Role of NAARM in Indian agricultural development

Hiralal Jana and L.C. Patel

College of Agriculture, Bidhan Chandra Krishi Viswavidyalaya, Agricultural Farm, Burdwan
(W.B.) India
(Email : janahiralal@yahoo.in)

The National Academy of Agricultural Research Management (NAARM) was established by the Indian Council of Agricultural Research (ICAR) at Hyderabad, in 1976, to address issues related to agricultural research and education management. In the initial years, the Academy primarily imparted foundation training to the new entrants of the Agricultural Research Service (ARS) of ICAR. Subsequently, its role expanded to include research, capacity building of senior professionals of national and international NARS in agricultural research and education management, and policy and consultancy support to NARS (National Agricultural Research System). The Academy also renders services for building IP (Intellectual Property) portfolios like patents and geographical indications to various stakeholders including farmers and scientists. Keeping in view the increasing national and global need to integrate agriculture with agribusiness for raising rural incomes, and the increased emphasis on the creation, dissemination, application and exchange of knowledge in this vital area, the Academy has recently initiated post graduate education programmes and set up an Agribusiness Knowledge Centre.

Overview : The major mandate of the Academy is to build capacity in agricultural research, education and extension education systems, and provide policy advocacy for the National Agricultural Research and Education System (NARES). To fulfil these mandates, Academy organises various capacity building programmes for researchers, academicians, extension personnel, scholars, and other stakeholders in NARES. The Academy strives to enhance individual and institutional capacity for innovation in NARES. Considering the strategic importance of agricultural research in food security and economic growth of the country, leadership, governance and innovation are emerging as prerequisite for the transformation of NARES into a more pluralistic innovation system. Keeping this in mind, the Academy has developed its vision, mission and mandate.

Vision : A global knowledge institution enabling National Agricultural Research and Education System (NARES) adapt to change through continuous innovation.

Mission : To enhance leadership, governance and innovation capacities of National Agricultural Research and Education System (NARES) through capacity strengthening, education, research, consultancy, and policy support.

Mandate :

– Enhance individual and institutional competencies in managing innovation through capacity development, research and policy advocacy.

– Serve as a think tank for National Agricultural Research and Education System and facilitate strategic management of human capital.

Focus : To accomplish its mission, the Academy would concentrate on the following key areas:

– Leadership and governance of agricultural innovation systems.

– Mobilizing science and technology for innovation and sustainable development.

– Information and knowledge management for promoting innovation and good governance.

– Education systems management for enhancing educational environments, continuous learning, faculty excellence, learner empowerment, and expanding reach.

– Extension systems management for sustainable livelihoods security and farmer empowerment.

– Agribusiness management for efficient, responsive and sustainable agri-food systems.

Objectives :

– To apprise the scientist trainees about agricultural

scenario, and the agricultural research, education and development systems in the country.

– To sensitize the scientist trainees about the global agricultural scenario and its implications to Indian agriculture.

– To stimulate critical thinking and multidisciplinary approach to agricultural research.

– To expose the scientist trainees to modern concepts of agricultural research project formulation, management methods and processes and promote competency.

– To develop knowledge and skills in scientific communication.

– To understand modern concepts and techniques of information management and use of information technology to enhance scientific input in agricultural research.

– To enable the scientist trainees to understand their behavior and style of work, and its implications in research organization, with special emphasis on personality development, inter-personal relationship, team work, dynamics of human motivation, and organizational behaviour.

– To expose the scientist trainees to the socioeconomic milieu of rural society in general, and farming community in particular, and to develop empathy for appropriate technology generation and farmers and appreciation of the need to innovate technology diffusion and adoption.

Goals and targets : The agricultural systems in future will be more productive. It is envisaged that these systems will be effectively and efficiently supported by new and emerging technologies. Rising concerns of equity, gender and sustainable development will drive the public system in evolving agricultural R & D systems to meet the growing challenges. Key determinants for the growth of future agricultural R & D systems will be:

Expansion : The socio-political system will continue to make major policy decisions on expansion of institutional set up for agricultural research, education and extension. Institutional systems in these areas are likely to increase by 3-4 fold over the next three decades.

