to implementation of the Observations/Recommendations accepted by the Government. In cases, where it is not possible for the Department to implement the Recommendations in letter and spirit for any reason, the matter should be reported to the Committee with reasons for non-implementation. The Committee desire that further Action Taken Notes on the Committee's comments contained in Chapter-I and final action taken replies in respect of recommendations for which interim reply have been furnished as brought out in Chapter V of this Report, be furnished to them at an early date.**

**1.4** The Committee will now deal with the action taken by the Government on some of the Recommendations in the succeeding paragraphs.

### **AICRP/NETWORK PROJECTS**

#### **Recommendation Serial No.3**

**1.5 The Committee had recommended as under:—**

The Committee desire that the Project coordinator and his team should regularly incorporate the ideas and solutions in implementation of these projects from the AICRP exchanges. They also urge the Ministry that in case of failure to adhere to the time schedules for the completion of these projects, the reasons be analysed and the responsibility be fixed so as to avoid time and cost escalations.

**1.6 The Department in their Action Taken reply have stated as under:—**

The Project Co-ordinators shall undertake continuous monitoring to ensure adherence to the time schedule for completion of the projects. The research work at the AICRP Centres is reviewed by the Project Co-ordinators and only after satisfactory

performance, the grant is released. The allocated budget during the plan period does not normally exceed.

**1.7 The Committee, while recognizing the importance of AIRCP/Network projects had desired to analyze reasons in case of failure to adhere to the time schedules for the completion of these projects and fixing responsibility so as to avoid time and cost escalations. In their reply, the Department *inter-alia* have merely stated that grants are released only after satisfactory performance of AICRP centres as reviewed by project coordinators. The Department have also stated that allocated budget during the plan period does not normally exceed. However, the Department is silent on the issue of fixing responsibility for failure to adhere the timeline for completion of projects. The Committee, therefore, once again reiterate their earlier recommendation to fix responsibility to avoid time and cost escalation in case of failure.**

### **STRENGTHENING OF ICAR**

#### **Recommendation Serial No.4**

**1.8 The Committee had recommended as under:—**

A large number of State Agriculture Universities, State supported Institutes, Central Universities, National Institutes, National Bureaux, Projects, NRC, AICRP, AINP and KVKs are functioning under the guidance of DARE/ICAR in various parts of the country to meet the demand of Agriculture and allied sectors. It is the Research and Technology development by DARE/ICAR which has enabled an increase of 4 times in production of foodgrains, 6 times horticultural crops, 9 times fish, 6 times eggs since 1950-51. However, there is still a lot of scope to strengthen the NARS to meet new challenges and that there is a need to compare ourselves with some of countries which are moving much faster than us like China, Brazil, Malaysia etc. The Committee, therefore, emphasize that instead of being complacent about their achievements the Government should strengthen the ICAR network to meet the new challenges regarding food security. The Committee recommend the DARE to study in depth the

methods/technologies adopted by some of the progressing aforesaid countries in this field and adapt them to our given conditions so as to augment the production and productivity in agricultural sector besides improving the economic conditions of farming community of the country. The Committee also urge the Ministry of Agriculture to lay more emphasis and focus on the agriculture research in the 12<sup>th</sup> Five Year Plan and provide adequate financial support to meet the much required research work.

**1.9 The Department in their Action Taken reply has stated as under:—**

In order to augment production & productivity in Agriculture Sector, besides improving the economic condition of the farming community in India, efforts shall be made during XII Plan on focused areas of Agricultural Research. Keeping the priorities in view, EFC/SFC are being processed to provide financial support to the Research work to meet the new challenges. The efforts shall be made to study the technological advances made in some of the countries for augmenting the productivity. Based upon the study and after identification of such studies and other reasons for productivity differential between India and other countries, necessary measures shall be taken to incorporate the scientific advances made in some of the Countries for attaining the desired level of productivity.

**1.10 The Committee while recognizing the efforts of DARE/ICAR to enhance the agricultural production in the country had recommended the Government to strengthen NARS to meet new challenges and study agricultural methods/ technologies adopted by some countries which are moving faster than us like China, Brazil, Malaysia etc. and adapt them according to our conditions in order to augment agricultural production and productivity in our country. The department in their reply have assured the Committee that efforts shall be made to study the technological advances made in some of the countries for augmenting the productivity and necessary measures shall be taken to incorporate the scientific advances made in these countries for attaining the**

desired level of productivity. However, the Committee note that no concrete plan has been proposed by the Government even after nearly three years of XIIth Plan in order to achieve these aims as the Department are still processing EFC/SFC and yet to get financial sanction to support research works to meet the new challenges. The Committee would like the Department to spell out the measures/plan in clear terms to achieve the desired level of productivity and not give vague replies.

### **INVESTMENT IN AGRICULTURE SECTOR**

#### **Recommendations Serial Nos. 07 & 08**

##### **1.11 The Committee had recommended as under:—**

The Committee find that during the XIth Plan Period only Rs. 10,325.76 crore was allocated to DARE vis-à-vis demand for Rs. 31,672 cr. The utilization of funds by the Government was only Rs. 9,800 cr. The agricultural growth rate at the end of XIth Plan was only 3.3% vis-à-vis target of 4% and the stated reason was that total low public investment in agriculture in R&D sector in the form of infrastructure irrigation water conservation and land etc. Further, the other reason was R&D expenditure was only 0.5% of agricultural GDP. The Committee urge the Ministry to learn their lessons and ensure that the allocated amount is utilized fully and the expenditure on research should be enhanced at least 1% of the agriculture GDP in the XIIth Plan. They also emphasize that the Department should focus on not only planning but actually enhancing investment in research infrastructure, irrigation water conservation and land etc.

The Ministry have apprised the Committee that additional investment of one rupee in research generated more than rupee one on an average in major crops, and the highest marginal product was achieved in 'Arhar' where additional investment of rupee one generated additional output worth Rs. 12.82. They have also informed the

Committee that a recent study covering two decades indicate 42-46% internal rate of return in public investment in agricultural research and education. All these studies prove high pay-off from public sector R&D investments. Research and technology driven output growth has also led to the decline in real cost of production in the range of 1.0-2.31% per annum during the past three decades in case of cereals. This has helped in keeping the prices of cereals low and benefitting consumers and producers. In view of the above, the Committee feel that the importance and significance of agricultural R&D in the development process cannot be underestimated. They desire that the investment in agricultural R&D should be enhanced so as to obtain higher returns, besides reducing the import dependency and adding to the export capacity of the country. The Committee desire that the Department should prepare an action plan to attract investment in agriculture research in the country. They should also approach the Ministry of Finance to provide monetary and fiscal incentives for the same. Further, DARE should take concrete steps to publicize the return from investment in Agriculture sector.

**1.12 The Department in their Action Taken reply has stated as under:—**

The National Centre for Agricultural Economics & Policy Research (NCAP) undertakes studies from time to time on public-private investment and their compositions. Fresh study will be taken on these aspects by the NCAP soon.

**(Reply to Recommendation Serial No. 07)**

The estimates quoted in the report are from the study already done by the NCAP. Concrete steps shall be taken to publicize the return from investment in agriculture sector.

**(Reply to Recommendation Serial No. 08)**

**1.13 The Committee in their report while noticing low level of agricultural growth rate during 11<sup>th</sup> Plan due to low allocations and actual utilization of funds for**

agricultural research had recommended the Department to work towards enhancement of allocations for agricultural research up to 1% of agricultural GDP and to ensure full utilization of allocated funds. The Committee had also recommended the Department to prepare action plan for attracting investment in agricultural research. The Department in their action taken replies have vaguely stated that NCAP will soon undertake a fresh study on public private partnership in agricultural research and that concrete steps would be under taken to publicize the return on investment in agriculture sector. However, the Department have chosen to remain silent on committing on additional allocation for research purpose. The Department is also silent on important aspect of preparation of a concrete action plan for attracting investment in agricultural research. The Committee while reiterating their earlier recommendation would like to be apprised of steps taken by the Department towards preparation of action plan without any delay as also work towards enhancing the allocation and for investment in agricultural research sector. The Department may also give a target date for making a fresh study on Public Private Partnership in agricultural research.

## **POLICY FRAMEWORK FOR R&D IN AGRICULTURE AND ALLIED AREAS**

### **Recommendation Serial No.10**

#### **1.14 The Committee had recommended as under:—**

The Committee note that ICAR have been consciously developing farmer friendly technologies and assuring quality higher education. They are satisfied that the Council in consultation with all the stake holders have prepared the first ever policy framework for R&D in agriculture and allied areas. While appreciating the work of ICAR in bringing out a clear cut policy in order to support the farmers, the Committee urge the Ministry to ensure implementation and execution of the policy so as to play a vital role in agricultural research and education besides dissemination of information and technologies to the farmers at the ground level. They also emphasize that this R&D policy articulated by ICAR should be appropriately integrated and synchronized with the National R&D System and Science and Technology Innovation Policy 2013. They

further desire that the contents and the benefits flowing from this policy to the farmers should be publicized and awareness be created among the farmers through KVKs and other on-field agencies.

**1.15 The Department in their Action Taken reply has stated as under:—**

The studies on impact Assessment of various technologies has been initiated. The network of Krishi Vigyan Kendras (KVKs) are organizing large number of awareness creating programmes among farmers with focus on improved agricultural technologies, practices and programmes and policies of the Government.

**1.16 The Committee had while noting the efforts of ICAR for preparation of policy framework for R&D in agriculture and allied areas had recommended the Department to ensure implementation and execution of the policy and also emphasized that this R&D policy articulated by ICAR should be appropriately integrated and synchronized with the National R&D System and Science and Technology Innovation Policy 2013. The Department in their replies have stated that programmes are being organised by KVKs to create awareness among farmers about improved technologies. They have also stated that studies on impact Assessment of various technologies has been initiated. However, the Department chose to remain silent on efforts made by them to ensure implementation of this policy and its integration with National R&D System and Science and Technology Innovation Policy 2013. The Committee while deploring this casual approach of the Department on such a vital recommendation would like swift action in this regard in order to reach intended benefits in agricultural research and education.**

## **SEEDS**

### **Recommendations Serial Nos. 14 & 15**

#### **1.17 The Committee had recommended as under:—**

The Committee note that 257 crop varieties including 26 varieties of wheat, 33 varieties of paddy, 33 varieties of maize, 32 pulses crop, 25 pearl millet and 52 varieties of oilseeds crops have been released during 2007-10 by the Crop Science Division. During the year 2011, 98,481 quintal of breeder seeds were produced. The Committee find that the States do not have adequate seed plan as a result of which the poor farmers are compelled to produce from farmer saved seeds or are compelled to buy seeds from the open market at exorbitant rates, where multi-national companies have taken over the whole market. They emphasise that a comprehensive and authentic database of seeds production and distribution in India by Public and Private sector has to be developed so that all stakeholders/farmers have enough information. Further, the Government should have adequate control over the prices of the seeds and not leave it on the whims of private companies to charge exorbitant prices for seeds.

The Committee are of the opinion that the Department and the ICAR should pursue the States to prepare long term seed plan for their States on the basis of farmers' economic status, agro-climate conditions, desire to adopt quality seeds, State crop calendar or any other contingent situation. In order to ensure availability of quality seeds in right quantity and at right time to the farmers, they urge the Government to take all necessary steps to prepare seed plans for 5 years in consultation with the respective State Governments. Further the Committee desire the Department to enhance the seed production and upgrade the infrastructure for breeder seed production in accordance with the projection made by National Seed Plan. The services of KVKs should be used to showcase quality seed production programme to the farmers/seed growers and their self help groups to meet the domestic demand and avoid any hardship being faced by farmers in the country in this regard.



**1.18 The Department in their Action Taken reply has stated as under:—**

The entire breeder seed is being produced as per the indent of DAC and supplied by the ICAR to different public and private seed producing agencies for further multiplication as foundation and certified seed. The details of quality seed production by public and private sector and their contributions have been provided in Table given below. The uniform breeder seed price is fixed by the ICAR in consultation with the DAC taking into account the cost of cultivation of respective crops. However, the price of certified seed is fixed by the respective seed producing agencies.

