Background Material

Submitted for the Study Visit
of
Hon'ble Members
of
Parliamentary Standing Committee on Agriculture

January 16, 2016
Hyderabad
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I. Executive Summary

The ICAR-National Academy of Agricultural Research Management adopts strategies to strengthen capacities of National Agricultural Research and Education System (NARES) for enhancing leadership and governance; mobilizing science and technology for innovation and sustainable development; managing information and communication for promotion of innovation and governance; building extension systems in a market-driven environment; improving faculty excellence and teaching performance and catalyzing agribusiness systems for higher inclusive growth. During 2012-15, the Academy has organised 230 need-based and mandated capacity strengthening programmes through which 7264 professionals of NARS were benefitted. The Academy reached a milestone in July 2014 of conducting 100 FOCARS programmes for Agricultural Research Service Scientist-Trainees.

As part of its targets under XII Plan, the Academy initiated two new programmes viz. Foundation Course for newly recruited faculty of Agricultural Universities (AUs) and Management Development Programmes to newly recruited Programme Coordinators of Krishi Vigyan Kendras. The off-campus programmes organized by the Academy in various NARS institutes offered need-based capacity building services to AUs and ICAR institutes. A new certificate course on ‘Competency Enhancement through Micro Teaching Methodology’ under MOOCs platform has been developed and offered for the first time in the NARES.

Several policy forums such as workshops, seminars, conferences etc. were also organized by the Academy. These paved way for developing policy strategies towards priority setting, monitoring and evaluation (PME), ICAR training policy and strategies for incubation and innovation in NARS. The Academy has also developed guidelines to be used for the institutionalization of PME in ICAR.

The Academy achieved significant research results through programmes funded by L&CB-NAIP, ICAR; NICRA-ICAR; CIMMYT, IFPRI, etc. These results pertain to agricultural sustainability, rural knowledge systems, IP management and commercialization, assessment of nanotechnology, performance assessment of agricultural universities, collaborative communication tools, e-learning, training needs and impact assessment, technology delivery models, maize scenario analysis, value-chains, convenience food systems, impact of climate change, agribusiness education etc. These research results were communicated through research papers in 80 peer-reviewed journals and 78 other publications.

A new Centre for agri-innovation to support XII plan scheme for promotion of innovation and incubation in NARS was established. The centre also implements technology business incubator (TBI) activity sponsored by DST and Agri-business Incubation and Grassroot Innovation activity sponsored by ICAR. As part of these activities, the Academy offers helpdesk facility for implementation of Agri-business Incubation and Innovation Fund. Further, an innovative programme - Food and
Agribusiness Accelerator workshop was also organized for the start-ups and venture capital companies for the first time.

All the students of the PGDMA batches have been successfully placed in agribusiness companies/organizations covering retail, input, commodity exchange, export, services and finance.

The Academy was recognized through the award of (i) Academic Leadership Award from the Agriculture Today Group and (ii) Excellence in Training Award from the Department of Personnel & Training (DoPT), Government of India for its contribution in enhancing the capacities of individuals and institutions of NARS. NAARM was ranked at 38th place in India and 2129 at the global level by the Ranking Web of World Repositories.
II. Introduction

The National Academy of Agricultural Research Management (NAARM) was established by the Indian Council of Agricultural Research (ICAR) in 1976 at Hyderabad. The major focus of NAARM is to enhance individual and institutional capacities in National Agricultural Research Systems (NARS) for innovation and sustainable agricultural development. Therefore, it strives to be an integrated institution of agricultural research and education management focusing on creation, dissemination and application of knowledge through its programmes. The training and individual development programmes organized are specially designed using systematic competency-based approaches that map skills, knowledge and attributes to the roles and aspirations of individuals at different levels in the organization. Academy undertakes futuristic research as per needs of NARS in various aspects of management. In addition, the Academy also serves as a think-tank and provides research-based inputs/advice to agricultural policy makers, planners, administrators, and others on organizational renewal and management of change.