Manpower: Manpower engaged in agricultural R&D activities, *i.e.* the trained graduates is growing at about four to five per cent per annum and their stock would be more than double from present about 0.5 million to about 1.0 million by 2050.

Partnerships: Private sector investment in agricultural research has increased from a modest two per cent in

1980s to about 35 per cent of the total investment in agricultural R&D in 2010.

Facilities at NAARM : The Academy's green campus spread on a 50 ha area provides an ideal academic ambience. The training logistic facilities available on the campus include :

– Ten air conditioned Lecture halls with modern audio-visual aids besides Laboratories for computer, GIS, multi-media, e-learning, video production and organizational behavioural studies and exercises, committee rooms, discussion rooms and conference halls.

– Residential facilities to accommodate 300 trainee-participants and guest faculty/resource persons.

– Wi-Fi enabled broad band internet service with access inside and around the class rooms and hostels.

– Well equipped library and digital library with Software for automation, R&D applications including patent search, Statistical databases and publications in digital format. As a member of Consortium of e-Resources in Agriculture, NAARM library has direct access to over 2000 journals from Elton B. Stephens Co (EBSCO), Commonwealth Scientific and Industrial Research Organization (CSIRO), Springer, and Open J-Gate.

– Sports complex with separate facilities for indoor and outdoor games.

– On-campus health centre.

Training areas of NAARM :

– Research Project and Agricultural Research System and its Management.

– Human Resource Management and Development.

– Information Technology for Content Development and Management

– Educational Planning, Management and Development.

– Decision Support Systems for Sustainable Agriculture.

– Implications of WTO (World Trade Organization), Agreement on Agriculture (AOA) and IPR (Intellectual Property Right) in Agricultural R&D.

– Training Management.

– Developing Winning Research Proposals.

– Performance Assessment of Agricultural Research Organizations.

– Advances in Administration and Financial Management.

National Agricultural innovation Project (NAIP) funded programmes going on at NAARM:

– Visioning Policy Analysis and Gender (V-PAGe)

–   Learning and Capacity Building (L&CB).

–   Agroweb Digital Dissemination System for Indian Agricultural Research (ADDSIAR).

–   Strengthening Statistical Computing for National Agricultural Research System (SSC-NARS).

–   Assessment of Future Human Capital Requirements in Agriculture (AFHCRA).

–   Redesigning the farmer-extension-agricultural research education continuum in India with ICT mediated Knowledge Management (ICT-KM).

Foundation Course for Agricultural Research Services (FOCARS) : The FOCARS is designed for the newly recruited entry-level scientists to the Agricultural Research Service of the ICAR. The course aims at providing exposure to the trainees on the concepts and principles of project management with special emphasis on project formulation and implementation. It also includes capsules in related areas on human resources development, and information and communication management.

Foundation course for others : Foundation training for personnel entering service of AUs in Assistant Professor or equivalent cadre which is of one month duration, is aimed at imparting the required knowledge and skills to trainees in order that they are empowered to handle different tasks keeping in view the tri-functional nature of their work in these universities. Further, they are also exposed to latest concepts of Information Technology and Human Resources Management besides the university statutes, rules, regulations and funding aspects.

Leadership development programmes : These Programmes are designed for the newly-recruited Directors, Zonal Project Directors, Assistant Directors General, Joint Directors of National Institutions and others who comprise the Research Management Position cadre of ICAR. The focus of the Programmes is on leadership development for transition of National Agricultural Research System to National Agricultural Innovation System.

Management development programmes on leadership development : These programmes are planned to catalyse succession planning in NARS. Client group for these Programmes includes Heads of Divisions and other senior-functionaries who are in the Pre-Risk Management Programme (Pre-PRM) cadre of the organization and who are responsible for leading various activities at their level.

Need based programmes : These programmes are organized for mid-career managerial, scientific, technical and administrative personnel of National Agricultural Research System. They are designated for imparting advanced knowledge and skills in agricultural research management, human resource management, information and communication management, education systems management, extension systems management, and agri-business management.

Workshops / Conferences / Seminars : These programmes provide a platform for dialogue for Indian and developing country NARS on issues of concern for national and international policy in agriculture, agricultural education and related sector. The Academy holds a number of workshops, conferences, seminars, and discussion groups, from time to time, focusing on areas of topical interest. The information emerging from these workshops/conferences/seminars serves as a useful resource material for many of the Academy's Programmes.