Quality seed production by public and private sector and their contributions

Year	Certified/ Quality seed production/ availability (million tonnes)	Quantity of seed produced by public sector (million tonnes)	Share of public sector (%)	Quantity of seed produced by private Sector (million tonnes)	Share of private sector (%)
2003-04	1.32	0.70	52.5	0.63	47.5
2004-05	1.41	0.77	55.0	0.63	45.0
2005-06	1.48	0.79	53.2	0.69	46.8
2006-07	1.94	1.15	59.0	0.80	41.0
2007-08	1.94	1.12	57.4	0.83	42.6
2008-09	2.50	1.51	60.2	1.0	39.8
2009-10	2.80	1.71	61.1	1.09	38.9
2010-11	3.22	1.66	51.6	1.56	48.4
2011-12	3.54	1.81	51.1	1.73	48.9
2012-13	3.29	1.61	49.1	1.67	50.9

**(Reply to Recommendation Serial No. 14)**

The Indian Council of Agricultural Research (ICAR) has ensured to provide quality breeder seed to the public as well as private organizations as per their indents collated and forwarded by the Department of Agriculture & Cooperation (DAC). During the last five years, the production of breeder seed is always higher than the indented quantity (Annexure-I). As regards utilization of services of KVKs for showcasing quality seed production programmes to the farmers/seed growers and their self help groups to

meet the domestic demand and avoid any hardship is concerned, it is informed that the KVKs are already undertaking the job of production of quality seeds and planting materials. During the year 2013-14, KVKs have produced 1.57 lakh quintal seeds of improved varieties and hybrids of cereals, oilseeds, pulses, commercial crops, vegetables, flowers, fruits, spices, fodder, forest species, medicinal plants and fibre crops and these were provided to 2.61 lakh farmers. A total of 167.19 lakh quality planting materials of elite species of commercial crops, vegetables, fruits, ornamental medicinal and aromatic crops, plantation crops, spices, tuber crops, fodder and forest species were produced and provided to 2.35 lakh farmers.

**(Reply to Recommendation Serial No. 15)**

**1.19 Keeping in view of scarcity of seed in the States and exorbitant price of seeds sold by Multinational companies, the Committee had recommended the Department to enhance seed production in accordance with projection made by National Seed plan. Further, they had opined that Department should make attempts to control prices of seeds sold by private companies along with preparation of comprehensive database of seed production and distribution by public and private sectors in the country. The Committee had also opined that the Department and the ICAR should pursue the States to prepare long term seed plan for their States on the basis of farmers' economic status, agro-climate conditions, desire to adopt quality seeds, State crop calendar or any other contingent situation. The Department besides informing that production of breeder seed is done by ICAR as per indent of DAC, have stated that price of uniform breeder seed is fixed by the ICAR in consultation with the DAC taking into account the cost of cultivation of respective crops whereas, the price of certified seed is fixed by the respective seed producing agencies. The Committee note that the Department have not clarified and specified the extent to which seed production in the Country has been enhanced/proposed to be enhanced as well as mechanism to monitor prices of seed sold by private companies. The Department have also not specified their role in pursuing States for preparation of long term seed plan. The Committee while reiterating their earlier**

**recommendations/observations would like the Department to urgently address the concern of the Committee on the above stated issues in consultation with DAC. The Committee would like to be apprised of the action taken by the Department.**

## **SOIL TESTING**

### **Recommendation Serial No.21**

#### **1.20 The Committee had recommended as under:—**

The Committee observe that at certain places there is over use of fertilizer/use of banned fertilizers by the farmers like in Punjab and Andhra Pradesh. They feel that due to ignorance the farmers not only harm their produce but also add to their production costs besides leaving the soil devoid of nutrient. At time, it also leads to various dangerous disease transmitted through use of banned fertilizers. The Committee, therefore, recommend that volunteers be deputed to inform the farmer of the right quantity and right quality of fertilizers to be used by them on their soil.

#### **1.21 The Department in their Action Taken reply has stated as under:—**

The ICAR through different centres of the All India Coordinated Research Project on Soil Test Crop Response has developed fertilizer prescription equations for different crops grown in various states. The information is available on the Soil Test Crop Response (STCR) website (<http://www.stcr.gov.in>) and can be used by the soil testing laboratories for on-line fertilizer recommendation. Farmers and other end-users can get STCR based fertilizer recommendations for different crops by feeding the soil test values for a desired targeted yield.

**1.22 The Committee note that ICAR has developed fertilizer prescription equations for different crops grown in various states. However, the Committee**

are surprised that despite making provisions for availability of Soil Test Crop Response (STCR) on website, the Department has not made any attempt to educate farmers about these facilities through dedicated volunteers. Just uploading the information on the website does not serve the purpose for which it was intended. The Committee would like the Department to initiate a special drive to educate farmers about use of soil specific fertilisers of right quality and in right quantity in order reduce harmful impact on soil health.

### **WATER MANAGEMENT TECHNOLOGY**

#### **Recommendation Serial No.22**

##### **1.23 The Committee had recommended as under:—**

ICAR Institutes and State Agriculture Universities are implementing a scheme on scaling up of Water Productivity in Agriculture for Livelihoods through teaching cum demonstration, training of trainees and farmers across the country. There are 32 centres across the country providing training to farmers to create awareness on water use efficiency and increase water productivity in agriculture. The technologies for improving water use efficiency have been developed under 25 centres of AICRP on water management and 9 centres on ground water utilization. The Committee emphasize that with the kind of spread of agriculture in India the present awareness centres for providing training to farmers on water use efficiency and increase of water productivity in agriculture as also the centres of AICRP on water management and water utilization are too limited and requires much more vigorous awareness campaign on water management, water conservation (through the developed technology and optimum utilization of water in agriculture) . Further a large quantity of our rain water remains unutilized by the Agriculture and Allied sectors in the Country. The Committee, therefore, recommended the Department to examine the optimum utilization of water, bringing about more centres training farmers and make vigorous efforts to create awareness in this regard. They also emphasise that the Government should prioritize on promoting developing of water harvesting structures in the Indian farming system and also probe the manner in which these productive work can be covered under the

MNREGA by deploying persons for fruitful employment for the purpose of building rain water harvesting.

**1.24 The Department in their Action Taken reply has stated as under:—**

“Scaling up of Water Productivity in Agriculture for Livelihoods through Teaching cum Demonstration, Training of Trainers and Farmers” is a Central Scheme implemented during the XI plan period since February, 2008 from the interest accrued on a corpus fund of Rs. 96 crore. Under the scheme, trainings of Trainers and Farmers were conducted in 32 centres across the country to create awareness among the farmers on water use efficiency, water conservation, rainwater harvesting and different aspects of water management.

As the scheme was for the XI Plan only, the efforts were made in the XII Plan to continue for its implementation to create awareness on generated technologies related to water management, water conservation and optimum utilization of water in agriculture. The draft EFC for the same has been submitted.

During the XI Plan, AICRP on Water Management (25 centres), AICRP on Ground Water Utilization (9 centres) have generated location specific water management technologies which were also transferred through state functionaries for the larger benefit of farming community. During the XII Plan period, it is proposed to merge the above two schemes and initiate an AICRP on Irrigation Water Management in all the centres. The proposed scheme would develop and upscale location specific on-farm water management strategies and technologies in the area of surface water, groundwater and waste water. The developed technologies will be implemented by line departments of the states involving various schemes of the Govt. of India like, MGNREGA, RKVY, NFSM etc.

**1.25 The Committee are unhappy to know that the Department is yet to get financial clearance for implementation of scheme of ‘Scaling up of Water Productivity in Agriculture for Livelihoods through Teaching cum Demonstration,**

**Training of Trainers and Farmers' during XII Plan even though three years of the plan have almost elapsed for trainings of Trainers and Farmers across the country to create awareness on water use efficiency, water conservation, rainwater harvesting and different aspects of water management. This shows lack of planning, apathy, non-prioritizing of an important issue of water management in agriculture and allied sector by the Government especially in the scenario of monsoon dependency of Indian agriculture and complication arising due to climate change. The Committee would like the Department to show requisite urgency to start the scheme under intimation to the Committee.**

## **AGRICULTURE EXTENSION**

### **Recommendation Serial No.29**

#### **1.26 The Committee had recommended as under:—**

The Committee are aware that Agriculture in India is complex, diverse and risk prone with 123 million cultivators. Predominantly small and marginal farmers across 638,596 villages in 131 agro-climatic zones subjected to vagaries of monsoon, changing climate conditions, regional variations in terms of natural resources, regional imbalances, isolated and difficult areas, other socio-economic factors and multi-agency extension system. They find that despite the research having been done in diverse areas relating to agriculture in the laboratories, it do not get transferred timely to the ground level fields. Even they are transferred, their adoption by farmers is not at the optimal level. The agencies responsible for the transmission of research/research information like KVKs, Zonal Project Directorates, Directorate of Extension Education of SAUs ATMA etc. are functioning in isolation. During 1950s and 1960s when there were not so many agencies for dissemination of information relating to research work, the research activities were easily transferred to farmers and were promptly adopted by the farmers. The Committee, therefore, desire that there is an urgent need to review the functioning of the agencies responsible for transmission of information, knowledge and research activities to the farmers, so that the gap in delivery of research results from lab

to land and acceptance of the same by the farming community can be addressed in the country. They also desire that the Government should set up a Coordination Committee represented by various agencies at appropriate level for dissemination of research information. This coordination Committee comprising of KVKs, ATMA, SAUs, Zonal Project Directorates, Department of Agriculture Cooperation, Department of Water Resources, Department of Post Harvest Management, should meet frequently at regular intervals so that research work/techniques/ information are easily and promptly transfer/disseminated to the farmers, who can adapt and implement the same and improve their economic condition along with the agricultural produce.

**1.27 The Department in their Action Taken reply has stated as under:—**

At Zonal level, there are eight Zonal Project Directorates (ZPDs), each covering 70 to 100 KVKs. These ZPDs are regularly reviewing and monitoring KVKs and coordinating their activities with other research and development agencies including State Agricultural Universities (SAUs), ICAR Institutes, ATMA and field offices of various departments of Govt. of India and State Governments. Directorates of Extension Education of Agricultural Universities are mandated to provide technological backstopping to KVKs and other field extension agencies. At district level there is provision for coordination of KVKs with ATMA and other line departments. Such coordination through Scientific Advisory Committee (SAC) of KVKs and Management Committee of ATMAs provide an effective mechanism for monitoring and review of their programmes. For regional level coordination, the ICAR has already constituted 8 Regional Committees (RCs) in the country. The bi-annual meetings of RCs are held wherein the senior officers of all development departments of State Governments, SAUs and ICAR in the region participate to discuss the research and development issues. At national level, there is a coordination mechanism in place for holding twice in a year (before the start of Kharif and Rabi seasons) interface between ICAR and other Departments of the Ministry of Agriculture. The senior officers of related Ministries are also invited to participate in these interfaces.

**1.28 The Committee while emphasizing importance of coordination between various agencies in order to ensure transmission of information related to research done in agriculture sector had recommended the Department to set up a coordination Committee represented by various agencies at appropriate level for dissemination of research information. The Department in their Action Taken reply had mentioned about existing coordination mechanism at Zonal, District, Regional and National level. The Committee recall that their recommendation was based on observation of the fact that there is inconsistency and time lag in coordination between different agencies responsible for transmission of information being acquired in agricultural research. The Committee while reiterating their recommendation desire the Department to review existing mechanism for coordination and take suitable corrective measures at ground level so as to remove the incoherence and delay in transmission.**

### **KRISHI VIGYAN KENDRAS**

#### **Recommendation Serial No.32**

**1.29 The Committee had recommended as under:—**

The Committee are aware that KVKs is an important agency responsible for transmission of research/research information. In crops and livestock, 328 technological interventions were refined under different thematic areas in 395 locations. Besides, five women-specific income-generating technologies were also refined in eight locations. As many as 73,175 frontline demonstrations were undertaken on cereals, millets, oilseeds, pulses, and other important crops; 4,710 on improved tools and farm implements; 14,390 on livestock; and 5,991 on other enterprises including gender-specific technologies under the National Initiative on Climate Resilient Agriculture (NICRA), 26, 218 demonstration were also carried out. However, the Committee find that out of 634 KVKs in the country, the Department has been able to provide Administrative buildings to 554 KVKs, Trainees hostel to 490 KVKs, Staff Quarters to 442 KVKs, demonstration units to 394 KVKs and soil and water testing facilities to 389



KVKs only. The deficiencies in operations of KVKs is also a matter of concern. The Committee are concerned that in view of inadequate infrastructure and unavailability of project co-ordinator, the KVKs will not be able to contribute towards providing extension services or transmit research and research information to the farmers. The Committee, therefore, emphasis that the infrastructure such as Administrative buildings staff quarters, demonstration units and soil and water testing facilities etc. be built up expeditiously with a prescribed time limit. It may also be ensured that project co-ordinators and other administrative staff are deputed by providing incentives to them.

**1.30 The Department in their Action Taken reply has stated as under:—**

Provisions have been made for creation of the required infrastructure in more number of KVKs during the XII Plan for due approval.