<table>
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<th>Box 1</th>
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**Vision**

A global knowledge institution enabling National Agricultural Research and Education Systems adapt to change through continuous innovation.

**Mission**

To enhance leadership, governance and innovation capacities of National Agricultural Research Systems (NARS) through capacity strengthening, education, research, consultancy and policy support.

Based on the vision statement, the Academy is mandated to:

1. Enhance individual and institutional competencies in managing innovation through capacity development, research and policy advocacy.
2. Serve as a think tank for National Agricultural Research and Education System and facilitate strategic management of human capital.

The rich experience and expertise gained by the faculty during the last four decades has enabled the Academy to become an icon in the area of agricultural research and education management at the national and at international levels. Concurrently, it has built a strong network of partnerships with many national and international institutions across and beyond NARS. The range of partners includes ICAR institutions, Agricultural Universities, State Development Departments, Public and
Private sector R&D institutions, financial institutions, and agri-business industry. It offers a serene academic environment through its verdant and green campus spread across 50 hectares. Box 2 highlights some of the current facilities at the Academy.

**Box 2**

Some of state-of-art facilities developed in this campus include:
- Air conditioned lecture halls of varying seating equipped with latest audio-visual aids; committee rooms; discussion rooms; conference halls and a well-designed auditorium
- Computer laboratories for GIS, multimedia, e-learning, technology-enhanced learning
- Experiential learning laboratories for organizational behaviour
- Video instruction and production studio
- Centre for agri-innovation including incubation centre for agri-technology start-ups
- Well-equipped digital library with access to more than 3000 online journals, software for patent search, statistical tools, agri-databases and digital books
- Campus-wide Wi-Fi and wired broad band internet service
- Printing press and production facility
- Residential facilities to accommodate 300 participants and faculty.
- On-campus health centre
- Sports complex with facilities for indoor and outdoor games including a well-equipped gymnasium
III. Activities

The Academy is mandated in activities of need-based capacity strengthening, research, education and policy advocacy, for meeting the needs of stakeholders of National Agricultural Research and Education System. It adopts innovative strategies to strengthen capacities for enhanced leadership and governance; mobilize science and technology for agri-innovation and sustainable development; manage information and communication for promoting good governance; develop suitable extension systems in market-driven environment; improve faculty excellence, teaching-learning performance in agricultural universities; and develop new management system for agribusiness to enhance inclusive growth.

A wide range of capacity development programmes, ranging from foundation courses to entry-level scientists and faculty members of agricultural universities to leadership and management programmes to institutional heads in National and International Agricultural Research Systems are organised. In addition, need-based Management Development Programmes are also offered to mid-career personnel. Apart from the in-house programmes, the Academy also organizes customized off-campus programmes in specialized areas. These programme areas cover a wide range of areas that include agricultural research systems management, human resource management, information and communication management, education systems management, extension systems management, and agri-business management.

As part of its efforts to build new pool of business-ready managers and change-agents who can traverse many cross-functional boundaries in the field of agriculture, it offers Post Graduate education programmes in agri-business and technology management. Through these innovative approaches, it seeks to provide professional manpower in terms of functional expertise, entrepreneurial acumen, and with better service orientation. These young graduates are trained to undertake leadership roles in agri-innovation and agribusiness sectors. The major elements of these courses are offered through web-based and distance learning modes using the internal expertise built by the Academy in digital learning and information and communication management.

All capacity building initiatives are based on a standard protocol that integrates need analysis, personality profiling, competency mapping, peer interaction and study visits. Structured modules on lifestyle management including yoga, meditation and physical and sports training along with opportunities for participating in cultural activities form an integral part of all programmes.
Research and consultancy programmes in the Academy have the primary objective to generate learning resources and to facilitate organizational reform and policy management in NARS. Research is prioritized under the themes of leadership and governance, innovation management, information and communication management, extension systems management, education systems management and agribusiness management.