International training programmes : The Academy provides training opportunities for the scientists and managers from international institutions, involving particularly the developing countries, in the specialized areas in management of agricultural research, education and extension. International participants are also encouraged to attend and participate in the other Programmes of the Academy. In addition, the Academy offers customized training solutions and services to the international client organizations based on their specific demands in the following thematic areas: Participants for the international Programmes require prior approval from the Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India and the Indian Council of Agricultural Research. Since these clearances need at least three to four months time, the international participants are advised to plan accordingly in advance for enrolment in any of the Programmes.

Sponsored programmes : Apart from the courses and programmes listed in this calendar, the Academy offers customized programmes in both off-campus and on-campus mode, on request from research, educational and other institutions in NARS in the following areas with core contents.

–   Agricultural Research Management.

–   Human Resource Management

–   Information Technology Applications in Agriculture

Educational technology : Curriculum design and development, instructional strategies, concepts and principles of teaching and learning, student-centered learning, student performance evaluation, emerging
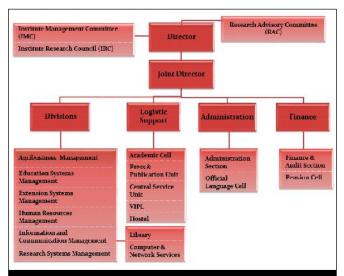
Fig. 1 : Organization and management

concepts – e-learning, on-line learning, team teaching agricultural research management, human resource management, information technology applications in agriculture, educational technology, extension systems management, decision support systems (DSS) for sustainable agriculture, technology management in agriculture, training management, developing winning research proposals, administration and financial management.

Thematic areas of NAARM:

– Enhancing Capacities for Leadership and Governance.

– Mobilizing science and technology for innovation and sustainable development.

– Information and Communication Management for Promoting Innovation and Governance.

– Extension Systems Management in a Market-driven Environment.

– Education Systems Management for Faculty Excellence.

– Agribusiness Management for Inclusive Growth.

– Academic Programmes.

– Globalize the reach of NAARM.

PGDMA : The rapidly changing national and international agricultural landscape has opened up significant opportunities to those who have passion for excellence. One such opportunity is the ever expanding food and agri-business arena with vast untapped potential for professional excellence and societal transformation. Sensing the national as well as global need to integrate research knowledge with agribusiness and increased emphasis on the creation, application and exchange of knowledge in

the agriculture sector, NAARM initiated the Post Graduate Diploma in Management-Agriculture (PGDMA) programme in the year 2009. PGDMA is a 2 year, fully residential programme approved by the All India Council for Technical Education (AICTE) designed to prepare students for management-related careers in the agriculture and food and allied sectors. The candidates for the programme are selected from pan India through rigorous selection procedure to maintain high standards. The programme aims at enabling students to acquire the critical competitiveness for functioning as effective Agribusiness managers, amalgamating sensitivity towards grass root level needs with corporate world expertise.

PGDMA Admission-2017: The Academy announces the admission to PGDMA (Post Graduate Diploma in Management in Agriculture) 2-yearfully residential programme in agribusiness management for the session of 2017-19. The programme is duly approved by AICTE and Indian Council of Agricultural Research, New Delhi. The details of course curriculum, fee structure and facilities available can be seen at Academy's website at www.naarm.ernetinipgdma. That candidate wants to apply for PGDMA course can check their eligibility, Fee Structure and other details.

Seats intake : Total No of Seats: 40 (Forty)

Reservations: As per the Government of India requirements, 15% of the seats are reserved for Scheduled Caste (SC) and 7.5% for Scheduled Tribe (ST) candidates. Another 27% of seats are reserved for other Backward Classes candidates belonging to the "non-creamy" layer (NC-OBC) in accordance with Govt. of India rules.

Application form : Applicants can apply online for PGDMA from the official website at www.naarm.org.in on or before the last date. Apply Online or Download Application Form. After online submission, a print out of filled-in application and photocopies of relevant documents along with demand draft of Rs. 500/- for General/OBC candidates (Rs. 300/- for SC/ST Candidates) in favour of "ICAR UNIT NAARM" payable at Hyderabad. Duly signed application form along with photocopies of the documents, *Standard Operating Procedure (SOP)* and original Demand draft should be sent to the following address by ordinary post or by hand on or before 31 March 2017 16:00 hour- to the Joint Director and Registrar, Post Graduate Cell, ICAR-NAARM, Rajendranagar, Hyderabad-500030, Telangana.