**1.31 The Committee while observing inadequate infrastructure and unavailability of project co-ordinator in many KVKs had emphasised for expeditious provision of necessary infrastructure such as administrative buildings, staff quarter, demonstration and soil testing water facility alongwith deputation of project co-ordinator and other administrative staff. The Department in their Action Taken Reply has informed the Committee that provisions have been made for creation of required infrastructure in more number of KVKs during the XII Plan for due approval. However, the Department have casually stated that provisions have been made without specifying the plan/proposal for building adequate infrastructure in KVKs. They have also remained silent on the issue of posting of project co-ordinators and other administrative staff at KVKs. The Committee are astonished to know that financial approval for creating necessary infrastructure to KVKs are yet to be sanctioned even after almost three years of XII Plan and that provisions itself will not lead to implementation of the proposal. The Committee deplore this casual approach of the Department towards important work of agriculture extension which forms interface between R&D outcomes of ICAR Institute and farmers of the Country. The Committee while reiterating their earlier recommendation desire the Department to provide**

**necessary infrastructure to KVKs and to work for posting of required project co-ordinators and other administrative staff to KVKs in time bound manner.**

#### **Recommendation Serial No.34**

##### **1.32 The Committee had recommended as under:—**

The Committee find that in order to create awareness among farmers and other stakeholders KVKs organize large number of extension programmes like Field Days, Exhibitions, KisanMelas, KisanGosthis, Film shows, group meetings and discussions, workshops, lectures, and use of mass media for wider dissemination of farming technologies. However, the Committee note that out of 630 KVKs only a few out of them are working properly and the functioning of the other KVKs is just satisfactory and much remains to be done. During the 11<sup>th</sup> Plan the Department has allocated Rs. 237.42 crores to meet the expenditure incurred by the State owned KVKs/KVKs functioning under NGOs. The Committee desire that ICAR should fix the responsibility for non performing KVKs functioning under their administrative control to improve their performance so as the objective for which the KVKs have been set up is achieved. They further urge the Department to make assessment of the KVKs activities and performance on regular basis at the same time necessary feedback should be obtain for the KVKs regarding the requirement of the farmers so that necessary changes, if any, can be made in the on-going programmes and research work for the benefit of the farmers. The Committee desire that the Government should ensure that all KVKs both private and State supported KVKs should provide all mandated activities including extending professional advice, information/knowledge to contain ill-effects of whether conditions. The Committee also advice the Department to enhance allocations for KVKs so that more and more State supported KVKs function without any personal or vested interest rather they have holistic approach of dissemination of information and farm knowledge/technology adaptation to farmers.

**1.33 The Department in their Action Taken reply has stated as under:—**

The observations of the Committee regarding improving the overall functioning and following holistic approach in conducting all mandated activities by KVKs for the benefit of farmers have been brought to the notice of the Host organizations of the KVKs. The activities of KVKs are regularly reviewed and monitored. As regards assessing the performance of KVK activities, it is stated that it is being done by holding the Scientific Advisory Committee (SAC) meetings, Zonal Review Workshops and field visits by senior officers. The feedback of farmers is also regularly obtained on KVK programmes by inviting farmers to SAC meetings as farmers are member of SAC. Besides, the farmers are encouraged to take active part in all the KVK programmes and activities and seeking their feedback is part of the programming process.

**1.34 The Committee note that host organizations of KVKs have been informed about observations regarding need for improvement of overall functioning and following holistic approach in conducting all mandated activities for the benefit of farmers. The Committee were also informed about steps taken by the Department for assessment of activities of KVKs and to incorporate suggestion of farmers to bring necessary changes in functioning of KVKs. However, the Department have not bothered to respond to the issue of fixing responsibility for non performing KVKs and need to enhance allocation under the head in order to strengthen and support more number of State owned KVKs. The Committee, therefore, while reiterating their earlier recommendation would like the Department to take effective steps to improve functioning and to enhance allocations for KVKs for supporting more number of KVKs. They would also like to be apprised about fixing of responsibility in non-performing KVKs.**

## **AGRICULTURAL UNIVERSITIES**

### **Recommendation Serial No.37**

#### **1.35 The Committee had recommended as under:—**

The Committee find that the diploma education holders have increased from 1040 in 1992 to about 6,500 in 2010. However the region wise supply is skewed. They feel that new courses for rural youth, to handle day to day jobs at grass root level is required for farm practices small and veterinary services, routine testing services and various other rural occupations, agro processing, marketing etc. The Department have estimated that capacity building effort need to plan for developing para staff stock of about 17.6 lakh by 2020 in ideal case and it is desirable to have institutions with capacity development of 1.7 lakh para professional per year. The Committee, therefore, recommend that multi skilled development programmers/ para-agriculture (like it is, polytechnics and paramedics) be dovetailed like Govt's skill Development Mission or an integrated course can be started through existing institutional systems. They also emphasize expansion of such diploma courses in all the States of the country to meet the growing demand for such workforce.

#### **1.36 The Department in their Action Taken reply has stated as under:—**

A letter is being sent to all Vice-Chancellors of the SAUs to encourage and initiate need based diploma courses for skill development in the various constituent Poly Techniques/ Institutions.

**1.37 Realizing the need of new courses for agriculture and allied sector viz. farm practices small and veterinary services, routine testing services and various other rural occupations, agro processing, marketing in all part of the Country, the Committee had recommended the Department to take steps to start multi skilled development programmers/ para-agriculture (like it is, polytechnics and paramedics) dovetailing with Government's skill Development Mission or an integrated course through existing institutional systems. They also emphasized**

for expansion of such diploma courses in all the States of the country to meet the growing demand for such workforce. The Department in their Action Taken Reply has stated that letter is being sent to all Vice-Chancellors of the SAUs to encourage and initiate need based diploma courses for skill development in the various constituent Poly Techniques/Institutions. While noting the step taken by the Department, the Committee would hope that the Department pursue the matter to the logical conclusion and keep a tab on the courses being run or proposed to be run for skill development. The Committee while reiterating their earlier recommendation also desire that multi skilled development Programmes/Para-agriculture be dovetailed promptly and the Government's Skill Development Mission or integrated courses can be started through existing institutional systems at the earliest under intimation to the Committee.

## **RECOMMENDATIONS/OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT**

### **CHAPTER – II**

#### **States Representation In Regional Committees**

##### **Recommendation Serial No. 01**

The Committee note that the Governing Body of ICAR has constituted eight Regional Committees for eight different Agro-ecological regions of the country to analyze, discuss in depth and make recommendations on the location specific problems of Agriculture, Animal Husbandry, Fisheries and Forestry peculiar to the Region. These Committees meet once in two years. The Committee found that the meeting of the regional committees are too few and far between and the representation of the State Government officials is not adequate. This leads to inadequate inclusiveness and the view of the State Government representing their location specific difficulties is not clearly brought out. The Committee, therefore, desire that the Government should hold the meetings of these Committees annually instead biennially and that too adequately represented by State representatives. They also desire that the Department should encourage State participation and incentivise the officials of the States to participate in the meetings of Regional Committees by offering workable solutions to their regional agro problems including coordination with concerned agencies, if required.

##### **Reply of the Government**

The Regional Committee meetings are held biennially and mid-term review meetings in each region are organized annually. The Secretary Agriculture, Govt. of India has written letter for adequate representation of State Govt. officials in these meetings. In addition, State specific interactions are also organized to offer workable solution to their regional agro-problems. The interface meetings between ICAR and DOAC are also conducted every year before the start of Kharif and Rabi seasons in order to get the feedback and update about latest technological developments.

However, Member Secretaries and Nodal Officers of each Regional Committee have been informed for taking necessary action.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **AICRP/Network Projects**

#### **Recommendation Serial No. 02**

AICRP/Network Projects are constituted to mobilise available scientific resources to find effective solutions for the national problems of agricultural production. These are developed as multidisciplinary and problem oriented projects on multi-location testing of new material/production system. These projects also provide opportunities for scientists working on similar problems in other institutions to come together discuss, exchange their ideas, information, material and solutions to similar problems for mutual benefits. They also provide them with facilities for multi-location testing of improved technologies by various subsystems in different agro-climate regions. AICRPS/NP are generally sanctioned for a period of 5 years and are headed by a full time Project Coordinator with a Coordinating Unit to assist him. Presently there are about 61 projects in the country. The project coordinator and his unit is thereby, wholly responsible for timely completion and commissioning of the project(s). The Committee are of the opinion that since the projects constitute an effective national grid of coordinated experiments by integrating different institutions and disciplines, it is vital that regular interactions take place and the projects be completed within the stipulated time frame so that the objectives of each of such projects are achieved.

#### **Reply of the Government**

The annual meetings of AICRPs/NP are held regularly to review the progress and develop technical programme for the ensuing year. In addition, monitoring teams also visit different institutions during the crop season for interaction and verification about conduct of trials. The AICRP/NP are approved for the plan period and accordingly the budget provisions are made. The QRT team is constituted to review the

research work in the project and only after satisfactory performance, and accomplishments of targets, the project is continued. All the AICRP programmes have also been reviewed by the DG (ICAR) during the XI plan. In the XII plan it shall be ensured that regular interaction takes place and objectives are accomplished in a definite time frame.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No. 03**

The Committee desire that the Project coordinator and his team should regularly incorporate the ideas and solutions in implementation of these projects from the AICRP exchanges. They also urge the Ministry that in case of failure to adhere to the time schedules for the completion of these projects, the reasons be analysed and the responsibility be fixed so as to avoid time and cost escalations.

### **Reply of the Government**

The Project Co-ordinator shall undertake continuous monitoring to ensure adherence to the time schedule for completion of the projects. The research work at the AICRP Centres is reviewed by the Project Co-ordinators and only after satisfactory performance, the grant is released. The allocated budget during the plan period does not normally exceed.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.7 of Chapter – I of this Report.



## **Strengthening of ICAR**

### **Recommendation Serial No. 04**

A large number of State Agriculture Universities, State supported Institutes, Central Universities, National Institutes, National Bureaux, Projects, NRC, AICRP, AINP and KVKs are functioning under the guidance of DARE/ICAR in various parts of the country to meet the demand of Agriculture and allied sectors. It is the Research and Technology development by DARE/ICAR which has enabled an increase of 4 times in production of foodgrains, 6 times horticultural crops, 9 times fish, 6 times eggs since 1950-51. However, there is still a lot of scope to strengthen the NARS to meet new challenges and that there is a need to compare ourselves with some of countries which are moving much faster than us like China, Brazil, Malaysia etc. The Committee, therefore, emphasize that instead of being complacent about their achievements the Government should strengthen the ICAR network to meet the new challenges regarding food security. The Committee recommend the DARE to study in depth the methods/technologies adopted by some of the progressing aforesaid countries in this field and adapt them to our given conditions so as to augment the production and productivity in agricultural sector besides improving the economic conditions of farming community of the country. The Committee also urge the Ministry of Agriculture to lay more emphasis and focus on the agriculture research in the 12<sup>th</sup> Five Year Plan and provide adequate financial support to meet the much required research work.

### **Reply of the Government**

In order to augment production & productivity in Agriculture Sector, besides improving the economic condition of the farming community in India, efforts shall be made during XII Plan on focused areas of Agricultural Research. Keeping the priorities in view, EFC/SFC are being processed to provide financial support to the Research work to meet the new challenges. The efforts shall be made to study the technological advances made in some of the countries for augmenting the productivity. Based upon the study and after identification of such studies and other reasons for productivity differential between India and other countries, necessary measures shall be taken to

incorporate the scientific advances made in some of the Countries for attaining the desired level of productivity.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.10 of Chapter – I of this Report.

### **Recommendation Serial No. 05**

The Committee have been apprised that prioritization monitoring and evaluation cells are there in Agricultural Institutes. Further ICAR co-ordinates, facilities and support research work in Agriculture but do not play the role of regulator. They informed the Committee that ICAR have accreditation to obtain development grant. Since Agriculture is a State subject and therefore, the problems of co-ordination and overlapping of research comes up, the Deputy Chairman, Planning Commission has written to Chief Secretaries for adoption of model Act which is said to solve issues with respect to the governance, Institutional mechanisms involvement. The Committee desire that the Department should pursue the adoption of the model Act with the State Governments and the Committee may be apprised of the same.