The Academy also provides an enabling platform for dialogue on important national issues affecting agriculture by organizing brainstorming sessions, high-powered committee meetings, workshops, conferences, and seminars.

Based on the Vision and Mission, the Academy is organized into the following six divisions.

(i) Human Resource Management  
(ii) Research Systems Management  
(iii) Information and Communication Management  
(iv) Agribusiness Management  
(v) Education Systems Management  
(vi) Extension Systems Management

The details on focus areas of each division are furnished in Box 3.
Box 3. Focus Areas of the Divisions

**Human Resource Management (HRM):** The focus areas for HRM division include: Leadership; Management of change; Organizational behaviour; Performance assessment systems; Human resource development strategies for NARS; Impact assessment of training; Evolving systems for HRM; Educational Technologies for enhancing learning; Manpower planning in agriculture.

**Research Systems Management (RSM):** The component themes under mandate for RSM division include: Agricultural scenario and policy analysis; Research project management; Research prioritization, monitoring, evaluation and impact assessment; Identifying new policy initiatives for productivity enhancement of NARS; Analysis of agri-food supply chains; Policy studies on agricultural production-consumption systems and sustainable rural livelihoods systems; Technology forecasting and assessment; Intellectual property management and commercialization of technologies; Agro-biodiversity management.

**Information and Communication Management (ICM):** The mandated areas for ICM division include: Information Technology based decision support systems; Geographical Information Systems in agricultural management; ICT applications for village knowledge centres; Development of digital multimedia and e-learning resources for agriculture; Geospatial knowledge discovery and management; ICTs in agri-supply chains; ICT policy for NARS; Emerging information technologies and systems; ICTs in participatory technology development and transfer; Designing e-learning systems and Distance training.

**Agribusiness Management (ABM):** The focus for ABM division include: Agricultural finance and insurance; market research; entrepreneurship; business analytics; supply-chain management; commodity trading and futures markets; international trade in agriculture; microfinance management; agri-food retail management; rural marketing; agribusiness strategy; risk management in agri-business, etc.

**Education Systems Management (ESM):** The component themes for ESM division include: Curriculum design and development; instructional strategies and techniques; technology in education including multimedia enriched e-learning content development and delivery; teaching-learning processes; academic evaluation; educational planning, administration and management; quality issues in higher education.

**Extension Systems Management (XSM):** The XSM divisions focuses on component themes like: Extension planning and management to cope with the new challenges; providing customized solutions to farmers; participatory approaches; e-extension and m-extension; gender mainstreaming in extension; training transfer in NARS and agricultural extension management policy for NARS.
IV. Achievements

Placed below is a brief of achievements of the Academy during the period. The report is structured on the four mandated areas viz. Capacity building, Education, Research and Policy Support.

1. Capacity Building

The Academy organised 230 need-based capacity building programmes covering 7264 participants from NARS. These include (i) Foundation Course for Agricultural Research Service (FOCARS), the flagship programme of the Academy, wherein 807 scientist-probationers completed their training. Seven Executive Development Programmes for 91 newly recruited senior officials in ICAR system in Research Management Positions were conducted.

As part of targets under XII Plan, two new programmes were initiated. The first being foundation course for newly recruited faculty of Agricultural Universities (AUs) in which 106 teachers from 10 AUs underwent the training programme. Further, three Management Development Programmes were organized for 99 newly recruited Programme Coordinators of Krishi Vigyan Kendras. Apart from these core management programmes, the Academy organized 51 need based programmes, 58 workshops/ seminars/ conferences on contemporary issues and 61 demand-driven off-campus programmes.

An innovative programme - Food and Agribusiness Accelerator workshop was held for the first time by the Academy for agri-start-ups and venture capital companies. Forty-one agri-entrepreneurs from different start-ups, private companies and financial institutions participated.