Photocopies (Xerox) of the following documents are to be attached:

– Xth Standard Mark sheet and Certificate.

– XIIth Standard Mark sheet and Certificate.

– Degree (UG / PG) /Provisional Certificate – if Completed.

– Those who are in final semester of UG Course, certificate from University Authorities about the status of course completion.

– Work experience certificate (if any).

– CAT (2016) or CMAT 2016 or CMAT 2017 score Card (Individual sections as well as total).

– CAT Hall Ticket and Admit Card or CMAT Hall Ticket and Admit Card (If applicable Both CAT and CMAT).

– SC or ST or NC-OBC Certificate (if applicable).

– Attach the Original Demand Draft (DD) along with the application form.

Eligibility criteria : The minimum qualification for admission to the PGDMA is a Four year bachelor's degree from any Agricultural University or Institution recognized by the ICAR / UGC in disciplines such as Agriculture, Agri-Business Management / Commercial Agriculture, Agricultural Marketing and Cooperation, Agricultural Engineering, Agricultural Information Technology, Agricultural Bioinformatics, Agricultural Biotechnology, Dairy Science/Technology, Fisheries, Food Technology/Food Process Engineering, Forestry, Horticulture, Sericulture, Agricultural and Irrigation Engineering, Home Science, B.Sc. (Hons) Cooperation and Banking and Veterinary Sciences. Minimum Percentage: 50 % or its equivalent OGPA in graduation. Students completing their degree by June 2017 are eligible to apply. Those who possess essential educational qualifications and wish to join PGDMA, must have appeared in CAT2016/CMAT2017 examination.

Selection procedure: Candidates are short-listed based on CAT/CMAT scores for next stage of selection *i.e.* Group Discussion (GD) and Personal Interview (PI).

Final Selection : Weights given to different components in the selection process are as follows: (a)CAT/CMAT Score – 40% (b) Group Discussion – 25% (c) Personal Interview – 25% (d)Academic Record – 10%. The final list of short-listed candidates for admission into PGDMA will be announced during first week of June 2017. The course will commence in the first week of July 2017.

Fee structure : Fee for PGDMA2017-19 will be around Rs.6.00 lakhs (Rupees Six lakhs) for two years. This includes cost towards lodge and board, tuition, library, examination, medical, insurance, graduation day expenses, caution deposit etc. (For more details candidates refer to the information brochure).

PGDTMA: The One Year Post Graduate Diploma in Technology Management in Agriculture (PGD-TMA) is a two- semester course jointly offered by NAARM and University of Hyderabad (UoH), the two leading institutions of the country on a distance learning mode. The intake of students to the programme will be limited to a maximum number of one hundred excluding the sponsored candidates. However, the NAARM and UoH reserve the right to decide the exact number of students to be admitted to the programme depending on the demand for the course and its course delivery capacity. The programme offers an excellent opportunity to systematically study the subject of technology management in agriculture and understand the intricacies of building and managing intellectual property. The aim of the course is to build and further the skills of students, researchers, policy makers, IP and technology transfer practitioners as professionals to enable them to handle successfully Intellectual Property and Technology Management assignments in agriculture and related enterprises. The course is structured to create a 'bridge professional' for innovation management who can identify, develop and manage IP assets for leveraging them for technology transfer and commercialization in agriculture and related industries. The students graduating from PGD-TMA will have opportunity to enrol for membership in Society for Technology Management (STEM), an organization that facilitates and promotes successful technology transfer processes and best practices in technology management in India.

NAARM Hyderabad PGD TMA 2017 entrance exam: NAARM invites admission application for PGD TMA programmes for the academic session 2017 – 2018.

Eligibility criteria : Post Graduates in Agricultural Sciences / Social Sciences / Physical Sciences / Management / Life Sciences / Engineering / Law Graduates in above disciplines with two years work experience after completing the graduate degree.