### **Reply of the Government**

ICAR had sent a copy of revised “ICAR Model Act for Agricultural Universities (Revised 2009)” to Chief Secretaries of all the State Governments with request to implementing the Act in their concerned states. In recent past, Chief Secretaries of all the State Governments have been intimated again urging upon them for implementation of the Model Act. Till date, many universities have apprised the Council with their inputs/modifications/suggestions etc.. Recently on 6<sup>th</sup> March, 2014, Hon’ble Agriculture Minister has also written letter to Chief Ministers of eighteen states for implementing the ICAR Model Act.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **XII<sup>th</sup> Plan Allocations**

### **Recommendation Serial No. 06**

The Committee find that the funds sought by the Department for the entire 12<sup>th</sup> Plan was Rs. 57,887.21 crores. However, the Planning Commission has made an allocation of Rs. 25,553 crores for the entire 12<sup>th</sup> Plan. In the first year Rs. 3,220 crores was allocated (BE). However, against this only Rs. 2520 crore were provided at RE stage (9.81% of the revised allocation for 12<sup>th</sup> Plan). For the second year of the 12<sup>th</sup> Plan Rs. 3415 crore has been allocated (13.36% of the allocation for 12<sup>th</sup> Plan). While formulating the 12<sup>th</sup> Plan the Ministry have apprised the Committee that various programmes and research agendas in each sector have been formulated and detailed discussions have been held for formulating flagship programmes, addressing major concerns in sub-sectors and commodities. The Ministry have also sought higher allocation of resources for revitalizing of NARS in general and SAUS in particular including strengthening of regional capabilities of regional research stations modernization research infrastructure, augmentation of operational funds and restructure the faculty under various programmes. The Committee are concerned to note that in the first place the Planning Commission has allocated less than 50% of the funds sought by this Department. The Ministry have stated that since the funds have been allocated for the first two years of the 12<sup>th</sup> Five Year Plan there will be no adverse effect on carrying out the technical activities. However, the Committee would like to bring out the fact that only 23.22% (9.81% in the first year and 13.36% in the second year of the 12<sup>th</sup> Five Year Plan) of the total has been allocated for the first two years of the 12<sup>th</sup> Five Year Plan. They, therefore, urge the Department to request the Planning Commission for grant of more funds i.e. at least 1% of GDP and to grant these funds evenly over the years so as to achieve the stated targets of XIIth Plan relating to ambitious schemes on conservation agriculture, nutrient management, organic farming, resource conservation technologies, water management, higher agriculture education, post harvest operations etc. The Committee, therefore, desire the Department to re-visit

their priorities, re-work their programmes and research agenda and inform the Committee in this regard.

### **Reply of the Government**

The Planning Commission has been requested for reconsideration of the comments of the committee during 12<sup>th</sup> plan emphasizing time and again for allocation of 1% of Agriculture Gross Domestic Product(GDP) on Agriculture research, which should be exclusively for the centre.

Further, the Department is revisiting its priorities in the Expenditure Finance Committee (EFC)/Standing Finance Committee (SFC) meetings being held. In these meetings Ministry of Finance, Planning Commission and other Departments are represented.EFC/SFC clearance for CRP on Agri-biodiversity Management, Genomics and Molecular Breeding, Nanotechnology, Conservation Agriculture, Health Foods, Farm Mechanization etc and New Initiatives like National Agricultural Education Project, Farmers First, Student READY, ARYA are being finalized. It is expected that the Department will get the necessary clearances at the earliest for early start of these projects.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Investment in Agriculture Sector**

#### **Recommendation Serial No. 09**

The Committee feel that there is an urgent need to promote investment in agricultural sector by the private players other than the farmer, especially in the post-harvest infrastructure and facilities besides the machinery, processing and value chain related products. They emphasise that the investment in agriculture sector should be made in partnership with private sector and implement the National Agricultural Innovation Project (NAIP) model with proper monitoring mechanisms.They also urge the

Department to expedite the proposal(s) of Public-Private-Partnership in agricultural research and education and apprise the Committee of the same.

### **Reply of the Government**

The Intellectual Property & Technology Management(IP&TM) unit is already in process of internalizing the dimensions of intellectual property rights and technology commercialization. By now, there are over 1950 IPR applications filed from 67 ICAR institutes. Also, over 1000 partnership agreements with more than 560 agencies have been recorded in the IP&TM Unit. Through the National Agricultural Innovation Project (NAIP)partnership was forged with 91 private partners and NGO's in various subjects.This was quite beneficial and smooth. The Council is making further efforts in this direction through Agrinnovate India Ltd.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.11**

The Committee are aware that 50 years back the Agriculture Education System was mainly based on Land Grant System. So far, the emphasis has been on crops and food security, however, now there has been a change and priority has to be given to the development of livestock, fisheries and horticulture etc. also. The Committee feel that the resource allocation to these sectors should be proportionate to their contribution to National GDP. These are important components to improve the economic conditions of farming community. They also desire that concrete steps be taken during the 12<sup>th</sup> Plan to give Research priorities to sectors like livestock, fisheries and horticulture, which hold promising areas of growth in future and enhance the non-farm incomes of the farmers.

### **Reply of the Government**

The proposal of the XII plan envisions the judiciously integrating conventional plant breeding, molecular biology, bioinformatics, genetic engineering, human resource and infrastructural development, Farm Mechanization, Energy in Agriculture, Secondary Agriculture, Health Foods and Natural Fibres through the Consortia Research Platform

(CRP). These CRPs have been conceived keeping in mind the evolving scenario of agriculture in the country and to address them with appropriate research and development interventions.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Public Private Partnership**

### **Recommendation Serial No.12**

The Committee find that so far the Public Private Partnership, National Agricultural Research system has mainly been used as a vehicle to enhance technology validation and transfer/commercialization through MoUs/ MoAs/ NTA/ Agreement/ Licensing/ Consultancy Contracts etc. They also find that in research there have been initiatives mainly in the areas of farm implements, machinery processing and value addition. They note that partnership with private sector has seen a new approach for growth in ICAR. It is based on the principles of joint IPR ownership and pre-decided licensing rights. The Ministry informed the Committee that about 385 technologies/know-how have been transferred/commercialized through more than 900 partnership developed with external agencies. In 203 sub-projects of various components of National Agricultural Innovation Project (World Bank Supported) there are 212 private sector organizations including NGOs participating in 6 consortia. The Committee were also informed that a Cabinet Note on “In-Principal approval of the Public-Private-Partnership in Agricultural Research and Education” has already been initiated to provide the much needed stronger foundation to meet these requirements. While appreciating the efforts of ICAR in involving private partnerships through various modes they feel that the role of these partnerships is limited and commercialization/transfer/technology validation only. The Committee feel that the potential to obtain systematic impact could be much higher in new approaches of consortia and partnership rather than traditional approach of undertaking R&D separately by public sector system. This approach will widen the focus from research

and technological innovation to building a value chain around the innovation spectrum. The Committee however, would like to emphasize on keeping close watch, the efficacy of management and monitoring the role of the private partners.

### **Reply of the Government**

The issue of efficacy of management and monitoring the role of private partners has also been appreciated by DARE/ICAR. A public limited for-profit Company viz; the Agrinnovate India Limited (AgIn) has already been launched to consider these dimensions. The Company has begun its operations in a small way, and as it expands its operations, this critical dimension will also be taken up.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Crop Sciences**

#### **Recommendation Serial No.13**

The Committee were informed that focus of the Department has been skewed to the extent that most of the scientist and budget of ICAR have gone to crop sector especially in rice and wheat crops. Further, out of 18 crops 75% have registered a decline in their factor productivity. There are 6000 scientists and there are 97 institutes. However, these institutes are commodity based research institutes. The Committee urge the Department to develop these commodity based research institutes into more comprehensive and super-speciality research institutes so as to optimize use of scientific manpower and the resources available with ICAR.

### **Reply of the Government**

While research thrust has been given to rice and wheat crop, being staple food crops of the country, adequate emphasis has also been given to research on oilseeds, pulses, small millets, sugarcane and other fibre crops. The commodity based research institutes are being provided adequate funding in the XII Plan for developing them in a comprehensive manner with adequate infrastructure to undertake research in frontier

areas. The Council has taken steps towards rational utilization of available scientific manpower so that cutting edge research shall bring desired results. Special programmes like science-led consortia research platforms have been initiated in the XII Plan for development of hybrids, molecular breeding, bio-fortification, agro-biodiversity and genomics to ensure enhancement in productivity in crops and also nutritional security.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Horticulture**

### **Recommendation Serial No.17**

Horticulture sector which includes fruits, vegetables, spices, ornamental crops, medicines and aromatic plants and plantation crops has been providing livelihood to 30-40% of the population and contributing more than 30% to the GDP of agriculture that too by utilizing only 11% area in the country. The area of cultivation and production in this sector has increased 24.28% and 40.71% respectively during 2011-12 as compared to previous plan period ending in 2005-06. They find that there has been a significant increase of 152.6% in flower production over the year 2005-06. The targets for production of horticultural produce in the annual growth has been 345 million tones computed at 6.7% volume wise and in value terms the growth to be achieved is 9.5%

### **Reply of the Government**

The research efforts have been channelized for achieving high yield and production at 6.7% growth rate by the end by the XII Five Year Plan.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Soil Mapping**

### **Recommendation Serial No.19**

The Committee appreciate that the Department has completed the GIS based district wise soil fertility maps of 20 states. Tehsil-wise soil fertility maps of Punjab, Haryana ,



Himachal Pradesh, Maharashtra, Rajasthan, Gujrat, Chhattisgarh, Orissa, Andhra Pradesh, Tamil Nadu and Karnataka are also available. The on line fertilizer recommendation systems have been completed for 13 states. However, a large number of farm area of the country are yet to be taken up for soil mapping by the Department. The Committee, therefore, recommend the Department to prepare an action plan under which GIS based district/Tehsil wise soil fertility mapping, on line fertilizer recommendation system, GPS based geo-reference soil fertility maps, soil degradation maps and soil erosion maps etc. be completed on a fast pace in the country. This time bound action plan will help the Department to achieve the goal of systematic agriculture growth of the Country. Awareness about soil fertility mapping the soil degradation and erosion mapping may be provided to the farmers at the earliest so that they may plan their crops accordingly. The Committee urge the Government to ensure that farmers have easy access to this information.

### **Reply of the Government**

The Council through the Indian Institute of Soil Science, Bhopal has taken initiatives for generating GIS based soil fertility maps for major, secondary and micronutrients in different districts funded by Department of Agriculture and Co-operation (DAC), New Delhi . In the first phase, GIS based soil fertility maps for 170 districts have been generated and uploaded on the website of IISS, Bhopal for public access. The proposal for second phase has been submitted to the DAC for consideration. These geo-referenced maps can be useful in monitoring soil fertility, fertilizer recommendations for balanced nutrient application in various parts of the country. The ICAR also imparts training, organises Field Level Demonstrations (FLDs) etc. to educate farmers on all these aspects.

Similarly, the ICAR through the National Bureau of Soil Survey and Land Use Planning(NBSS&LUP), Nagpur conducted scientific soil survey from time to time for assessing the extent and nature of soil erosion and land degradation across the country. The extent of Land degradation reported was 187.7 and 146.8 million ha during 1994 and 2004, respectively and more recently (2010) over 120 million ha based on the

harmonized database comprising of 82.6 million ha under water erosion, 12.0 million ha under wind erosion, 24.7 million ha under chemical degradation and 1.0 million ha under physical degradation. The Central Soil and Water Conservation Research and Training Institute, Dehradun has developed several location specific soil and water conservation measures to tackle soil erosion which are being implemented through different integrated watershed management programmes run by various agencies to prevent soil degradation. The institute organizes regular training courses for field functionaries and farmers to control soil erosion. Similarly, the Central Arid Zone Research Institute(CAZRI), Jodhpur has developed sand dune stabilization and shelterbelt plantation technologies to check wind erosion. The council has also developed cost effective amelioration technology, i.e., liming @ 2-4 q/ha in furrow along with integrated nutrient management to raise the productivity of acid soils regions. Similarly, reclamation technology and resistant cultivars have been developed for rehabilitation of salt affected soils. Several agro-forestry systems have also been developed for rehabilitation of degraded lands.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014.

## **Soil Testing**

### **Recommendation Serial No.20**

The Committee observe that sustainable use of natural resources, enhancement of ecosystem service like reduction in green house gases and building resilience to climate change are essential for sustainable agricultural growth in the country. The component of soil on which the plants are grown, the nutrients and also soil and plant healthcare are necessary for efficient production system. The Committee find that the laboratories engaged for testing soil in the country are not functioning appropriately and the farmers even after covering a large distance do not get the soil testing results timely. The timely delivery, extension and awareness system for the farmers is very important. The Committee, therefore, desire the Department to fix responsibility and accountability of existing laboratories to provide information/results regarding the soil health status and

information of crop compatibility region wise to farmers in a time bound manner. They further urge that for prompt delivery of results before sowing time it is important to set up soil testing laboratory in each Development Block and also have Mobile Testing Van facility. They expect the Government to develop more soil testing laboratories for easy access by the farmers. They recommend that farmers should also be educated of the major cropping systems of the country to promote balanced fertilization and the method of collection of soil. They emphasize that at the time of testing the information about the crop for which testing is required should enquired from the farmers.