Two International Training Programmes were organized – one on IT Application for Agricultural Extension (e-Extension) for 14 personnel from ASEAN countries (Malaysia, Philippines, Thailand, Cambodia, Lao PDR, Viet Nam, India) and the other on Agricultural Research Management for 11 scientists of Sri Lanka Council for Agricultural Research Policy. These programmes formed part of ICAR/DARE Work Plan/MoU on International Cooperation.

The tabulated form of the details of the programmes conducted by the Academy during the period is furnished in the table 1 placed below.
### Table 1: Training Programmes organized during 2012-2015

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of Programme</th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
<th>2015-16*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Programmes</td>
<td>No. of Participants</td>
<td>No. of Programmes</td>
<td>No. of Participants</td>
<td>No. of Programmes</td>
</tr>
<tr>
<td>1.</td>
<td>Foundation Course for Agricultural Research Service (FOCARS)</td>
<td>2</td>
<td>157</td>
<td>2</td>
<td>228</td>
</tr>
<tr>
<td>2.</td>
<td>Foundation Course for Others (faculty of AU* PCs of KVKs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Leadership Programmes (MDPs/EDPs)</td>
<td>6</td>
<td>146</td>
<td>6</td>
<td>130</td>
</tr>
<tr>
<td>4.</td>
<td>Refresher Courses/Summer Schools/Short Courses</td>
<td>3</td>
<td>89</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>5.</td>
<td>Need Based Programmes</td>
<td>11</td>
<td>220</td>
<td>11</td>
<td>214</td>
</tr>
<tr>
<td>6.</td>
<td>Workshops / Seminars/Conferences</td>
<td>21</td>
<td>555</td>
<td>16</td>
<td>534</td>
</tr>
<tr>
<td>7.</td>
<td>International Programmes</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>8.</td>
<td>Off-Campus Programmes</td>
<td>18</td>
<td>514</td>
<td>29</td>
<td>699</td>
</tr>
<tr>
<td>9.</td>
<td>Foundation Course for SVVU, Tirupathi</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>120</td>
</tr>
<tr>
<td>10.</td>
<td>Programmes under BPD</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>237</td>
</tr>
<tr>
<td>11.</td>
<td>Sponsored programmes/Others</td>
<td>5</td>
<td>248</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>66</td>
<td>1929</td>
<td>77</td>
<td>2272</td>
</tr>
</tbody>
</table>

*Up to December 2015.

### 2. Education

The Academy continued its two academic programmes viz. Post Graduate Diploma in Management (Agriculture) – PGDMA and Post Graduate Diploma in Technology Management in Agriculture (PGD-TMA) initiated in XI Plan.

#### a) Post Graduate Diploma in Management (Agriculture) – PGDMA

The two year Post Graduate Diploma in Management (Agriculture) is offered with the approval of All Indian Council for Technical Education (AICTE). This programme is designed to prepare students for management related careers in agriculture, food and allied sectors. Batch-wise strength of the students during the period under report is placed in table 2.
Table 2. Batch-wise strength of students

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Batch</th>
<th>Academic session</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IV</td>
<td>2012-14</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>V</td>
<td>2013-15</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>VI</td>
<td>2014-16</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>VII</td>
<td>2015-17</td>
<td>23</td>
</tr>
</tbody>
</table>

The students of IV and V batches have been successfully placed in major agri-companies such as Godfrey Phillips, Bayer Crop Science, de V Gen, John Deere, Mahindra Rise, MART, PI Industries, Godrej Agrovet, Indo-American Hybrid Seeds (India) Pvt Ltd, ADAMA, Coromandel, Foretell, NCDEX, Nagarjuna, Pfizer, RBI, United Phosphorous Ltd, Sinochem, Axis Bank, Aditya Birla Group, Cargill, Frontier, Kotak, Metahelix, Nuziveedu Seeds, ITC-ABD, Dhanuka, Yes Bank, Syngenta, Yara, Adani Wilmar Limited Chola, HDFC Bank, Metro Cash & Carry, Origo, Pioneer, Savannah, Sathguru, TAFE, SKS, Olam, DSCL, Bioseed, MARS, Monsanto, Dupont, SGS, Staragri, Tata Chemicals, Mama Maya, etc., cutting across the major sectors of agribusiness: Retails, Input, Commodity Exchange, Export (International Business Development), Services (Market Research Consultancies) and Finance.