Online application form : Application Form can be downloaded from the website https://www.naarm.org.in and sent by post to the Academic Cell, National Academy of Agricultural Research Management, Rajendranagar, Hyderabad – 500030, Telangana, India along with a Demand Draft (D.D) for Rupee 300 /- in favour of "ICAR Unit – NAARM A / c" payable at Hyderabad. Applicants are advised to write their names clearly on reverse side of D.D. The applicants can also utilize the online application facility. Once the online application process is completed, the applicants are advised to take the printout of the application and send the duly signed

form to the Academy.

List of enclosures : The following is the List of Enclosures to be submitted along with the Admission Application for registration : Secondary School Certificate (SSC) or Matriculation (date of birth proof). Intermediate / Higher Secondary Education / 10 + 2 Degree certificate, Degree Provisional / Original Certificate, Postgraduate Degree Provisional Certificate and Experience Certificates from current or former employer, SC / ST / OBC (Latest) / PH Certificate from competent authority (wherever applicable), Photos four nos. (put inside an envelope / cover). Applications completed in all respects accompanied by self-attested copies of relevant certificates should be sent to Academic Cell, ICAR-NAARM, Rajendranagar, Hyderabad-500030 before the last date.

Criteria of selection : Admissions are made strictly on the basis of merit, *i.e.*, academic record and professional experience. On receiving and scrutinizing the applications, the list of selected candidates will be prepared based on academic qualifications and relevant experience. The Admission Committee will be the final authority to decide the number of candidates to be admitted.

Admission procedure : The candidates selected for admission will be intimated by post / mail individually and also through email (address, if provided). The list of selected candidates will also be displayed on the notice board at the Academic Cell and the Centre of Distance and Virtual learning University of Hyderabad (UoH), and also on the Academy's website. Selected students have to fill in the acceptance form and send the same along with the Demand Draft to the ICAR-NAARM before the last date stipulated for this purpose (to be specified in the Provisional Admission Letter). Mere receipt of admission offer letter does not entitle any right to claim admission. Only those, who pay the fees through a crossed demand draft in favour of ICAR Unit, NAARM A / C payable at Hyderabad within the stipulated date, are treated as admitted.

Reservation for SC / ST / OBC/ PH students: Reservation for SC / ST / OBC / PH Students will be in accordance with the policy of the Government of India, and the guidelines of the University Grants Commission. Students applying for this programme should submit, along with their application, a copy of their caste / tribe certificate from a Revenue Officer not below the rank of Tehsildar / Mandal Revenue Officer. As regards the reservation policy for physically handicapped students, the general guidelines followed by University of Hyderabad shall be followed.

Enrolment card : On receipt of the programme fee, Enrolment Cards indicating the student's name, enrolment number, date of birth, and date of admission will be issued.

General information : Eligible participants may apply online using TMIS link on NAARM website (wwwnaarm.org.in/training) or send the filled-in nomination form available from the website and send it to OIC, Academic Cell, ICAR-NAARM, Rajendranagar, Hyderabad – 500 030. Course/Programme Fee includes boarding and lodging charges in the guesthouses/hostels on the campus of the Academy for non-ICAR participants. For ICAR participants, there is no course fee, but boarding and lodging charges have to be borne by the participants/ sponsoring institutes. The course/Programme fee may be sent in the form of a demand draft drawn in favour of' "ICAR Unit Account NAARM". All the courses offered by the Academy are fully residential, and the participants are expected to stay in the fully-furnished hostel rooms of the Academy, Hyderabad is well connected with all parts of the country by air, rail, and road. The Academy is located adjacent to the Acharya N.G. Ranga Agricultural University and National Institute of Rural Development (NIRD), Rajendranagar. It is at a distance of about 20 km from Hyderabad International Airport, Shamshabad, 25 km from Secunderabad Railway Station, 16 km from Hyderabad (Nampally) Railway station, 16 km from Kacheguda Railway Station, and 12 km from Imlibun/ Mahatma Gandhi Bus Station. Participants are advised to make their return journey reservations at their own end, as it will be difficult to get air or rail reservation, after their arrival at Hyderabad. Further details will be available in Programme brochures which will be placed on our website 2-3 months before commencement of the Program. For Programme specific queries if any, the interested participants may contact concerned Programme Directors.