### **Reply of the Government**

The Government through the National Project on Management of Soil Health and Fertility (NPMSHF) is establishing and /or strengthening soil testing laboratories in different districts to ensure balanced fertilization in the country. The project is being implemented by the DAC. Soil health cards have also been distributed to farmers to keep record on status of soil health. The ICAR also provides soil & water testing facilities in 389 KVKs in the country.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.21**

The Committee observe that at certain places there is over use of fertilizer/use of banned fertilizers by the farmers like in Punjab and Andhra Pradesh. They feel that due to ignorance the farmers not only harm their produce but also add to their production costs besides leaving the soil devoid of nutrient. At time, it also leads to various dangerous disease transmitted through use of banned fertilizers. The Committee, therefore, recommend that volunteers be deputed to inform the farmer of the right quantity and right quality of fertilizers to be used by them on their soil.

### **Reply of the Government**

The ICAR through different centres of the All India Coordinated Research Project on Soil Test Crop Response has developed fertilizer prescription equations for different crops grown in various states. The information is available on the Soil Test Crop Response (STCR) website (<http://www.stcr.gov.in>) and can be used by the soil testing laboratories for on-line fertilizer recommendation. Farmers and other end-users can get STCR based fertilizer recommendations for different crops by feeding the soil test values for a desired targeted yield.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.22 of Chapter – I of this Report.

### **Water Management Technology**

#### **Recommendation Serial No.22**

ICAR Institutes and State Agriculture Universities are implementing a scheme on scaling up of Water Productivity in Agriculture for Livelihoods through teaching cum demonstration, training of trainees and farmers across the country. There are 32 centres across the country providing training to farmers to create awareness on water use efficiency and increase water productivity in agriculture. The technologies for improving water use efficiency have been developed under 25 centres of AICRP on water management and 9 centres on ground water utilization. The Committee emphasize that with the kind of spread of agriculture in India the present awareness centres for providing training to farmers on water use efficiency and increase of water productivity in agriculture as also the centres of AICRP on water management and water utilization are too limited and requires much more vigorous awareness campaign on water management, water conservation (through the developed technology and optimum utilization of water in agriculture) . Further a large quantity of our rain water

remains unutilized by the Agriculture and Allied sectors in the Country. The Committee, therefore, recommended the Department to examine the optimum utilization of water, bringing about more centres training farmers and make vigorous efforts to create awareness in this regard. They also emphasize that the Government should prioritize on promoting developing of water harvesting structures in the Indian farming system and also probe the manner in which these productive work can be covered under the MNREGA by deploying persons for fruitful employment for the purpose of building rain water harvesting.

### **Reply of the Government**

“Scaling up of Water Productivity in Agriculture for Livelihoods through Teaching cum Demonstration, Training of Trainers and Farmers” is a Central Scheme implemented during the XI plan period since February, 2008 from the interest accrued on a corpus fund of Rs. 96 crore. Under the scheme, trainings of Trainers and Farmers were conducted in 32 centres across the country to create awareness among the farmers on water use efficiency, water conservation, rainwater harvesting and different aspects of water management.

As the scheme was for the XI Plan only, the efforts were made in the XII Plan to continue for its implementation to create awareness on generated technologies related to water management, water conservation and optimum utilization of water in agriculture. The draft EFC for the same has been submitted.

During the XI Plan, AICRP on Water Management (25 centres), AICRP on Ground Water Utilization (9 centres) have generated location specific water management technologies which were also transferred through state functionaries for the larger benefit of farming community. During the XII Plan period, it is proposed to merge the above two schemes and initiate an AICRP on Irrigation Water Management in all the centres. The proposed scheme would develop and upscale location specific on-farm water management strategies and technologies in the area of surface water, groundwater and waste water. The developed technologies will be implemented by line

departments of the states involving various schemes of the Govt. of India like, MGNREGA, RKVY, NFSM etc.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.25 of Chapter – I of this Report.

### **Farm Mechanisation**

#### **Recommendation Serial No.23**

The Committee find that improvement in farm practices by using novel agricultural implements/machineries are pre-requisite for improving agricultural output, an alternate to increasing labour costs and enhancing productivity. Farm mechanization can be fruitfully used by farmers with large land holdings thereby utilizing economies of scales. However, for small land holding farmers machineries and implements may not be suitable option. In India large proportion of farming is done by small and marginal farmers possessing small and fragmented land holdings and the farm mechanization is expensive and inaccessible. The Committee urge the Department to call for research in developing low cost, light weight, multi-purpose farm equipments and tools for the benefit of small and marginal farmers or farmers with fragmented land holdings. The Committee also recommend that Department should probe the possibility of promoting youth to combine (bankable) stock of machines and rent out through custom made hiring system and allow small land holders to utilize mechanization for enhancing their productivity and reduce cost of cultivation.

#### **Reply of the Government**

A large number of low cost and light weight farm equipment and tools operated by manual and animal power have been developed for small and marginal farmers and farmers with fragmented land holdings. The research is undergoing in developing and

refining low cost, light weight, multipurpose and gender friendly farm equipments and tools. The present trend is for development of high capacity and energy efficient machines to be used on Custom Hiring Mode to reduce the cost of cultivation. In the custom hiring centers established in the country, these machines are being used by small and marginal farmers as the charges are affordable to them. The Government is giving a major thrust to farm mechanization through its various schemes. A dedicated Sub-Mission on Agricultural Mechanization has been initiated in the Twelfth Plan, which includes custom-hiring facilities for agricultural machinery as one of its major components. Its focus is on increasing the reach of farm mechanization to small and marginal farmers and to the regions where availability of farm power is low.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Organic Farming**

### **Recommendation Serial No.24**

The Committee are aware of the benefits of organic produce in terms of health and nutrition. They note that a national project on Organic Farming is working on the multi disciplinary, multi-location and multi-cropping system. To address the scientific issues of integrated crop including livestock, fish production system to offer scope for larger adoption of organic farming on-farm centres have started in the Country. Research institutes have been established to address the issue related to management of natural resources. The Committee note that the Department is taking certain steps to encourage the organic farming in the Country. The Committee recommend that there is a need to further spread and encourage the adoption of organic farming and bring more farmers/farmers' groups under organic farming, research for production of organic products and proper organic management so as to enhance the quantity and quality of the produce and bring down their prices besides putting aside the toxic effects of the harmful chemicals/in-organic fertilizers. They also urge the Government to pursue State Agricultural Universities through ICAR to develop courses on organic farming and its promotion and development. The Committee desire the Department to formulate policy to strengthen National Project on Promotion of Organic Farming in the Country. The

Committee urge the Department to create awareness among the farmers to adopt practices of using organic insecticides/pesticides such as panchgavya(organic growth promoter) and technology where in waste of the bio-gas plant become liquid instead of solid which can easily spread in the farm.

### **Reply of the Government**

The Ministry of agriculture, Department of Agriculture and Co-operation (DAC), New Delhi through National Project on Organic Farming (NPOF) is promoting organic farming in the country. The Government through National Project on Management of Soil Health and Fertility (NPMSHF) and National Project on Organic Farming (NPOF) is promoting use of composts/manures/bio-fertilizers manufacturing units in the country. Farmers are being educated on this aspect through training and demonstrations. The project is being further strengthened during the XII Plan.

The ICAR, during the X Plan, initiated a Network Project on Organic Farming (NPOF) with lead centre at the Project Directorate for Farming Systems Research(PDFSR), Modipuram. The objective is to develop package of practices of different crops and cropping systems under organic farming in different agro-ecological regions of the country. Presently, the project is running at 13 Co-operating centres including SAUs, spread over 12 states. Organic farming package of practices for 14 crops namely basmati rice, rainfed wheat, maize, redgram, chickpea, soybean, groundnut, mustard, Isabgol, black pepper, ginger, tomato, cabbage and cauliflower have been developed and uploaded in the PDFSR website.

To encourage adoption of organic farming among farmers, DAC is taking steps through the NCOF and National Horticultural Mission. Their efforts may be appreciably supplemented by the NARS through adaptive research in farmers' participatory mode, provided additional funds are made available under Network Project on Organic Farming of ICAR.

The IV<sup>th</sup> Deans' Committee, in its reports submitted in the year 2008, has recommended the introduction of a course on Organic Agriculture under Bachelor



Degree Programmes in Agriculture and Horticulture. Some of the State Agricultural Universities have already introduced this course in the course curricula. The Universities will again be sensitized to introduce it uniformly all over the Country. Further, the Vth Dean's Committee which has already been constituted will also take up the recommendation of the Parliamentary Standing Committee.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Live Stock/Animal Genetic and Animal Products Research Management**

### **Recommendation Serial No. 25**

The Committee are aware that this sector supplement family income and generate gainful employment in rural parts of the country. ICAR coordinates and monitors research activities covering all major species of livestock and poultry from its Research Institutes and Regional Centres. Livestock is an integrated component of agricultural activities particularly when food preferences has been changed in the society, the demand of various animal products has increased in the country and to meet the increasing demand there is a need to improve the performance of livestock sector. The Committee therefore, recommend that the Department has to develop innovative and alternative livestock research system in various fields such as dairy production, processing and value addition, genetically improved conservation of indigenous cattle and buffalo for higher milk production, establishment of open nucleus herds for improved indigenous breeds in their native tract in their genomics and mechanization of equipment for indigenous dairy products for small scale sector so as to meet the future challenges to ensure food and income security particularly of the small and marginal farmers.

### **Reply of the Government**

The various programs have been initiated to address livelihood security of small and marginal farmers focusing on innovative and novel livestock research systems in various fields of dairy production, processing and related areas viz. development of state-of-art dairy production systems using better housing and fertility management practices, improved feeding strategies and improved health management practices. In this process, genetic improvement of milch animals is envisaged to be carried out through application of molecular technologies. Value addition of dairy products will be undertaken through development of products with nutraceutical and functional properties, process upgradation, mechanized manufacturing and novel packaging systems.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.26**

The Committee were apprised that the Ministry have progressed to a certain extent relating to animal genetic resource such as whole genome mapping of Indian water buffalo was carried out and assembly with more than 90 GB DNA sequence data-generated. 6 new breeds viz. four cattle breeds and two of buffalo breed were registered. Phenotypic characterization and evaluation of hill cattle as well as Bundelkhandi goat and goat of Uttarakhand was completed so also for spiti donkey. Genotypic characterization of Indian horse breeds and phylogenetic tree were prepared. The microsatellite genotyping of 50 individuals in each of the Bikaneri, Jaisalmeri, Kachchhi and Mewari breed was carried out and phylogenetic tree constructed. The Committee however, feel that much of the research is still required for genetic improvement and conservation of indigenous cattle and buffalo as also for the establishment of open nucleus herds for improved indigenous breeds in their native tracts. The Committee desire that the Department should focus on development of climate resilient housing and shelter for improved dairy production and improving buffalo productivity by assisting re-productivity and biotechnological tools. The Committee would like the ministry to especially develop and maintain databank on the diseases

related to the animals and also initiate research work on diagnostic kits for various animal related diseases. They would also like the Ministry to invest into onland quarantine stations for such animals suffering from contagious diseases. The Committee urge the Department to regularly monitor the diagnostic regional centres and make available the diagnostic equipments to these centres/network units besides ensuring the quality of the supply from the manufacturing companies. The main focus of research in respect of animal health should be in developing landscape genetic of indigenous disease, disease forecasting models and economic impact analysis relating to disease control strategies.

The Committee recommend that ICAR should promote research for the post harvest management and value addition also wherein the animal products are processed and utilized to an optimum level. Research for value addition of animal products and development of cold storage chain for biological product, safe transportation and safer food products from livestock and poultry should be the focus areas of the Department in the XIIth Five year Plan.

### **Reply of the Government**

The Animal Science Division is continuing its efforts to conserve and genetically improve indigenous breeds of cattle and buffaloes through conservation and breed improvement programs in XII Five Year Plan under AICRP/Network mode. The efforts will be made to establish nucleus herds of various breeds of cattle and buffaloes in their native tract. The council has initiated a research program viz. NICRA (National Initiative on Climate Resilient Agriculture) for different livestock breeds which includes shelter management. The work on development of Animal Disease Data Bank has been initiated along with development of diagnostics and vaccines for economically important diseases of livestock and poultry through network and coordinated research programs. Further, value addition to dairy products through application of emerging technologies process upgradation, nutraceutical enrichment and mechanized manufacturing and noble packaging system will also be developed through research investigations in the XII Plan.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Biotic Stress Management Research**

### **Recommendation Serial No.27**

Biotic stress has been highly challenging for the agriculture in the country. The Committee appreciate the successful achievements of the ICAR in management of such challenges. The losses caused to crops by various pests like pod borer 10-90% pod fly 70-80% wilt/root rot complex 20-25% sterility mosaic 20-40% are still causing a hurdle in the farming in the country. The Committee desire the Department to complete the issues like conducting national survey for mapping of different pests, establishment of modified light and pheromone trap network in key pulse growing areas, harmonize seed production system with bio-fertilizer in pulses and bio-pesticide application in a time bound manner to meet the challenge of biotic stress by the farming community in the country.