b) Post Graduate Diploma in Technology Management in Agriculture – PGDTMA (Distance mode)

The one year Distance Learning Programme, Post Graduate Diploma in Technology Management in Agriculture (PGD-TMA) in collaboration with University of Hyderabad (UoH) is being offered since 2011. The objective is to build and further the skills of students, researchers, policy makers, intellectual property and technology transfer practitioners as professionals to enable them to handle successfully the intellectual property and technology management assignments in agriculture and related enterprises.
The details of students admitted to the PGD-TMA programme during 2012-2015 is furnished below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students registered</th>
<th>Passed students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>68</td>
<td>20</td>
</tr>
<tr>
<td>2013</td>
<td>100</td>
<td>35</td>
</tr>
<tr>
<td>2014</td>
<td>52</td>
<td>20</td>
</tr>
<tr>
<td>2015</td>
<td>64</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>138</td>
</tr>
</tbody>
</table>

Online Learning Management System (LMS) formed part of the PGD-TMA programme from Academic 2014-15. All enrolled students were given access to the LMS. This was further strengthened through the deployment of A-VIEW software developed by Amrita Institute of Technology, Coimbatore to provide online education at different locations. A new centre for contact session for PGD-TMA programme was initiated at IASRI, New Delhi, from August 2015. Students were connected through this on-line platform under the Telage project of the Academy. Classes by faculty were conducted at both centres with opportunity for simultaneous interaction across both centres.

3. Research and Policy Support

The research activities focus on enhancing leadership and governance; science and technology for innovation and sustainable development; information and communication management; extension system management, education system management and agribusiness management. Academy collaborated with international partners including IFPRI and national agencies including DST, DBT, ICAR and State Agricultural Universities. Currently, seven externally funded projects and twelve institute funded projects are in operation. A brief of the achievements of the Academy through the research work undertaken during 2012-15 is placed below.

A) Publications: The output from the results of the various research initiatives at the Academy resulted in several research papers in peer-reviewed in national and international journals. Other publications included authored books, book chapters, teaching materials and case studies.
B) Technologies / Products / Processes / Services developed for National Agricultural Research System (NARS):

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Service/Technology / Product / Process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>E-learning systems</td>
<td>Strategy and implementation of e-learning web sites and course development based on open source software (MOODLE) for content and learning management. 10 e-learning websites are functional now in various Agricultural Universities across the country. A semantics based methodology was developed to identify course with potential to be hosted on a MOOCs platform.</td>
</tr>
<tr>
<td>2.</td>
<td>Information technology applications</td>
<td>web prototypes for farm management, retail management, e-business and knowledge sites for empowering women SHGs, Geospatial Village Knowledge Management System (GVKMS) for village knowledge centres and a Geospatial library. An Information System for managing multilocational experiments was developed in partnership with IASRI for the All-India Coordinated Research Project on Vegetable Crops (AICRP-VC), Varanasi. A user friendly online software ‘AHP Analyser’ was developed for application of analytic hierarchy process for research prioritization. This was deployed as open access tool on NAARM web site and is being used by academic institutions across the country.</td>
</tr>
<tr>
<td>3.</td>
<td>Establishment of community based dairy farm</td>
<td>Established community based dairy farm including silage production plant based on Maize for 300 families at Jhansi on silage producing technology.</td>
</tr>
<tr>
<td>4.</td>
<td>Agricultural scenario and policy analysis</td>
<td>Scenario analysis for prospective investors in agricultural value chain; Assessment of maize situation and outlook and investment opportunities to ensure food security in Asia.</td>
</tr>
</tbody>
</table>

**Products- IT and GIS based Decision Support Systems**

1. Copyright registration certificate
   - Four registrations for copyrights on various outputs on IT and software applications granted by the Copyright Board, GOI.
2. TMIS
   - Online facility for training programme management
3. Case Study development
   - Case studies of change management; technology management and commercialization; rural innovations and agri-supply chains.