Role of NAARM: The National Academy of Agricultural Research Management (NAARM) has a key role in enhancing the capacities of individuals and institutions of National Agricultural Research System (NARS) in agricultural research, education and technology management. Over the last four decades, the Academy has been contributing significantly to the development of scientists and research leaders in the ICAR and Agricultural Universities sensitive and responsive to the needs of its stakeholders. To fulfil this, it has expanded its activities reaching all stakeholders of NARS including farmers, extension personnel, entrepreneurs and R&D managers in agribusiness sector. NAARM has also

facilitated several new policies, institutional mechanisms, and initiatives leading to enhanced capacities in the NARS. In recent years, the Academy has also widened the scope of its activities and initiated academic programmes in agricultural management and technology management to develop a new generation of young leaders and managers who can contribute to sustainable agricultural development. The NAARM Vision 2050 flows from the ICAR Vision 2050, with a focus on innovation as the key driver of growth. Based on the premise that innovation can be achieved through knowledge-driven agriculture, there is a need for developing new research governance models to meet the emerging challenges. The Vision is based on a central theme that human resources and institutions are the key determinants of future agricultural development in India. It recognizes the role of emerging science and technologies across diverse sectors and identifies their enabling nature. The integration of these into the agricultural value chain requires new partnerships and paradigms. Further, the evolving changes in agri-education sector focusing from a 'teaching to learning' mode and the need for rational use of large information signifies the requirement to develop newer institutional mechanisms and capacities. The Vision also identifies the crucial need for a continuous stakeholder engagement to usher effective and efficient performance in the NARS with more transparency and accountability systems in place. The role of the National Academy of Agricultural Research Management (NAARM) is to enable the organizational transformation of institutions of NARS by strengthening their capacities for more effective management of research, education and technology transfer to continually respond to new and emerging challenges of Indian and global agriculture. The 'NAARM Vision 2050' flows from the 'ICAR Vision 2050' and its focus on knowledge-intensive research and partnerships as the key drivers of sustainable productivity and growth, and on establishing new leadership and governance models to deal with change, and institutional and individual accountability. It identifies the key human resource and institutional capacity challenges of NARS, and develops a roadmap for the Academy for enhancing national capacity in leadership, governance and management of agricultural research, education, extension and agribusiness systems. The key challenges for NAARM are to design institutional policies and build new capacities for (i) more pluralistic organization of research to enable interdisciplinary and multi-institutional problem-solving and knowledge intensive research, (ii) scaling up research from field to regional and global scales, and (iii) multi-stakeholder engagement across agricultural supply chains. The key challenge for NAARM is to develop institutional policies and capacities in using ICTs for ensuring diverse data, information and knowledge flows and services among scientists, research managers, faculty members, students, farmers and other stakeholders. ICTs can then support new ways of interaction for technology transfer, collaboration, and governance to enhance agricultural innovation and sustainable development. The key challenges for NAARM are to enhance organizational capacities for leadership and good governance that lead to more effective (i) organizational value systems (ii) performance and accountability assessment systems, and (iii) inclusion of various stakeholders in decision making processes.

Conclusion : The Academy has contributed significantly to the development of a new generation of scientists and research leaders and agribusiness managers in the ICAR, and the other institutions of NARS. It has also facilitated several new policies, institutional mechanisms, and initiatives leading to enhanced capacities in NARS for research, education and extension management, human resources management, information management, intellectual property management, technology management, educational technology and e-learning, and in several other areas that impact agricultural research for development. The Academy's unique position in NARS has also made it an apt platform for ICAR to launch several of its organizational transformation initiatives like the National Agricultural Research Project (NARP), National Agricultural Technology Project (NATP), National Agricultural Innovation Project (NAIP), and others. These initiatives have also contributed significantly to the collaborative research, training and education capacities of the faculty members of NAARM, and enhanced their interface both with institutions of NARS as well as diverse national and global organizations. The strength of the Academy lies in its unique blend of training, research, education and consultation activities that interactively reinforce each other. As a result, the Academy has evolved into a learning organization that can continuously renew itself and adapt quickly to the changing needs of ICAR and other institutions of NARS. No other institution, public or private, has addressed the wide needs of capacity building of NARS at the scale and range offered by the Academy.

"Indian agriculture is to progress when there should be marriage between brain and brawn." –M.K. Gandhi.