### **Reply of the Government**

Regular surveys are conducted by ICAR for mapping pest prevalence and their management for sustainable pulse production in the country. Awareness-cum-Surveillance programme for management of major pests of soybean-cotton based cropping system in 271 *talukas* comprising 30,000 villages in 29 districts of Maharashtra covering 2.5 million ha of soybean, 3.9 million ha of cotton, 1.3 million ha of chickpea and 1.3 million ha of Pigeonpea has been undertaken.

The Light Trap has been commercialized to serve as an important component of the Integrated Pest Management (IPM) in pulse and paddy crops. Bio-pesticide is the major component in all the IPM modules under validation in vegetables, fruits, oilseeds and pulse crop. Protocols for mass multiplication of bio control agents and bio-pesticides have been developed at ICAR Institutes.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.28**

The Committee find that the National Institutes of Abiotic Stress Management has started functioning partially and will implement important research programmes in a thematic mode namely Drought Stress Management, Atmosphere Stress management ,Adaphic Stress Management and Policy Research Support Management. The Institute will also focus on strategic human research development for long term tackling of different stresses in the frontier areas with participation of wide network of India and International Institutes. The Institute was to function fully by the end of 11<sup>th</sup> Plan/beginning of 12<sup>th</sup> Plan. Similarly, the Indian Institutes of Agricultural Biotechnology Ranchi and National Biotic Stress Management Institutes, Raipur are also upcoming institutes with frontier research in various basic aspects using modern scientific tools in various national laboratories. These are frontier research institutes and likely to develop repository of information in their respective areas. The Committee would desire to be apprised of the status of completion in each of these two management Institutes as also achievements of the time schedules. The Committee would also like to know whether the proposal of affiliating these laboratories to the Institute of Biotech Stress Management have been undertaken so as to encourage high and post graduate degrees, post doctoral and extra moral programmes.

### **Reply of the Government**

In addition to the National Institute for Abiotic Stress management (NIASM) which is already established at Baramati, Pune in Maharashtra, two other Institutes viz., Indian Institute of Agricultural Biotechnology (IIAB) at Ranchi and National Institute of Biotic Stress Management (NIBSM) at Raipur are being established with outlay of Rs. 287.50 and Rs. 121.10 crores, respectively for the XII plan. Following acquisition of lands, the process of creation of infrastructure for laboratories and administrative offices have been initiated. The Scientists, technical and administrative staff required at this initial phase of establishment have been placed in both the Institutes. Efforts are undertaken for recruitment of Director and other approved posts. Indian Institute of Agricultural Biotechnology (IIAB) and National Institute of Biotic Stress Management (NIBSM) proposes to be affiliated to Indian Agricultural Research Institute(IARI) for

encouraging students to obtain Post Graduate degree in Agricultural Biotechnology till such time these institutes acquire deemed-to-be university status.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

## **Agriculture Extension**

### **Recommendation Serial No.29**

The Committee are aware that Agriculture in India is complex, diverse and risk prone with 123 million cultivators. Predominantly small and marginal farmers across 638,596 villages in 131 agro-climatic zones subjected to vagaries of monsoon, changing climate conditions, regional variations in terms of natural resources, regional imbalances, isolated and difficult areas, other socio-economic factors and multi-agency extension system. They find that despite the research having been done in diverse areas relating to agriculture in the laboratories, it do not get transferred timely to the ground level fields. Even they are transferred, their adoption by farmers is not at the optimal level. The agencies responsible for the transmission of research/research information like KVKs, Zonal Project Directorates, Directorate of Extension Education of SAUs ATMA etc. are functioning in isolation. During 1950s and 1960s when there were not so many agencies for dissemination of information relating to research work, the research activities were easily transferred to farmers and were promptly adopted by the farmers. The Committee, therefore, desire that there is an urgent need to review the functioning of the agencies responsible for transmission of information, knowledge and research activities to the farmers, so that the gap in delivery of research results from lab to land and acceptance of the same by the farming community can be addressed in the country. They also desire that the Government should set up a Coordination Committee represented by various agencies at appropriate level for dissemination of research information. This coordination Committee comprising of KVKs, ATMA, SAUs, Zonal Project Directorates, Department of Agriculture Cooperation, Department of Water

Resources, Department of Post Harvest Management, should meet frequently at regular intervals so that research work/techniques/ information are easily and promptly transfer/disseminated to the farmers, who can adapt and implement the same and improve their economic condition along with the agricultural produce.

### **Reply of the Government**

At Zonal level, there are eight Zonal Project Directorates (ZPDs), each covering 70 to 100 KVKs. These ZPDs are regularly reviewing and monitoring KVKs and coordinating their activities with other research and development agencies including State Agricultural Universities (SAUs), ICAR Institutes, ATMA and field offices of various departments of Govt. of India and State Governments. Directorates of Extension Education of Agricultural Universities are mandated to provide technological backstopping to KVKs and other field extension agencies. At district level there is provision for coordination of KVKs with ATMA and other line departments. Such coordination through Scientific Advisory Committee (SAC) of KVKs and Management Committee of ATMAs provide an effective mechanism for monitoring and review of their programmes. For regional level coordination, the ICAR has already constituted 8 Regional Committees (RCs) in the country. The bi-annual meetings of RCs are held wherein the senior officers of all development departments of State Governments, SAUs and ICAR in the region participate to discuss the research and development issues. At national level, there is a coordination mechanism in place for holding twice in a year (before the start of Kharif and Rabi seasons) interface between ICAR and other Departments of the Ministry of Agriculture. The senior officers of related Ministries are also invited to participate in these interfaces.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.28 of Chapter – I of this Report.

## **KVKs**

### **Recommendation Serial No.30**

In our country there are about 80% small and marginal farmers. For the survival of such farmers we have to explore the possibility to increase their on-farm and non-farm income. To improve the economic condition of the small farmers there is a need to explore avenues to generate non farm income besides the subsistence level farm incomes of the farmers. The Committee, therefore, recommend the Department to research and disseminate information on the non-farming activities like processing, post-harvest technology etc. that can be included in the mandate of KVKs which will not only increase the economic conditions of the farmers but also strengthen the functioning of KVKs in the Country.

### **Reply of the Government**

As suggested by the Committee, the KVKs have been advised to take up activities on agro-processing and post harvest technology to promote secondary agriculture in their respective districts. In order to give more focus on non-farming activities like agro-processing and post harvest technology during XIIth Plan, provision has been made for creation of minimal processing facilities in selected KVKs.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.33**

The Committee are aware that ICAR has created a network of 634 KVKs to assess refined and demonstrate new technologies and products developed by National Agricultural Research System. The KVKs play the role of intermediary institutions to finetune the research conducted under controlled conditions before the farmers adopt the same. The entire process is carried out in participatory mode involving the farmers with the objective of developing location specific technology models. The Committee find that there is acute shortage and exorbitant prices of recommended agro inputs affecting the technology transfer and applications very difficult. They also find that it is a long drawn process for the KVKs to upscale the assessed refined technology which are



found fit for adoption by farmers on large scale. The Committee also find that in the changing agricultural scenario the marketing support to farmers for primary processing storage, grading, packing, conservation, transportation is equally important for successful technology transfer adoption and benefits to the farmers at large.

The Committee desire that ICAR should focus on the area of research so as to reduce the prices of such technology transfer including inputs and the applications. The Committee also recommend that the Department/ICAR should strengthen marketing intelligence, EDP and consultation through EDP, packaging project report preparation, consultancy industry and enterprise relations and partnerships. They should also focus on establishing local market network on prices and establishment of value chain demonstration units.

### **Reply of the Government**

As suggested by the Committee, the KVKs have been advised to conduct Entrepreneurship Development Programmes for farmers in collaboration with other stakeholders in their respective districts. The efforts will also be explored for establishment of local market network on prices and value chain demonstration units in selected districts. Necessary provision in this regard has been made in the Cabinet note of the KVK Scheme and the same will be taken up after its approval.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Agricultural Universities**

#### **Recommendation Serial No.35**

Indian agriculture system has a network of 55 State Agricultural Universities. One Central Agricultural University, five Deemed-to-be-Universities Status and four Central Universities with agricultural faculty. The Agricultural Universities impart education in 11 major disciplines at undergraduate and about 95 subjects at post-graduate level. The State Agricultural Universities are established through the legislative Act of the respective States. These universities function under the

administrative control of respective State Governments with major financial support. The Secretary, DARE submitted before the Committee that more than 50% of the budget of DARE/ICAR is granted to the State Agricultural Universities. During 2007-08 to 2011-12 the ICAR has provided a sum of Rs. 2033.36 crore to the State Agricultural Universities. The Ministry have informed the Committee that the pace, quality of technology generation and human capacity building in most of the SAUs have decline due to inadequate state funding, depleted faculty strength, inadequate faculty development programmers, lack of modern infrastructure for education and research, during the evidence, the Secretary, DARE confessed before the Committee that there is shortage of faculty and that invariably 35% to 40% vacancies exists and the State Governments many a times are not allowing to fill up these vacancies. The Committee desire that the Department should focus on the standard of agricultural education to be improved by ensuring that the vacant academic posts in the State Agricultural Universities are filled up promptly. The Committee recommend the Department to ensure that all the vacancies are fulfilled in consultation with State Governments in these SAUs before the release of any financial support to them so that the pace, quality of technology generation and human capacity building is attained at the desired level in these SAUs. They also advice the Government to probe the possibility of mobility of researchers and teachers between the universities and emphasize that the institutes if feasible, provide proper incentives to the researchers/ teachers for such arrangements. They desire to be kept abreast of the status and the outcome of the decision taken to conduct NET Examinations twice in a year so that SAUs have adequately qualified and competent applicants for various teaching positions.

### **Reply of the Government**

To improve the position of vacant positions in the State Agricultural Universities, necessary communication to the Chief Secretaries of all State Govts., requesting them to initiate necessary action to fill up all the vacant positions in agricultural universities have been sent.

Further, to encourage the mobility of researchers and teachers between universities and to address faculty shortage in cutting edge areas, ICAR proposes to

initiate programmes like Adjunct Faculty, Emeritus Professors, Teaching Associates etc during the XII Plan under the proposed new National Agricultural Education Project, provision for the mobility of teachers between the universities and the institutes shall be made.

As regards the NET Examination, it has now been decided to conduct NET Examination twice in a year. Accordingly, the ASRB conducted the NET Examination twice in the year 2013.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Recommendation Serial No.37**

The Committee find that the diploma education holders have increased from 1040 in 1992 to about 6,500 in 2010. However the region wise supply is skewed. They feel that new courses for rural youth, to handle day to day jobs at grass root level is required for farm practices small and veterinary services, routine testing services and various other rural occupations, agro processing, marketing etc. The Department have estimated that capacity building effort need to plan for developing para staff stock of about 17.6 lakh by 2020 in ideal case and it is desirable to have institutions with capacity development of 1.7 lakh para professional per year. The Committee, therefore, recommend that multi skilled development programmers/ para-agriculture (like it is, polytechnics and paramedics) be dovetailed like Govt's skill Development Mission or an integrated course can be started through existing institutional systems. They also emphasize expansion of such diploma courses in all the States of the country to meet the growing demand for such workforce.

### **Reply of the Government**

A letter is being sent to all Vice-Chancellors of the SAUs to encourage and initiate need based diploma courses for skill development in the various constituent Poly Techniques/ Institutions.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.37 of Chapter – I of this Report.