**Processes**

1. Intellectual property management and
   - Facilitate IP protection (patent, GI) for rural
### Knowledge resources and products developed for capacity building programmes

| 1. | Online examination for FOCARS | Since 2009, the evaluation for FOCARS programme is through in-house model of online-examination. Developed through MOODLE Platform. Probationer-scientists have been evaluated through this mode. This has now been extended to evaluation in FOCAUs. |
| 2. | E-learning resources: | Sixty course modules for Post graduate programmes in Agricultural Universities |
| 3. | Case studies | Several case studies have been developed and used in the Academy’s courses on IP management, supply chain management, livelihoods vulnerability assessments, farmer producer organizations and IT based decision support systems |

### C) Policy related outputs

In tune with its mandated role as a think-tank and provide policy support to ICAR/NARS, the Academy undertakes R & D projects on contemporary issues and challenges facing the NARS. A brief tabulation of some of the policy related outputs during the period under report is placed below.

1. **Assessment of future human capital requirements in agriculture and allied sectors**: Projections on the availability of manpower in various disciplines to 2020 have been made. The projections are being used by Planning Commission and ICAR for developing the XII Plan proposals as well as for long term planning.

2. **Institutional innovations in agri-supply chains**: New institutional innovations in emerging agricultural supply chains were assessed for the following: emerging modern agri-food retail systems; fruits and vegetables; potatoes, onions, litchi, makhana, poultry, and exported commodities. The studies have contributed to better understanding of the agricultural commodity supply chains, futures markets, and retail chains, and can be useful for strategic and operational planning by farmers, farmer organizations and agribusinesses.

3. **Mapping vulnerability of rural livelihoods and application of spatial data mining tools to vulnerability assessments**: A framework that integrates the sustainable rural livelihoods framework of DFID into a GIS platform was
developed to map vulnerability indicators and indices for 59 mandals/blocks of Nalgonda district in Andhra Pradesh based on livelihood assets data. The methodologies developed can be used for better targeting of technology interventions, rural credit, risk assessments and disaster management in less favoured areas.

4. **Help desk for promoting innovation in research**: The online help desk designed and developed by NAARM, continued to provide support to scientists of NARS in developing research concept notes and proposals for competitive grant funding through public-private consortia research and for project management. (Help desk resources and on line support accessible at http://www.naarm.ernet.in/naiphelpdesk/). The majority of research proposals of NAIP (over 150) were developed with on line support from the help desk and training programmes.

5. **Organizational change**: Change management model was developed to understand the success of this sub-project, more specifically the HR-related issues. The studies are helpful in planning organizational reform, institutionalizing new organizational processes and identifying potential areas for building the capacity of NARS to address new challenges.

6. **Institutionalizing e-learning in NARS**: Enabled acceleration of implementing e-learning initiatives in AUs and DUs of ICAR by designing and implementing an integrated strategy for e-learning course development and capacity building. The Academy has trained over 500 personnel so far in five disciplines - veterinary, dairy, fisheries, horticulture and home science from AUs/DUs. Ten e-learning websites are functional now in various AUs across the country.

7. **Assessments of developments in nanotechnology**: A specially designed database and model were developed to organize information from R&D indicators like patents and literature in nanotechnology, and apply knowledge mapping concepts to assess potential future applications of nanotechnology across the agricultural production-consumption chain. The project has helped to motivate young agricultural scientists and students to take up research early in their career in the emerging area of nanotechnology, led to nanotechnology patent and bibliographic data bases used by people across NARS, and facilitated work on regulatory policies and systems.

8. **Institutionalizing IP management in NARS**: Greater insights into IP management (Patents, Plant varieties, Geographic Indications) were developed through field studies, documentation and IP facilitation for scientists, farmers and rural communities, and comparative assessments of national and global IP systems and processes for IP protection and technology commercialization. The project has enabled capacity building and facilitation for institutionalizing intellectual property management and technology commercialization in institutions of NARS.
9. **Fly ash use for sustainable agriculture**: Systems dynamics and simulation models were used to assess the potential for future use of fly ash (waste from thermal power projects and other industries) in agricultural land and soil management for sustainable agriculture. The work has led to improved guidelines for sustainable use of fly ash in agriculture.

10. **Research quality management**: Total Quality management and Innovation systems were integrated to develop a unique model for assessing and improving research quality in consortia based research projects for improving rural livelihoods security.

11. **ICAR training policy**: Developed guidelines and action plan for implementation of training policy in ICAR institutes. Academy is providing continuous support in identification of skill gaps and developing institute-wise training plans.

12. **Centre for Agri-Innovation**: Academy established a centre for agri-innovation to support XII plan scheme for promotion of innovation and incubation in NARS. The centre implements technology development for incubation (TBI) activity sponsored by DST and Agri-business Incubation and Grassroot Innovation activity sponsored by ICAR. As part of these activities, Academy developed guidelines for implementation of Agri-business Incubation and Innovation Fund, screened initial proposals leading to final approvals from ICAR.

13. **Prioritisation, Monitoring and Evaluation (PME) of Research**: Academy in association with IFPRI developed guidelines for institutionalization of PME in ICAR. PME is being implemented in all ICAR institutes and it is under pilot testing in select AUs.

14. **Digital learning**: A strategy for distance learning in agriculture through e-learning was developed and this provided basis for the digital learning in XII Plan scheme of Agricultural Education Division of ICAR. As part of this Academy developed and implemented first course on ‘Micro-teaching’ as MOOCs reaching about 300 participants on open distance learning mode.
V. Awards and Recognition

The Academy gained national recognition through the award of (i) Academic Leadership Award from the Agriculture Today Group and (ii) Excellence in Training Award from the Department of Personnel & Training (DoPT), Government of India for its contribution in enhancing the capacities of individuals and institutions of NARS. It has also been certified as ISO 9001:2008 organization for its quality management system for its capacity development in National Agricultural Research System. NAARM was ranked at 38th place in India and 2129 at the global level by the Ranking Web of World Repositories. "The Ranking Web of World repositories" is an initiative of the Cybermetrics Lab, a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain.

Excellence in Training Award

The Academy won the prestigious ‘Excellence in Training’ Award from the Department of Personnel & Training (DoPT), Government of India, under the theme ‘Management of Training’ for Learning & Capacity Building (L&CB) initiatives under NAIP. The award was presented during the closing session of the First National Symposium on Excellence in Training organized by the DoPT, Government of India, on April 12, 2015 at Vigyan Bhavan, New Delhi.

Dr D. Rama Rao, Director; Dr NH Rao and Dr Bharat Sontakki, Principal Scientists, NAARM are seen receiving the ‘Excellence in Training’ Award from the Officials of Department of Personnel & Training (DoPT), Government of India, at Vigyan Bhavan, New Delhi on April 12, 2015.
Agriculture Leadership Award 2014

Academy conferred the ‘Agriculture Leadership Award 2014’ by the Agriculture Today Group in the category ‘Academic Leadership’ for “Innovative Leadership in Agriculture Research Management” by enhancing the capacities of individuals and institutions of the National Agricultural Research System.
V. New Initiatives

1. Minimum Government and Maximum Governance

- All the tenders are placed on the Government of India web ‘eprocure.gov.in’
- Office communications/circulars are being sent through emails.
- Biometric attendance system encompassing faculty, staff, students, scientist-trainees is in operation at the Academy

2. Swachh Bharat programme

As part of Swachh Bharat Abhiyan (Clean India Mission) initiative, NAARM organized special Abhiyans on 2 October 2014, 18 January 2015, 14 March and 25 September 2015 to keep the campus clean and green. During the special Abhiyan on 18 January 2015, Dr S. Ayyappan, Secretary, Department of Agricultural Research and Education (DARE) and Director-General, Indian Council of Agricultural Research, led the cleanliness drive in the campus. In addition, time to time interventions were made sensitising Academy staff and contract workers to reduce use of plastics and to maintain sylvan surroundings of the campus clean and green.