### **Recommendation Serial No.38**

The Committee find that the casual laborers were earlier engaged by ICAR Institutes as per guidelines issued by the Government of India from time to time. The Committee have been informed that subsequently as per DoPT guidelines dated 10.09.1993 all eligible workers working in ICAR were given temporary status and those who fulfilled the eligibility criteria were also considered for regularization against regular vacancies vide the aforesaid guidelines. SAUs engage labourers as per labour Laws of the respective State Governments. KVKs are functioning under ICAR Institutes and SAUs and some NGOs are governed by Rules and Regulations prescribed by Central/State Governments. The Committee were also informed that casual labourers with and temporary status engaged in ICAR are governed by service conditions, wages and remunerations as prescribed by the Government of India from time to time through separate and specific orders. The Ministry have informed the Committee that information regarding remuneration paid for the last five years is not readily available at ICAR Headquarters. They have further informed that Institutes of ICAR have outsourced various labour intensive services as per the Government of India guidelines on contract labourers issued from time to time. The Committee are surprised that ICAR does not have readily available information regarding agricultural labourers for their farm fields in various Institutes, universities and KVKs at their Headquarters. They feel that if the basic information is not available with the ICAR Headquarters how does the ICAR monitor that the wages are being paid to such labourers or that the minimum wages/remuneration are being paid to them as per DoPT guidelines, State Labour Laws or Contract Labour Regulation Act. They fail to understand as to how the Ministry ensures that the Rules and Regulations governing the contract labourers are not violated. The Committee urge the Government to ensure that the ICAR should develop database regarding the contract labourers and their service conditions relating to wages and remunerations which is not only authentic but also readily available for necessary

monitoring. The Committee strongly recommend that the laws governing the casual labourers/ contract labourers engaged by the ICAR Institutes should be strictly enforced so that Minimum Wages are paid to such labourers. The Committee also urge that ICAR should ensure regularization of such casual labourers working directly under them who fulfill the eligibility criteria against regular vacancies as and when they arise.

### **Reply of the Government**

(i) Casual labourers in ICAR farms were earlier engaged by the ICAR Institutes, as per guidelines issued by the Govt. of India from time to time. Subsequently, as per DOP&T's guidelines vide O.M. No. 5106/2/90-Estt.(C) dated 10/09/1993, all the eligible casual labourers working in ICAR Institutes were given Temporary Status. Casual Labourers working in ICAR Institutes were given Temporary Status. Casual Labour (Temp. Status) in ICAR are governed by the service conditions strictly as per the Govt. of India's (DoP&T) instructions issued from time to time, Wages and remunerations paid to the labourers deployed on ICAR farms for the last 5 years are detailed in the Table 2 below:

Year	No. of Labourers	Prevailing Minimum Wages	Actual wages paid (Rs. In Lakhs)
2008-09	4512	As per minimum wages act	20447.5
2009-10	4857	As per minimum wages act	10459.8
2010-11	4953	As per minimum wages act	11679.5
2011-12	4551	As per minimum wages act	14262.8
2012-13	4986	As per minimum wages act	15630.00

(ii) All concerned have been instructed that the laws governing casual labourers/contract labourers engaged are enforced strictly so that labourers are paid minimum wages. Instructions have also been issued to all concerned in ICAR for regularization of those casual labourers with temporary status who fulfill the eligibility criteria against regular vacancies as and when they arise, in the light of Govt. of India's (DOP&T's) guidelines issued from time to time.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

**RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT  
DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES**

**CHAPTER – III**

**-NIL-**

## **RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE**

### **CHAPTER – IV**

#### **Investment in Agriculture Sector**

##### **Recommendation Serial No.07**

The Committee find that during the XIth Plan Period only Rs. 10,325.76 crore was allocated to DARE vis-à-vis demand for Rs. 31,672 cr. The utilization of funds by the Government was only Rs. 9,800 cr. The agricultural growth rate at the end of XIth Plan was only 3.3% vis-à-vis target of 4% and the stated reason was that total low public investment in agriculture in R&D sector in the form of infrastructure irrigation water conservation and land etc. Further, the other reason was R&D expenditure was only 0.5% of agricultural GDP. The Committee urge the Ministry to learn their lessons and ensure that the allocated amount is utilized fully and the expenditure on research should be enhanced at least 1% of the agriculture GDP in the XIIth Plan. They also emphasize that the Department should focus on not only planning but actually enhancing investment in research infrastructure, irrigation water conservation and land etc.

##### **Reply of the Government**

The National Centre for Agricultural Economics & Policy Research (NCAP) undertakes studies from time to time on public-private investment and their compositions. Fresh study will be taken on these aspects by the NCAP soon.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

##### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.13 of Chapter – I of this Report.



### **Recommendation Serial No.08**

The Ministry have apprised the Committee that additional investment of one rupee in research generated more than rupee one on an average in major crops, and the highest marginal product was achieved in 'Arhar' where additional investment of rupee one generated additional output worth Rs. 12.82. They have also informed the Committee that a recent study covering two decades indicate 42-46% internal rate of return in public investment in agricultural research and education. All these studies prove high pay-off from public sector R&D investments. Research and technology driven output growth has also led to the decline in real cost of production in the range of 1.0-2.31% per annum during the past three decades in case of cereals. This has helped in keeping the prices of cereals low and benefitting consumers and producers. In view of the above, the Committee feel that the importance and significance of agricultural R&D in the development process cannot be underestimated. They desire that the investment in agricultural R&D should be enhanced so as to obtain higher returns, besides reducing the import dependency and adding to the export capacity of the country. The Committee desire that the Department should prepare an action plan to attract investment in agriculture research in the country. They should also approach the Ministry of Finance to provide monetary and fiscal incentives for the same. Further, DARE should take concrete steps to publicize the return from investment in Agriculture sector.

### **Reply of the Government**

The estimates quoted in the report are from the study already done by the NCAP. Concrete steps shall be taken to publicize the return from investment in agriculture sector.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15<sup>th</sup> May, 201

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.13 of Chapter – I of this Report.

### **Recommendation Serial No.10**

The Committee note that ICAR have been consciously developing farmer friendly technologies and assuring quality higher education. They are satisfied that the Council in consultation with all the stake holders have prepared the first ever policy framework for R&D in agriculture and allied areas. While appreciating the work of ICAR in bringing out a clear cut policy in order to support the farmers, the Committee urge the Ministry to ensure implementation and execution of the policy so as to play a vital role in agricultural research and education besides dissemination of information and technologies to the farmers at the ground level. They also emphasize that this R&D policy articulated by ICAR should be appropriately integrated and synchronized with the National R&D System and Science and Technology Innovation Policy 2013. They further desire that the contents and the benefits flowing from this policy to the farmers should be publicized and awareness be created among the farmers through KVKs and other on-field agencies.

### **Reply of the Government**

The studies on impact Assessment of various technologies has been initiated. The network of KrishiVigyanKendras (KVKs) are organizing large number of awareness creating programmes among farmers with focus on improved agricultural technologies, practices and programmes and policies of the Government.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.16 of Chapter – I of this Report.

## **Seeds**

### **Recommendation Serial No.14**

The Committee note that 257 crop varieties including 26 varieties of wheat, 33 varieties of paddy, 33 varieties of maize, 32 pulses crop, 25 pearl millet and 52 varieties of oilseeds crops have been released during 2007-10 by the Crop Science Division. During the year 2011, 98,481 quintal of breeder seeds were produced. The Committee find that the States do not have adequate seed plan as a result of which the poor farmers are compelled to produce from farmer savedseeds or are compelled to buy seeds from the open market at exorbitant rates, where multi-national companies have taken over the whole market. They emphasise that a comprehensive and authentic database of seeds production and distribution in India by Public and Private sector has to be developed so that all stakeholders/farmers have enough information. Further, the Government should have adequate control over the prices of the seeds and not leave it on the whims of private companies to charge exorbitant prices for seeds.

### **Reply of the Government**

The entire breeder seedis being produced as per the indent of DAC and supplied by the ICAR to different public and private seed producing agencies for further multiplication as foundation and certified seed. The details of quality seed production by public and private sector and their contributions have been provided in Table 1. The uniform breeder seed price is fixed by the ICAR in consultation with the DAC taking into account the cost of cultivation of respective crops. However, the price of certified seed is fixed by the respective seed producing agencies.

**Table 1. Quality seed production by public and private sector and their contributions**

<b>Year</b>	<b>Certified/ Quality seed production/ availability (million tonnes)</b>	<b>Quantity of seed produced by public sector (million tonnes)</b>	<b>Share of public sector (%)</b>	<b>Quantity of seed produced by private Sector (million tonnes)</b>	<b>Share of private sector (%)</b>
<b>2003-04</b>	<b>1.32</b>	<b>0.70</b>	<b>52.5</b>	<b>0.63</b>	<b>47.5</b>
<b>2004-05</b>	<b>1.41</b>	<b>0.77</b>	<b>55.0</b>	<b>0.63</b>	<b>45.0</b>
<b>2005-06</b>	<b>1.48</b>	<b>0.79</b>	<b>53.2</b>	<b>0.69</b>	<b>46.8</b>
<b>2006-07</b>	<b>1.94</b>	<b>1.15</b>	<b>59.0</b>	<b>0.80</b>	<b>41.0</b>
<b>2007-08</b>	<b>1.94</b>	<b>1.12</b>	<b>57.4</b>	<b>0.83</b>	<b>42.6</b>
<b>2008-09</b>	<b>2.50</b>	<b>1.51</b>	<b>60.2</b>	<b>1.0</b>	<b>39.8</b>
<b>2009-10</b>	<b>2.80</b>	<b>1.71</b>	<b>61.1</b>	<b>1.09</b>	<b>38.9</b>
<b>2010-11</b>	<b>3.22</b>	<b>1.66</b>	<b>51.6</b>	<b>1.56</b>	<b>48.4</b>
<b>2011-12</b>	<b>3.54</b>	<b>1.81</b>	<b>51.1</b>	<b>1.73</b>	<b>48.9</b>
<b>2012-13</b>	<b>3.29</b>	<b>1.61</b>	<b>49.1</b>	<b>1.67</b>	<b>50.9</b>

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.19 of Chapter – I of this Report.

### **Recommendation Serial No.15**

The Committee are of the opinion that the Department and the ICAR should pursue the States to prepare long term seed plan for their States on the basis of

farmers' economic status, agro-climate conditions, desire to adopt quality seeds, State crop calendar or any other contingent situation. In order to ensure availability of quality seeds in right quantity and at right time to the farmers, they urge the Government to take all necessary steps to prepare seed plans for 5 years in consultation with the respective State Governments. Further the Committee desire the Department to enhance the seed production and upgrade the infrastructure for breeder seed production in accordance with the projection made by National Seed Plan. The services of KVKs should be used to showcase quality seed production programme to the farmers/seed growers and their self help groups to meet the domestic demand and avoid any hardship being faced by farmers in the country in this regard.

### **Reply of the Government**

The Indian Council of Agricultural Research (ICAR) has ensured to provide quality breeder seed to the public as well as private organizations as per their indents collated and forwarded by the Department of Agriculture & Cooperation (DAC). During the last five years, the production of breeder seed is always higher than the indented quantity (Annexure-I). As regards utilization of services of KVKs for showcasing quality seed production programmes to the farmers/seed growers and their self help groups to meet the domestic demand and avoid any hardship is concerned, it is informed that the KVKs are already undertaking the job of production of quality seeds and planting materials. During the year 2013-14, KVKs have produced 1.57 lakh quintal seeds of improved varieties and hybrids of cereals, oilseeds, pulses, commercial crops, vegetables, flowers, fruits, spices, fodder, forest species, medicinal plants and fibre crops and these were provided to 2.61 lakh farmers. A total of 167.19 lakh quality planting materials of elite species of commercial crops, vegetables, fruits, ornamental medicinal and aromatic crops, plantation crops, spices, tuber crops, fodder and forest species were produced and provided to 2.35 lakh farmers.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.19 of Chapter – I of this Report.

### **Recommendation Serial No.16**

The Committee feel that the Department have to make available quality seeds and high breeder varieties/ high bred planting material having good genetic potential at affordable price across the country to the farmers so that they are able to yield maximum harvest under the given agro-climatic conditions. The release of crop varieties and the breeder seed production has not been able to meet the domestic demand of quality seeds in the country. The Committee urge the Ministry to encourage research and development to adopt new technologies for the development of the quality seeds varieties/high bred planting materials. They desire that the technology should be appropriate enough to enable large scale production of planting materials/varieties/highbred with genetic potential in the shortest possible time and maintain uniformity of quality across the production line. They should be able to address the productivity, stress, tolerance, pest and disease tolerance by use of technology for higher productivity. The Committee would, however, like the Ministry to ensure adoption of appropriate measures for safety and safeguards of such seeds. They desire that adequate research and development and incubation time for the pests/diseases liable to be incorporated in these crops be tested in labs before marketing it on full scale to the farmers for operations on fields. The Department should ensure and pursue all the States/UTs to maintain high quality of seeds being sold to the farmers. The implementation of the provisions of the Seeds Act by the States has to be ensured especially regarding seed certification and distribution of certified seeds. The seed certification agencies and Seed Inspectors who are the implementing agencies for provisions of quality seeds of Seeds Act have to be more vigilant to check the sale of spurious seeds in the market. The Committee strongly recommend that in case of non-germination of seeds the farmers should be duly compensated for the loss of their crop. The Committee recommend that a proper monitoring mechanism regarding the seed certification and distribution should be put in place in order to ensure quality

compliance. They also emphasise that with the increase in demand for supply of quality planting material accreditation of nurseries be expedited.