3. Village Adoption Programme

The Academy adopted two villages, S. Lingotam and Tallasingaram in Chautuppal Mandal, Nalgonda district of Telangana State from 2 Oct 2014 in partnership with Pratistha industries. The adoption was based under the Government of India
programmes viz. Sansad Adarsha Gram Yojana (SAGY); Mera Gaon & Mera Gaurav; and Pradhan Mantri Kaushal Vikas Yojana to improve the livelihoods, integrate market linkages and initiate faster, cheaper and efficient ICT-based transfer-of-technology.

All the faculty and students were actively associated in farmers’ need assessment through baseline survey; knowledge tests on major crops for assessing knowledge gaps; focussed group discussions on livelihoods, animal husbandry and crop husbandry; ICTs access, usage and preference for agriculture; and digitization of cadastral maps indicating village boundary and survey numbers. A knowledge platform for farmers was developed, which is being used to advise farmers on crop plan and socio-economic interventions. Academy in association with other research and development departments organised general health camps and skill development programmes for women.

Scientist Trainees 102nd FOCARS conducting PRA exercises at the NAARM adopted village

Some of the activities conducted at the adopted village include:

(i) A special educative programme on the occasion of Food and Nutrition Day was conducted on 21st October 2014 where the villagers to women self help groups were appraised on importance of vitamins and remedial measures through nutritional foods like cereals, vegetables, and fruits available in the local language. Besides women were trained on importance of nutrition garden in their backyards covering locally available fruit and vegetable crops.
(ii) Two health camps were organised on cardiac, eye check-up and general health for about 180 residents of the village as part of the social development initiative.

(iii) A module on ‘Yoga for Wellness’ was conducted for primary school children of the village.

(iv) Under the skill development initiatives, a training programme on ‘Candle making’ was conducted for 50 women in the adopted village.

(v) An innovative initiative called, ‘Polam Badi’ (Farmers’ Field School) has been started where the latest techniques in the crop production technology of rice and pigeonpea were imparted to the farmers in the local language. Based on the need analysis, improved seeds of paddy and pigeonpea were distributed to the identified farmers.

(vi) As part of livelihood enhancement activity, five week old ‘Srinidhi’, a dual purpose variety of poultry birds developed by ICAR-DPR was distributed to ten women Self-Help Group members and farmers @ 10 birds/beneficiary.

(vii) A geospatial database was developed to characterize the resources and livelihood systems in Tallasingaram village for village development studies. A prototype of land resource inventory was developed at 1:10,000 scale. Using GIS, the variation in land use pattern and surface water resources over two decades were mapped in the adopted villages. Farmers and development officials were sensitised on changing water pattern with land use and cropping pattern.

(viii) Soil analysis for major nutrients was got done for 500 farmers geo tagged samples. Further, 50 representative samples were analysed for major and micro nutrients. Soil health cards were given to the farmers covering both the adopted villages.
VI. Financial Resources

The funds allocated to the Academy during the period of report along with their utilization are furnished below:

I. Plan

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II. Non-Plan

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VII. Problems, if any, and suggestions

No major problems and constraints have been encountered. However, the Academy is waiting for approval of Deemed University status. The application is with UGC/MHRD. The status of Deemed University will enable the Academy to offer academic programmes like Technology Management and Agri-entrepreneurship, Education technology to AU faculty and Ph.D in Agricultural Research and Education Management. This will help accelerate the pace for creation of trained manpower and young professionals in this sector.