### **Reply of the Government**

During 2013, 106 high yielding varieties (HYVs) of various crops (Cereals: 70; Oilseeds: 15; Pulses: 08; Fibre crops: 03; Forage crops: 04 and Sugar crops: 06) were released & crop based research institutes gave adequate emphasis to develop HYVs having resistance /tolerance to biotic/abiotic stresses as well as better nutritional quality. It is also submitted that enough quantity of breeder seed as per demand of the DAC has also been provided during the last five years. The quality of breeder seed is being ensured through rigorous monitoring of nucleus and breeder seed plots by team of experts constituted by ICAR, besides a statutory monitoring team involving the representatives from the National Seed Corporation (NSC) and state seed certification agencies. The quality of certified seeds is ensured by the National Seed Corporation and respective seed certification agencies by enforcing minimum seed standards through proper monitoring and inspection of seed production plots.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Horticulture**

#### **Recommendation Serial No.18**

They ,however, feel that with the increasing population, declining land and water and increasing pressure on biotic and abiotic stresses in the climate change, effective conversion of natural resources it is only important to focus on enhanced production in this sector. In view of the above they desire the Department to make an upward revision in the production targets. Further they desire that more investment/ Allocation may be made for research and development in this sector so as to improve post harvest technologies, to contain post harvest losses, extend shelf life, packaging, storage and

standardization of processes etc. They would also urge the Government to provide enough financial/fiscal incentives to the farmer community for meeting the enhanced targets. They would also desire that the Department should ensure for full utilization of funds available at their disposal and strengthen the implementation of their ongoing schemes on ground.

### **Reply of the Government**

In order to achieve high production for meeting the increasing demand of rising population under the impact of climate change and decreasing natural resources, the research focus has been on development of abiotic & biotic stress resistant varieties. The efforts are being made by the Ministry of Food Processing industries for reduction of losses and post harvest management.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **KVKs**

#### **Recommendation Serial No.32**

The Committee are aware that KVKs is an important agency responsible for transmission of research/research information. In crops and livestock, 328 technological interventions were refined under different thematic areas in 395 locations. Besides, five women-specific income-generating technologies were also refined in eight locations. As many as 73,175 frontline demonstrations were undertaken on cereals, millets, oilseeds, pulses, and other important crops; 4,710 on improved tools and farm implements; 14,390 on livestock; and 5,991 on other enterprises including gender-specific technologies under the National Initiative on Climate Resilient Agriculture (NICRA), 26, 218 demonstration were also carried out. However, the Committee find that out of 634 KVKs in the country, the Department has been able to provide Administrative buildings to 554 KVKs, Trainees hostel to 490 KVKs, Staff Quarters to 442 KVKs, demonstration units to 394 KVKs and soil and water testing facilities to 389 KVKs only. The deficiencies in operations of KVKs is also a matter of concern. The Committee are concerned that in view of inadequate infrastructure and unavailability of



project co-ordinator, the KVKs will not be able to contribute towards providing extension services or transmit research and research information to the farmers. The Committee, therefore, emphasis that the infrastructure such as Administrative buildings staff quarters, demonstration units and soil and water testing facilities etc. be built up expeditiously with a prescribed time. It may also be ensured that project co-ordinators and other administrative staff are deputed by providing incentives to them.

### **Reply of the Government**

Provisions have been made for creation of the required infrastructure in more number of KVKs during the XII Plan for due approval.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.31 of Chapter – I of this Report.

### **Recommendation Serial No.34**

The Committee find that in order to create awareness among farmers and other stakeholders KVKs organize large number of extension programmes like Field Days, Exhibitions, Kisan Melas, Kisan Gosthis, Film shows, group meetings and discussions, workshops, lectures, and use of mass media for wider dissemination of farming technologies. However, the Committee note that out of 630 KVKs only a few out of them are working properly and the functioning of the other KVKs is just satisfactory and much remains to be done. During the 11<sup>th</sup> Plan the Department has allocated Rs. 237.42 crores to meet the expenditure incurred by the State owned KVKs/KVKs functioning under NGOs. The Committee desire that ICAR should fix the responsibility for non performing KVKs functioning under their administrative control to improve their performance so as the objective for which the KVKs have been set up is achieved. They further urge the Department to make assessment of the KVKs activities and performance on regular basis at the same time necessary feedback should be obtain for

the KVKs regarding the requirement of the farmers so that necessary changes, if any, can be made in the on-going programmes and research work for the benefit of the farmers. The Committee desire that the Government should ensure that all KVKs both private and State supported KVKs should provide all mandated activities including extending professional advice, information/knowledge to contain ill-effects of whether conditions. The Committee also advice the Department to enhance allocations for KVKs so that more and more State supported KVKs function without any personal or vested interest rather they have holistic approach of dissemination of information and farm knowledge/technology adaptation to farmers.

### **Reply of the Government**

The observations of the Committee regarding improving the overall functioning and following holistic approach in conducting all mandated activities by KVKs for the benefit of farmers have been brought to the notice of the Host organizations of the KVKs. The activities of KVKs are regularly reviewed and monitored. As regards assessing the performance of KVK activities, it is stated that it is being done by holding the Scientific Advisory Committee (SAC) meetings, Zonal Review Workshops and field visits by senior officers. The feedback of farmers is also regularly obtained on KVK programmes by inviting farmers to SAC meetings as farmers are member of SAC. Besides, the farmers are encouraged to take active part in all the KVK programmes and activities and seeking their feedback is part of the programming process.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

### **Comments of the Committee**

For comments of the Committee please refer to Para No. 1.34 of Chapter – I of this Report.

## **RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH FINAL REPLIES TO THE GOVERNMENT ARE STILL AWAITED**

### **CHAPTER – V**

#### **KVKs**

##### **Recommendation Serial No.31**

The Committee note that one of the main causes of delay in making provision for infrastructure is that the entire expenditure of KVKs is booked under Plan head. They feel that much of the time is lost in bureaucratic redtapism in making provision/allocating the money for the expenditure of KVKs as it comes from the Plan head. The Committee, therefore, desire that Department should persuade the Ministry of Finance for funding KVKs from the Non-Plan allocation for expeditious availability of the funds and also granting flexibility at the same time.

##### **Reply of the Government**

The ICAR has already approached the Ministry of Finance (MoF) for funding KVKs from non-plan allocation and the matter is being pursued further.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

#### **Agricultural Universities**

##### **Recommendation Serial No.36**

The Committee in their earlier Report No. 44 (15<sup>th</sup> Lok Sabha) had agreed that Central Agricultural Universities should be established only after ascertaining their need and viability and keeping in view the availability of human resource, both in scientific and technical streams. However, they were apprehensive that there could be a possibility of some comparatively more backward regions besides Bundelkhand seeking Central Agricultural Universities resulting in proliferation of CAUs in various backward

regions and there could be a resultant burden on exchequer. They were also concerned so as not to render such institutions as white elephant. While reiterating their earlier recommendation, the Committee strongly recommended that before contemplating any future venture about setting up of CAU Government should come up with a well considered and well laid out policies on CAUs before the Parliament expeditiously.

### **Reply of the Government**

The ICAR with the approval of Hon'ble Agriculture Minister, constituted the committee on 20<sup>th</sup> May, 2013 to provide the "the detailed guidelines for establishment of Central Agricultural University in the country." The Committee has already held meetings/interactions and the draft report is being finalized. The well laid out policies on CAUs shall be available for the appraisal of the Parliament.

[Vide Ministry of Agriculture, Department of Agricultural Research and Education O.M No.7(6)/2013, dated 15th May, 2014]

**NEW DELHI;**  
**13 March, 2015**  
**22 Phalguna, 1936 (Saka)**

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

**COMMITTEE ON AGRICULTURE**

(2014-15)

**MINUTES OF THE EIGHTEENTH SITTING OF THE COMMITTEE**

**\*\*\*\*\***

The Committee sat on Wednesday, the 4<sup>th</sup> March, 2015 from 1430 hrs. to 1500 hrs. in Chamber of the Chairperson, Committee on Agriculture, Room No. 138 (Third Floor), Parliament House, New Delhi.

**PRESENT**

Shri Hukm Deo Narayan Yadav – Chairperson

**MEMBERS**

**LOK SABHA**

2. Prof. Ravindra Vishwanath Gaikwad
3. Shri Nalin Kumar Kateel
4. Md. Badaruddoza Khan
5. Dr. Tapas Mandal
6. Shri Janardan Mishra
7. Shri Ajay Nishad
8. Shri Dalpat Singh Paraste
9. Shri Nityanand Rai
10. Shri Mukesh Rajput
11. Shri C.L. Ruala
12. Shri Satyapal Singh
13. Shri Jai Prakash Narayan Yadav

**RAJYA SABHA**

14. Shrimati Renuka Chowdhury
15. Shri Janardan Dwivedi
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 |

2. At the outset, Chairperson welcomed the Members to the Sitting of the Committee. Then, the Committee took up for consideration the following:

- (i) Memorandum No. 4 pertaining to the draft Report on the Action Taken by the Government on the Observations/Recommendations contained in the 58<sup>th</sup> Report (15<sup>th</sup> Lok Sabha) of the Committee on Agriculture (2013-14) on 'National Agricultural Research System - An Evaluation' of the Ministry of Agriculture (Department of Agricultural Research and Education); and

\*(ii) xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx  
xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx    xxx

3. After some deliberations, the Committee approved the categorization of action taken replies as shown in the Memoranda and adopted the draft Reports without any modification. They authorized the Chairperson to present these Reports to Parliament after getting them factually verified from the concerned Departments.

***The Committee then adjourned.***

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\*Matter not related to this Report.

**Annexure-1**

**BREEDER SEEDS INDENT & PRODUCTION OF DIFFERENT CROPS DURING 2007-08 TO 2012-13**

(Production in Quintals)

CROPS	2007-08		2008-09		2009-10		2010-11		2011-12		2012-13		Total	
	Indent	Prodn.	Indent	Prodn.	Indent	Prodn.	Indent	Prodn.	Indent	Prodn.	Indent	Prodn.	Indent	Prodn.
Wheat	21461	26204	23349	28983	32330	35049	29692	38469	28860	35745	20542	27502	156234	191952
Paddy	2491	3923	3028	4333	3880	5387	4604	6095	5772	6828	5267	11455	25042	38021
Sorghum	22	98	40	375	55	221	36	167	113	158	115	375	381	1394
Maize	100	146	131	246	179	243	178	232	211	173	99	109	898	1149
Barley	1811	2317	2081	3078	2496	3053	1778	2900	1842	1906	1029	698	11037	13952
Pearl millet	16	40	17	36	8	8	10	28	15	32	17	67	83	211
Small millet	3	32	4	18	5	24	22	42	18	47	37	109	89	272
Total Cereal Crops	25903	32759	28650	37068	38954	43985	36294	47814	36831	44889	27106	40315	193738	246830
Total Oilseed Crops	22577	26037	26660	21852	34685	29417	33937	34015	41404	41446	38051	33235	197314	186002
Total Pulse Crops	9948	11234	12268	13585	11700	13155	12944	15360	14303	16656	14153	14430	75316	84420
Total Forage Crops	931	1402	1543	1544	882	1145	627	1039	1627	1708	1832	1336	7442	8174
Total Fibre Crops	172	190	55	115	42	110	52	71	55	85	51	121	427	692
<b>Total</b>	<b>59530</b>	<b>71623</b>	<b>69176</b>	<b>74162</b>	<b>86264</b>	<b>87812</b>	<b>83880</b>	<b>98419</b>	<b>94220</b>	<b>104784</b>	<b>81193</b>	<b>89437</b>	<b>474237</b>	<b>526118</b>

(Vide Para 4 of Introduction of the Report)

**ANALYSIS OF ACTION TAKEN BY GOVERNMENT ON THE FIFTY EIGHTH  
REPORT ON NATIONAL AGRICULTURAL RESEARCH SYSTEM - AN EVALUATION  
OF COMMITTEE ON AGRICULTURE (FIFTEENTH LOK SABHA)**

(i)	Total number of Recommendations	38
(ii)	Recommendations/Observations which have been Accepted by the Government  Serial Nos. 01, 02, 03, 04, 05, 06, 09, 11, 12, 13, 17, 19, 20, 21,22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 35, 37, 38.	Total : 27 Percentage : 71.05%
(iii)	Recommendations/Observations which the Committee Do not desire to pursue in view of the Government's replies  Serial No. - NIL-	Total : 00 Percentage : 0%
(iv)	Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee  Serial No. 07,08,10,14,15,16,18,32,34	Total : 09 Percentage : 23.68%
(v)	Recommendations/Observations in respect of which Final replies of the Government are still awaited  Serial No. 31, 36	Total : 02 Percentage : 5.26%